



PROJECT MANUAL

March 3, 2020

PARKBOI GARAGES – DOOR, HARDWARE, AND ADA UPGRADES PROJECT

BIDS DUE: APRIL 1, 2020 3:00 P.M. local time

OWNER'S REPRESENTATIVES / PROJECT CONSULTANTS

OWNER'S REPRESENTATIVE

KARL WOODS
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BOISE, IDAHO 83702
208-384-4264

PROJECT ARCHITECT

GREG UGRIN
SLICHTER UGRIN ARCHITECTURE, INC.
415 SOUTH 13TH STREET
BOISE, IDAHO 83702
208-658-1679

OWNER'S CONTRACTS SPECIALIST

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PROJECT ARCHITECT

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SECTION 00 11 16 INVITATION TO BID

MARCH 3, 2020

Sealed proposals will be received by Capital City Development Corporation (CCDC), at 121 N. 9th Street, Suite 501, Boise, Idaho 83702 until 3 p.m., local time, on **APRIL 1, 2020** for the **PARKBOI Garages – Door Hardware and ADA Upgrades Project**. The project consists of door and door hardware replacement in elevator lobbies and stair towers; and accessibility upgrades to parking attendant restrooms to include new fixtures, accessories, and painting in four downtown public parking garages. One garage includes a new concrete accessible ramp.

Proposals will be opened and publicly read at the above hour and date.

Plans, specifications, proposal forms, and other information are on file for examination at the following location:

- Capital City Development Corp., 121 N 9th St., Suite 501, Boise, ID 83702 and online at www.ccdcboise.com
- Associated General Contractors, 1649 W. Shoreline Drive, Suite 100, Boise, ID 83702
- Idaho Blueprint & Supply Co., 619 W. Main Street, Boise, Idaho 83702

Five percent (5%) bidder's security is REQUIRED in the form of a certified check, cashier's check, cash, or Bidder's Bond made payable to CCDC executed by a qualified surety company.

A pre-bid meeting will be held on at the offices of CCDC, 121 N. 9th Street, Suite 501, Boise, ID on Tuesday, March 17, 2020, starting at 10:00 am. A site tour will follow.

A Public Works Contractors License issued by the State of Idaho is required to bid on this work.

CCDC reserves the right to reject any and all proposals, to waive any irregularities in the proposals received, and to accept the proposal that is in the best interest of CCDC. The issuance of the Invitation to Bid and the receipt and evaluation of sealed bids does not obligate CCDC to award a contract. CCDC will pay no costs incurred by Bidders in responding to this Invitation to Bid. CCDC may in its discretion cancel this process at any time prior to execution of a contract without liability.

CCDC appreciates your interest in meeting the needs of the agency and the citizens of Boise.



Kathy Wanner, Contracts Specialist



121 N 9TH ST, SUITE 501 BOISE, ID 83702
208-384-4264 WWW.CCDCBOISE.COM

END OF SECTION 00 11 16

SECTION 00 21 13 INSTRUCTIONS TO BIDDERS

1. BID SUBMISSION

The submission package or envelope must be sealed and plainly marked for delivery as follows:

Capital City Development Corporation
Attn: **PARKBOI Garages – Door Hardware and Ada Upgrades Project - BID**
121 N. 9th Street, Suite 501
Boise, Idaho 83702

Indicate “SEALED BID ENCLOSED” on the outside envelope.

One (1) SIGNED original bid is required – unsigned bids will not be accepted. Late or incomplete submissions will not be accepted. Email or fax submissions will not be accepted. Bidder assumes full responsibility for the timely delivery of its bid to CCDC.

The Bidder will be responsible for all costs (including site visits where needed) incurred in preparing or responding to this bid invitation. All materials and documents submitted in response to this bid invitation become the property of CCDC and will not be returned.

2. GENERAL CONDITIONS

2.1 Intent of Bid/Proposal

It is the intent of this Invitation to Bid to define requirements in sufficient detail to secure comparable Bids. Bids shall be in accordance with Bid document requirements. Bids not conforming to the requested format or not in compliance with the specifications will be considered non-responsive.

CCDC reserves the right to act in the public best interest and in furtherance of the purposes of the Idaho Code Title 50, Chapter 20 (Idaho Urban Renewal Law) and Idaho Code Title 67, Chapter 28 (Purchasing by Political Subdivisions). CCDC reserves the right to waive any formalities or defects as to form, procedure, or content with respect to its Bid Invitation and any irregularities in the Bids received, to request additional data and information from any and all Bidders, to reject any submissions based on real or apparent conflict of interest, to reject any submissions containing inaccurate, or misleading information, and to accept the proposal that is in the best interest of CCDC. The issuance of this Bid Invitation and the receipt and evaluation of sealed bids does not obligate CCDC to award a contract. CCDC may in its discretion cancel this process at any time prior to execution of a contract without liability.

2.2 Public Records

CCDC is a public agency. All documents in its possession are public records subject to disclosure under the Idaho Public Records Act, Title 74, Chapter 1, Idaho Code, and will be available for inspection and copying by any person. The Public Records Act contains certain exemptions – one of which that is potentially applicable to part of your response may be for trade secrets. Trade secrets include a formula, pattern, compilation, program, computer program, device, method, technique or process that derives economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by

other persons and is subject to the efforts that are reasonable under the circumstances to maintain its secrecy. Prices quoted in a bid are not a trade secret.

If any Bidder claims any part of a Bid is exempt from disclosure under the Idaho Public Records Act, the Bidder must: 1.) Indicate by marking the pertinent document "CONFIDENTIAL"; and, 2.) Include the specific basis for the position that it be treated as exempt from disclosure. Marking the entire bid as "Confidential" is not in accordance with Idaho Public Records Act and will not be honored.

CCDC, to the extent allowed by law and in accordance with these Instructions, will honor a designation of nondisclosure. By claiming material to be exempt from disclosure under the Idaho Public Records Act, Bidder expressly agrees to defend, indemnify, and hold CCDC harmless from any claim or suit arising from CCDC's refusal to disclose such materials. Any questions regarding the applicability of the Public Records Act should be addressed to your own legal counsel prior to submission.

2.3 Form of Agreement

Unless otherwise specified in the bid documents, the form of the Contract will be a Standard Agreement and General Conditions Between Owner and Constructor, as modified by CCDC.

2.4 Performance and Payment Bond

A performance bond and payment bond are required for this Project, each in an amount of not less than one hundred percent (100%) of the Contract Price. The performance and payment bonds shall be AIA Document A312, 1984 or the most recent Edition, or a standard surety form certified approved to be the same as the AIA A312 form and shall be executed by a surety or sureties reasonably acceptable to CCDC and authorized to do business in the State of Idaho. Bonds must be provided within ten (10) calendar days following receipt of a Notice of Intent to Award.

2.5 Taxes

CCDC is exempt from Federal and State taxes and will execute the required exemption certificates for items purchased and used by CCDC. Items purchased by CCDC and used by a contractor are subject to Use Tax. All other taxes are the responsibility of the Contractor and are to be included in the Contractor's Bid pricing.

3. SUBMISSION PROCESS

3.1 All Forms to be Submitted

Bidders must submit the following completed forms with original signatures in ink. Failure to submit all forms along with a Bid Security will render any Bid unresponsive and void.

00 41 13 Bid Form

00 43 22 Unit Prices Bid Form

00 45 46 Contractor's Affidavit Concerning Taxes

3.2 Request for Clarification; Objections to Specifications or Process;

Any Bidder who wishes to request clarifications or object to specifications or bidding procedures outlined in this Invitation to Bid may submit a written notification to the CCDC Contracts Specialist to be received no later than:

Questions and Clarifications Due: 5:00 p.m. March 23, 2020
Objections to Specs / Bidding: 5:00 p.m. March 26, 2020

The notification will state the exact nature of the clarification or protest, describing the location of the protested portion or clause in the Bid/Proposal documents, and explaining why the provision should be struck, added, or altered, and contain suggested corrections. CCDC may deny the objection, modify the Project Manual, and/or reject all or part of the objection. Changes to these specifications will be made by written addendum. Verbal responses will not be binding on CCDC or the Bidder.

Written requests must be directed to:

Kathy Wanner, Contracts Specialist
kwanner@ccdcoise.com

3.3 Addenda

In the event it becomes necessary to revise any part of the bid documents, addenda will be issued. Information given to one bidder will be available to all other bidders if such information is necessary for purposes of submitting a bid or if failure to give such information would be prejudicial to uninformed bidders. It is the bidder's responsibility to check for addenda prior to submitting a bid. A bidder is required to acknowledge receipt of all addenda by identifying the addenda numbers in the space provided on the bid proposal form. Failure to do so may result in the bid being declared non-responsive.

3.4 Time for Submission

Bids must be submitted on or before the time specified in the Invitation to Bid. Any bid submitted late will be rejected.

3.5 Bid and Price Guarantee

A submitted Bid must remain open for sixty (60) days.

3.6 Bid Modification; Bid Withdrawal

A Bid may be modified or withdrawn by the Bidder prior to the set date and time for the opening of Bids. Bids may not be modified or withdrawn after the bid opening.

3.7 Legal Residency Requirement

By submitting a bid, the bidder attests, under penalty of perjury, that he (the bidder) is a United States citizen or legal permanent resident or that it is otherwise lawfully present in the United States pursuant to federal law. Prior to being issued a contract, the bidder will be required to submit proof of lawful presence in the United States in accordance with § 67-7903, Idaho Code.

3.8 Public Works Contractor's License Requirements

This Project is not financed in whole or in part by federal funds. Bids will be accepted from those Contractors only (prime contractors, subcontractors and/or specialty contractors) who, prior to the bid opening, hold current licenses as public works contractors in the State of Idaho.

The Contractor will, in the space provided in the Bid Form, provide the names and addresses and Idaho Public Works Contractor's license number of each subcontractor that the Contractor will utilize for the construction, alteration, or repair of the public works here involved, as required by Idaho Code § 67-2310. Failure to name subcontractors for plumbing, heating,

air-conditioning, and electrical as required will render any Bid submitted by a general Contractor unresponsive and void.

Idaho Code § 54-1902 requires that public works contractors and subcontractors have the appropriate Public Works License for the particular type of construction work involved, and the prime contractor must perform at least 20% of the work under contract.

CCDC uses the Idaho Division of Building Safety's (DBS) online license search utility to verify that Bidders meet all PWC License requirements.

4. BID SECURITY

All Bids must be accompanied by a bid security that is not less than five percent (5%) of the total Bid amount. The bid security shall be in the form of either cash; a cashier's check made out to CCDC; a certified check made out to CCDC; or a Bidder's bond executed by a surety company authorized to do business in the State of Idaho.

CCDC reserves the right, on the refusal or failure of the Successful Bidder to execute the CCDC contract or furnish the required proof of insurance and bonds, to award the contract for the Project to the next lowest responsive Bidder. If CCDC awards the CCDC contract to the next lowest responsive Bidder, the amount of the lowest responsive Bidder's bid security will be applied by CCDC to the difference between the lowest responsive Bid for the Project and the next lowest responsive Bid for the Project, and the surplus, if any, shall be returned to the lowest Bidder if cash or check is used, or to the surety on the Bidder's bond if a bond is used, less reasonable administrative costs not to exceed twenty-five percent (25%) of the amount of the Bidder's bid security.

5. SELECTION CRITERIA

Selection will be based on the procurement rules set forth in Idaho Code § 67-2805(2)(a). CCDC has the right to waive or alter submission requirements or to reject any or all submissions, including without limitation, nonconforming, nonresponsive, unbalanced or conditional bids consistent with Idaho law. It is the bidder's responsibility to conform to all applicable federal, state and local statutes or other applicable legal requirements. The information provided herein is intended to assist bidders in meeting applicable requirements but is not exhaustive, and CCDC will not be responsible for any failure by any bidder to meet applicable requirements.

6. OBJECTION TO CONTRACT AWARD

If any participating Bidder objects to CCDC's award of the contract for the Project, that Bidder shall respond in writing to the notice of the bid award from CCDC within seven (7) calendar days of the date of transmittal of the notice, stating the express reason or reasons that the award decision of CCDC's governing board is in error. Upon receipt of such objection, the CCDC Board shall review the award and determine whether to affirm, modify or re-bid, setting forth the reason or reasons for its decision. At completion of the review process, CCDC may proceed as it deems to be in the public interest.

END OF SECTION 00 21 13

SECTION 00 25 13 PRE BID MEETING

A pre-bid meeting will be held on at the offices of CCDC, 121 N. 9th Street, Suite 501, Boise, Idaho on March 17, 2020, starting at 10:00 am. A site tour will follow.

CCDC strongly recommends that Bidders attend the Pre-Bid Conference and Site Tour.

END OF SECTION 00 25 13

SECTION 00 41 13 BID FORM

BID FORM

PROJECT: PARKBOI GARAGES – DOOR HARDWARE AND ADA UPGRADES PROJECT

THIS BID IS SUBMITTED TO:

Capital City Development Corporation
Attn: **PARKBOI GARAGES – DOOR HARDWARE AND ADA UPGRADES PROJECT**
121 N. 9th Street, Suite 501
Boise, Idaho 83702

- 1.01 The undersigned Bidder proposes and agrees to enter into a Contract with CCDC in the form included in the Project Manual to perform all the Work as specified or indicated in the Project Manual for the prices indicated in this Bid and in accordance with the other terms and conditions of the Project Manual.
- 1.02 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for sixty (60) days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of CCDC.
- 1.03 Within thirty (30) days from receiving a written notice of acceptance of this Bid, Bidder shall execute the Contract and shall deliver evidence of required insurance coverages and bonds in the amounts required by the Contract.
- 1.04 In submitting this Bid, Bidder represents, as set forth in the Contract and Project Manual, that:

a. Bidder has examined and understands the Project Manual and the following Addenda:

Addendum No.	Addendum Date
_____	_____
_____	_____

- b. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- c. Bidder is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- d. Bidder has carefully studied: 1.) all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site which have been identified in the Project Manual; and 2.) all reports and drawings of a Hazardous Environmental Condition, if any, which has been identified in the Project Manual.
- e. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Project Manual to be employed by Bidder, and safety precautions and programs incident thereto.

- f. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Project Manual.
 - g. Bidder is aware of the general nature of work to be performed by CCDC and others at the Site that relates to the Work as indicated in the Project Manual.
 - h. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Project Manual, and all additional examinations, investigations, explorations, tests, studies, and data with the Project Manual.
 - i. Bidder has given CCDC written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovered in the Project Manual, and the written resolution thereof by CCDC is acceptable to Bidder.
 - j. The Project Manual is generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
 - k. Bidder is responsible for ascertaining the existence of any addenda and the contents thereto.
- 1.5 Bidder represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over CCDC.
- 1.6 Bidder will complete the Work in accordance with the Contract Documents for the lump sum given, which includes all taxes. Unit prices have been computed in accordance with the General Conditions. Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid Items will be based on actual quantities provided, determined as provided in the Contract Documents.
- 1.7 Bidder agrees that the Work will be substantially completed and fully completed ready for final payment in accordance with General Conditions on or before the dates or within the number of calendar days indicated in the Contract Documents. Bidder accepts the provisions of the Contract as to liquidated damages in the event of failure to complete the Work within the times specified.
- 1.8 Bidder agrees to comply with Idaho Code § 44-1001 through 44-1006 regarding employment of Idaho residents.
- 1.9 The following documents are attached to and made a condition of this Bid: 1.) Required Bid security; 1.) Unit Prices Bid Form; and 2.) Contractor's Affidavit Concerning Taxes.
- Bidder agrees to include with the Bid the names and addresses and Idaho Public Works Contractor License numbers of the Subcontractors who shall, in the event the Bidder secures the Contract, subcontract the plumbing, heating and air-conditioning work, and electrical work under the general Contract.
- 1.10 WAIVER & RELEASE: Bidder has read and fully accepts CCDC's discretion and non-liability as stipulated herein, expressly for, but not limited to, CCDC's decision to proceed with a selection process in response to the Invitation to Bid, including the right in its sole discretion and judgment for whatever reason it deems appropriate, at any time unless contrary to applicable state law, to:
- a. Modify or suspend any and all aspects of the process seeking a contractor to construct Project.
 - b. Obtain further information from any person, entity, or group, including, but not limited to, any person, entity, or group responding to CCDC's Bid Invitation (any such person, entity, or group responding is, for convenience, hereinafter referred to as "Bidder"), and to ascertain the depth of Bidder's capability and experience for construction of Project and in any and all other respects to meet with and consult with any Bidder or any other person, entity, or group.
 - c. Waive any formalities or defects as to form, procedure, or content with respect to its Bid Invitation and any responses by any Bidder thereto.

- d. Accept or reject any sealed Bid received in response to the Bid Invitation, including any sealed Bid submitted by the undersigned; or select any one submission over another.
- e. Accept or reject all or any part of any materials, plans, drawings, implementation programs, schedules, phrasings and proposals or statements, including, but not limited to, the nature and type of Bid.

Bidder agrees that CCDC shall have no liability whatsoever, of any kind or character, directly or indirectly, by reason of all or any decision made at the discretion of CCDC as identified above.

SUBCONTRACTORS

CCDC requires the names and addresses of subcontractors to whom work will be awarded, subject to approval of CCDC and Architect, and pursuant to Idaho Code § 67-2310. If such work is not required, Bidder will indicate "Not Applicable" in the list below. In the event that the general (Trade) contractor intends to self-perform the plumbing, HVAC, or electrical work, the general contractor must be properly licensed by the state of Idaho to perform such work. The general (Trade) contractor shall demonstrate compliance with this requirement by listing the valid contractor's license number for the plumbing, HVAC, or electrical work to be self-performed by the general contractor on the bid form.

Failure to name subcontractors as required by Idaho Code shall render any bid submitted unresponsive and void.

Plumbing

Address:

Public Works License No.

Idaho Plumbing Contractors License No.

Heating & Air Conditioning

Address:

Public Works License No.

Idaho HVAC Contractors License No.

Electrical

Address:

Public Works License No.

Idaho Electrical Contractors License No.

BID SCHEDULE - OFFER

All Work required to construct the Project complete for the Contract Sum listed below and identified as the Total Bid Amount. Bidder shall provide a separate bid amount for each individual garage as identified below and in the Bid Documents. Bid shall be awarded on the Total Bid Amount.

- 1. All the work described in the Project Manual, Bid Drawings and Specifications for the 9th & Front Garage Upgrades - Architects Project No. 19060.

Subtotal 1. \$ _____

- 2. All the work described in the Project Manual, Bid Drawings and Specifications for the 9th & Main Garage Upgrades - Architects Project No. 19073.

Subtotal 2. \$ _____

- 3. All the work described in the Project Manual, Bid Drawings and Specifications for the Capitol & Myrtle Garage Upgrades - Architects Project No. 19074.

Subtotal 3. \$ _____

- 4. All the work described in the Project Manual, Bid Drawings and Specifications for the Capitol & Main Garage Upgrades - Architects Project No. 19075.

Subtotal 4. \$ _____

TOTAL BID AMOUNT

Bidder agrees to perform all the work described in the Project Manual, Drawings and Specifications for the Total lump sum bid amount of:

_____ Dollars, lawful money of the United States.

[Show amounts in both words and figures; in event of discrepancy, the amount in words shall govern.]

BID FORM SIGNATURE

SUBMITTED on _____, 2020.

X _____
SIGNATURE

Idaho Public Works Contractor License No.

Print Name and Title

License Expiration Date

Contractor / Company

Federal Tax ID #

Address

E-mail Address

City, State, Zip

Phone No.

Fax No.

ATTENTION: Did you remember the Bid Security, Unit Prices Bid Form, and Contractor's Affidavit Concerning Taxes?

- Bid Security in the form of a bid bond, certified check, cashier's check, or cash in an amount not less than five percent (5%) of the total amount of the bid is **REQUIRED**.
- Unit Prices Bid Form is **REQUIRED**.
- Contractor's Affidavit Concerning Taxes is **REQUIRED**.

IF BID SECURITY, UNIT PRICES BID FORM, AND CONTRACTOR'S AFFIDAVIT ARE NOT INCLUDED, YOUR BID WILL BE CONSIDERED NON-RESPONSIVE.

END OF SECTION 00 41 13

SECTION 00 43 22 - UNIT PRICES BID FORM
EXECUTE AND SUBMIT WITH BID

UNIT PRICES

All Bidders must provide unit prices for the items listed below. These unit prices apply to and shall be the same for Base Bid and any subsequent and approved Change Orders. Change Order unit prices for quantities in excess of the ranges stated below are subject to negotiation between CCDC and Contractor.

Schedule A: Change Order Unit Prices			
Item	Amount	Unit of Measure	Basis of Amount
1. Concrete Masonry Units, installed (repair).	\$	SF	5 – 50 SF
2. Aluminum Storefronts & Entrances, frames, powder coated and installed, for conditions that need repaired at conditions where new Doors are indicated to be replaced.	\$	SF	40 - 200 SF
3. Aluminum Entrance Door, powder-coated and installed with hardware as specified.	\$	SF	20 - 100 SF
4. Glazing, at Aluminum Storefronts where determined that need to be replaced / repaired at conditions where new Doors are indicated to be replaced.	\$	SF	40 - 200 SF
5. Glazing, at Aluminum Entrance Door installed.	\$	SF	20 - 100 LF

SUBMITTED on _____, 2020.

X _____
 SIGNATURE

 Idaho Public Works Contractor License No.

 Print Name and Title

 License Expiration Date

 Contractor / Company

 Federal Tax ID #

 Address

 E-mail Address

 City, State, Zip

 Phone No.

 Fax No.

END OF SECTION 00 43 22

SECTION 00 45 46 CONTRACTOR'S AFFIDAVIT CONCERNING TAXES
EXECUTE AND SUBMIT WITH BID

CONTRACTOR'S AFFIDAVIT CONCERNING TAXES

STATE OF _____

COUNTY OF _____

Pursuant to Chapter 15, Title 63, Idaho Code, I the undersigned, being duly sworn, depose and certify that all taxes, excises and license fees due to the State of Idaho and its taxing units, for which I or my property is liable, then due or delinquent, have been paid, or arrangements have been made, before entering into a contract for construction of any public works in the State of Idaho.

Contractor / Company

X _____
Authorized Representative Signature

Address

Print Name and Title

City, State, Zip

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

Notary Public
Residing at: _____
Commission Expires: _____

END OF SECTION 00 45 46

**STANDARD AGREEMENT AND GENERAL CONDITIONS
BETWEEN OWNER AND CONSTRUCTOR**

PARKBOI GARAGES – DOOR, HARDWARE AND ADA UPGRADES PROJECT

(Lump Sum Price)

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ARTICLE 1 AGREEMENT

This Agreement is made this [redacted] day of [redacted] in the year 2020, by and between the

OWNER: Capital City Development Corporation (CCDC)
121 N. 9th Street, Suite 501
Boise, Idaho 83702

and the

CONSTRUCTOR: [redacted]
[redacted]
[redacted]

Tax identification number (TIN): [redacted]

Idaho Public Works Contractor License No. [redacted]

for construction services in connection with the following PROJECT:

Project Identification: The ParkBOI Garage – Door Hardware and ADA Upgrade Project. Hardware and accessibility upgrades in four (4) downtown public parking garages. The four garages are identified below:

9th & Front Garage, 312 South 9th Street, Boise, Idaho (Architect’s Project No. 19060)

9th & Main Garage, 848 West Main Street, Boise, Idaho (Architect’s Project No. 19073)

Capitol & Myrtle Garage, 401 South Capitol Boulevard, Boise, Idaho (Architect’s Project No. 19074)

Capitol & Main Garage, 770 West Main Street, Boise, Idaho (Architect’s Project No. 19075)

Notice to the Parties shall be given at the above addresses.

The Owner’s Project Architect is Slichter Ugrin Architecture, Inc., Greg Ugrin.

The Owner’s Representative is Karl Woods.

The Parties agree as set forth herein:

ARTICLE 2 GENERAL PROVISIONS

2.1 RELATIONSHIP OF PARTIES The Parties each agree to proceed with the Project on the basis of mutual trust, good faith, and fair dealing.

2.1.1 The Constructor shall furnish construction administration and management services and use the Constructor’s diligent efforts to perform the Work in an expeditious manner consistent with the Contract Documents. The Parties shall each endeavor to promote harmony and cooperation among all Project participants.

2.1.2 The Constructor represents that it is an independent contractor and that in its performance of the Work it shall act as an independent contractor. Owner will have no right to control or direct the details, manner, or means by which Constructor accomplishes the results of the services performed hereunder.

2.1.3 The Constructor has no obligation to work any particular hours or days or any particular number of hours or days. Constructor agrees, however, that its other contracts and services shall not interfere with the performance of its services under this Agreement.

2.1.4 Neither the Constructor nor any of its agents or employees shall act on behalf of or in the name of the Owner except as provided in this Agreement or unless authorized in writing by the Owner's Representative.

2.1.5 The Parties shall perform their obligations with integrity, ensuring at a minimum that each: (a) avoids conflicts of interest and promptly discloses any to the other Party; and (b) warrants that it has not and shall not pay or receive any contingent fees or gratuities to or from the other Party, including its agents, officers, and employees, subcontractors, or others for whom they may be liable, to secure preferential treatment.

2.2 DESIGN PROFESSIONAL Owner's Design Professional is **SLICHTER UGRIN ARCHITECTURE, INC.** The Owner, through its Design Professional, shall provide all design services necessary for the completion of the Work. The Constructor shall not be required to provide professional services which constitute the practice of architecture, landscape architecture, or engineering.

2.2.1 The Owner shall obtain from the Design Professional either a license for Constructor and Subcontractors to use the design documents prepared by the Design Professionals or ownership of the copyrights for such design documents, and shall indemnify and hold harmless the Constructor against any suits or claims of infringement of any copyrights or licenses arising out of the use of the design documents for the Project.

2.3 DEFINITIONS

2.3.1 "Agreement" means this Standard Agreement and General Conditions Between Owner and Constructor, as modified, and exhibits and attachments made part of this agreement upon its execution. For purposes of this Agreement, the terms "Agreement" and "Contract" are equivalent.

2.3.2 "Business Day" means all Days, except weekends and official federal or state holidays where the Project is located.

2.3.3 "Change Order" is a written order signed by the Owner and the Constructor after execution of this Agreement, indicating changes in the scope of the Work, the Contract Price, or Contract Time, including substitutions proposed by the Constructor and accepted by the Owner.

2.3.4 "Contract Documents" consist of this Agreement, the existing Contract Documents listed in Section 14.1, drawings, specifications, addenda issued and acknowledged prior to execution of this Agreement, information furnished by the Owner pursuant to subsection 3.13.4, and modifications issued in accordance with this Agreement.

2.3.5 "Contract Price" is the amount indicated in section 7.1 of this Agreement.

2.3.6 "Contract Time" is the period between the Date of Commencement and Final Completion.

2.3.7 "Constructor" is the person or entity identified in ARTICLE 1 and includes the Constructor's Project Manager, designated by Constructor as having authority to represent, make decisions, and act on behalf of Constructor. For purposes of this Agreement, the terms Constructor and Contractor with the capitalized "C" are equivalent.

2.3.8 "Construction Period" is the period of time between the Date of Commencement stated in the Notice to Proceed and the date of Final Completion stated in the Certificate of Final Completion.

2.3.9 "Cost of the Work" means the costs and discounts specified in section 8.3.2.

2.3.10 "Date of Commencement" is as set forth in section 6.1.

2.3.11 "Day" means a calendar day.

2.3.12 "Defective Work" is any portion of the Work that does not conform with the Contract Documents.

2.3.13 "Design Professional" means the licensed architect or Architect, and its consultants, retained by the Owner to perform design services for the Project.

2.3.14 "Final Completion" occurs on the date when the Constructor's obligations under this Agreement are complete and accepted by the Owner and final payment becomes due and payable. This date shall be confirmed by a Certificate of Final Completion signed by the Owner and the Constructor.

2.3.15 "Interim Directed Change" is a change to the Work directed by the Owner pursuant to section 8.2.

2.3.16 "Laws" mean federal, state, and local laws, ordinances, codes, rules, and regulations applicable to the Work with which the Constructor must comply that are enacted as of the Agreement date.

2.3.17 "Material Supplier" is a person or entity retained by the Constructor to provide material and equipment for the Work.

2.3.18 "Others" means other contractors/constructors, material suppliers, and persons at the Worksite who are not employed by the Constructor or Subcontractors.

2.3.19 "Overhead" means (a) payroll costs and other compensation of Constructor employees in the Constructor's principal and branch offices; (b) general and administrative expenses of the Constructor's principal and branch offices including charges against the Constructor for delinquent payments; and (c) the Constructor's capital expenses, including interest on capital used for the Work.

2.3.20 "Owner" is the person or entity identified in ARTICLE 1 and includes the Owner's Representative.

2.3.21 "Owner's Representative" is the individual employed by the Owner who shall be fully acquainted with the Project, shall act as the prime point of contact between Owner and Owner's Project Architect, shall provide the Owner's instructions to Owner's Project Architect, and shall have authority to bind the Owner in all matters requiring the Owner's approval, authorization, or written notice.

2.3.22 "Parties" are collectively the Owner and the Constructor.

2.3.23 "Project," as identified in ARTICLE 1, is the construction, installation, repair or other improvements for which the Constructor is to perform Work under this Agreement. It may also include construction by the Owner or Others.

2.3.24 "Project Architect" is the individual retained by the Owner to perform day-to-day field observations of the Project on Owner's behalf and shall be the prime point of contact for Constructor.

The Project Architect shall possess full authority to receive instructions from Owner and to act on those instructions.

2.3.25 "Schedule of the Work" is the document prepared by the Constructor that specifies the dates on which the Constructor plans to begin and complete various parts of the Work, including dates on which information and approvals are required from the Owner.

2.3.26 "Subcontractor" is a person or entity retained by the Constructor as an independent contractor to provide the labor, materials, equipment, or services necessary to complete a specific portion of the Work. The term Subcontractor does not include the Design Professional or Others. All subcontractors shall hold valid Public Works Contractor licenses pursuant to Idaho Code § 54-1902.

2.3.27 "Substantial Completion" of the Work occurs on the date when the Work is sufficiently complete in accordance with the Contract Documents so that the Owner may occupy or utilize the Project, or a designated portion, for the use for which it is intended, without unscheduled disruption. This date shall be confirmed by a Certificate of Substantial Completion signed by the Owner and Constructor.

2.3.28 "Subsubcontractor" is a person or entity who has an agreement with a Subcontractor or another Subsubcontractor to perform a portion of the Subcontractor's Work.

2.3.29 "Terrorism" means a violent act, or an act that is dangerous to human life, property, or infrastructure, that is committed by an individual or individuals and that appears to be part of an effort to coerce a civilian population or to influence the policy or affect the conduct of any government by coercion. Terrorism includes, but is not limited to, any act certified by the United States government as an act of terrorism pursuant to the Terrorism Risk Insurance Act, as amended.

2.3.30 "Work" means the construction and services necessary or incidental to fulfill the Constructor's obligations for the Project in conformance with this Agreement and the other Contract Documents. The Work may refer to the whole Project or only a part of the Project if work is also being performed by the Owner or Others.

2.3.30.1 "Changed Work" means work that is different from the original scope of Work; or work that changes the Contract Price or Contract Time.

2.3.31 "Worksite" means the geographical area of the Project Location as identified in ARTICLE 1 where the Work is to be performed.

ARTICLE 3 CONSTRUCTOR'S RESPONSIBILITIES

3.1 GENERAL RESPONSIBILITIES

3.1.1 The Constructor shall provide all labor, materials, equipment, and services (except those items specifically identified in the Contract Documents as products, equipment, systems or materials that Owner shall provide) necessary to complete the Work, all of which shall be provided in full accord with and reasonably inferable from the Contract Documents.

3.1.2 The Constructor shall be responsible for the supervision and coordination of the Work, including the construction means, methods, techniques, sequences, and procedures utilized, unless the Contract Documents give other specific instructions. In such case, the Constructor shall not be liable to the Owner for damages resulting from compliance with such instructions unless the Constructor recognized and failed to timely report to the Project Architect any error, inconsistency, omission, or unsafe practice that it discovered in the specified construction means, methods, techniques, sequences, or procedures.

3.1.3 The Constructor shall perform Work only within locations allowed by the Contract Documents, Laws, and applicable permits.

3.2 COOPERATION WITH WORK OF OWNER AND OTHERS

3.2.1 The Owner may perform work at the Worksite directly or by Others. Any agreements with Others to perform construction or operations related to the Project shall include provisions pertaining to insurance, indemnification, waiver of subrogation, consequential damages, coordination, interference, cleanup, and safety that are substantively the same as the corresponding provisions of this Agreement.

3.2.2 If the Owner elects to perform work at the Worksite directly or by Others, the Constructor and the Owner shall coordinate the activities of all forces at the Worksite and agree upon fair and reasonable schedules and operational procedures for Worksite activities. The Owner shall require each separate contractor to cooperate with the Constructor and assist with the coordination of activities and the review of construction schedules and operations. The Contract Price and Contract Time shall be equitably adjusted, as mutually agreed by the Parties, for changes made necessary by the coordination of construction activities, and the Schedule of the Work shall be revised accordingly. The Constructor, the Owner, and Others shall adhere to the revised construction schedule.

3.2.3 With regard to the work of the Owner and Others, the Constructor shall: (a) proceed with the Work in a manner that does not hinder, delay, or interfere with the work of the Owner or Others or cause the work of the Owner or Others to become defective; (b) afford the Owner or Others reasonable access for introduction and storage of their materials and equipment and performance of their activities; and (c) coordinate the Constructor's Work with theirs.

3.2.4 Before proceeding with any portion of the Work affected by the construction or operations of the Owner or Others, the Constructor shall give the Owner prompt written notification of any defects the Constructor discovers in their work which will prevent the proper execution of the Work. The Constructor's obligations in this subsection do not create a responsibility for the work of the Owner or Others, but are for the purpose of facilitating the Work. If the Constructor does not notify the Owner of defects interfering with the performance of the Work, the Constructor acknowledges that the work of the Owner or Others is not defective and is acceptable for the proper execution of the Work. Following receipt of written notice from the Constructor of defects, the Owner shall promptly inform the Constructor what action, if any, the Constructor shall take with regard to the defects.

3.3 RESPONSIBILITY FOR PERFORMANCE

3.3.1 Prior to commencing the Work, the Constructor shall examine and compare the drawings and specifications with information furnished by the Owner that are Contract Documents, relevant field measurements made by the Constructor, and any visible conditions at the Worksite affecting the Work.

3.3.2 Should the Constructor discover any errors, omissions, or inconsistencies in the Contract Documents, the Constructor shall promptly report them to Owner's Project Architect and Owner's Representative. It is recognized, however, that the Constructor is not acting in the capacity of a licensed design professional, and that the Constructor's examination is to facilitate construction and does not create an affirmative responsibility to detect errors, omissions, or inconsistencies or to ascertain compliance with applicable laws, building codes, or regulations. Following receipt of written notice from the Constructor of defects, the Owner shall promptly inform the Constructor what action, if any, the Constructor shall take with regard to the defects.

3.3.3 The Constructor shall have no liability for errors, omissions, or inconsistencies discovered under this section 3.3 unless the Constructor knowingly fails to report a recognized problem to the Owner's Project Architect and Owner's Representative.

3.3.4 The Constructor may be entitled to additional costs or time because of clarifications or instructions arising out of the Constructor's reports described in this section 3.3.

3.3.5 Nothing in this section 3.3 shall relieve the Constructor of responsibility for its own errors, inconsistencies, and omissions.

3.4 CONSTRUCTION PERSONNEL AND SUPERVISION

3.4.1 The Constructor shall provide competent supervision for the performance of the Work. Before commencing the Work, the Constructor shall notify the Project Architect and Owner's Representative in writing of the name and qualifications of its proposed Constructor's Project Manager so the Project Architect and Owner's Representative may review the individual's qualifications. If, for reasonable cause, the Project Architect and/or Owner's Representative refuses to approve the individual or withdraws its approval after once giving it, the Constructor shall name a different Constructor's Project Manager for the Owner's review. Any disapproved Project Manager shall not perform in that capacity thereafter at the Worksite.

3.4.2 The Constructor shall be responsible to the Owner for acts or omissions of parties or entities performing portions of the Work for or on behalf of the Constructor or any of its Subcontractors.

3.4.3 The Constructor shall permit only qualified persons to perform the Work. The Constructor shall enforce safety procedures, strict discipline, and good order among persons performing the Work. If the Owner determines that a particular person does not follow safety procedures, or is unfit or unskilled for the assigned Work, the Constructor shall immediately reassign the person upon receipt of the Owner's written notice to do so.

3.4.4 CONSTRUCTOR'S PROJECT MANAGER The Constructor's authorized Project Manager is [REDACTED]. The Constructor's Project Manager shall possess full authority to receive instructions from the Owner directly or through Owner's Project Architect and to act on those instructions. If the Constructor changes the Constructor's Project Manager or his/her authority, the Constructor shall immediately notify the Project Architect in writing.

3.5 WORKMANSHIP The Work shall be executed in accordance with the Contract Documents in a workmanlike manner. All materials used in the Work shall be furnished in sufficient quantities to facilitate the proper and expeditious execution of the Work and shall be new except such materials as may be expressly provided in the Contract Documents to be otherwise.

3.6 MATERIALS FURNISHED BY THE OWNER OR OTHERS If the Work includes installation of materials or equipment furnished by the Owner or Others, it shall be the responsibility of the Constructor to examine the items so provided and thereupon handle, store, and install the items, unless otherwise provided in the Contract Documents, with such skill and care as to provide a satisfactory and proper installation. Loss or damage due to acts or omissions of the Constructor shall be the responsibility of the Constructor and may be deducted from any amounts due or to become due the Constructor. Any defects discovered in such materials or equipment shall be reported at once to the Project Architect. Following receipt of written notice from the Constructor of defects, the Project Architect shall promptly inform the Constructor what action, if any, the Constructor shall take with regard to the defects.

3.7 TESTS AND INSPECTIONS

3.7.1 The Constructor shall schedule all required tests, approvals, and inspections of the Work or portions thereof at appropriate times so as not to delay the progress of the Work or other work related to the Project. The Constructor shall give proper notice to all required parties of such tests,

approvals, and inspections. If feasible, the Project Architect, Owner's Representative and Others may timely observe the tests at the normal place of testing. Except as provided in subsection 3.7.3 and the Drawings and Specifications, the Owner shall bear all expenses associated with tests, inspections, and approvals required by the Contract Documents, which, unless otherwise agreed to, shall be conducted by an independent testing laboratory or entity retained by the Owner. Unless otherwise required by the Contract Documents, required certificates of testing, approval, or inspection shall be secured by the Constructor and promptly delivered to the Project Architect, with copies to the Owner's Representative.

3.7.2 If the Owner or appropriate authorities determine that tests, inspections, or approvals in addition to those required by the Contract Documents will be necessary, the Constructor shall arrange for the procedures and give timely notice to the Owner and Others who may observe the procedures. Costs of the additional tests, inspections, or approvals are at the Owner's expense except as provided in subsection 3.7.3.

3.7.3 If the procedures described in the two subsections above indicate that portions of the Work fail to comply with the Contract Documents due to negligence of the Constructor, the Constructor shall be responsible for costs of correction and retesting.

3.8 WARRANTY

3.8.1 The Constructor warrants that all materials and equipment shall be new unless otherwise specified, of good quality, in conformance with the Contract Documents, and free from defective workmanship and materials. At the Owner's request, the Constructor shall furnish satisfactory evidence of the quality and type of materials and equipment furnished. The Constructor further warrants that the Work shall be free from material defects not intrinsic in the design or materials required in the Contract Documents. The Constructor's warranty does not include remedies for defects or damages caused by normal wear and tear during normal usage, use for a purpose for which the Project was not intended, improper or insufficient maintenance, modifications performed by the Owner or Others, or abuse. The Constructor's warranty shall commence on the Date of Substantial Completion of the Work, or of a designated portion.

3.8.2 To the extent products, equipment, systems or materials incorporated in the Work are specified and purchased by the Owner, they shall be covered exclusively by the warranty of the manufacturer. There are no warranties which extend beyond the description on the face of any such warranty.

3.8.3 The Constructor shall obtain from its Subcontractors and Material Suppliers any special or extended warranties required by the Contract Documents. All such warranties shall be listed in an attached exhibit to this Agreement. After that period, the Constructor shall provide reasonable assistance to the Owner in enforcing the obligations of Subcontractors or Material Suppliers for such extended warranties.

3.9 CORRECTION OF WORK WITHIN TWO YEARS

3.9.1 If, prior to Substantial Completion and within two years after the date of Substantial Completion of the Work, any Defective Work is found, the Owner shall promptly notify the Constructor in writing. Unless the Owner provides written acceptance of the condition, the Constructor shall promptly correct the Defective Work at its own cost and time and bear the expense of additional services required for correction of any Defective Work for which it is responsible. If within the two-year correction period the Owner discovers and does not promptly notify the Constructor or give the Constructor an opportunity to test or correct Defective Work as reasonably requested by the Constructor, the Owner waives the Constructor's obligation to correct that Defective Work as well as the Owner's right to claim a breach of the warranty with respect to that Defective Work.

3.9.2 With respect to any portion of Work first performed after Substantial Completion, the two-year correction period shall be extended by the period of time between Substantial Completion and the actual performance of the later Work. Correction periods shall not be extended by corrective work performed by the Constructor.

3.9.3 If the Constructor fails to correct Defective Work within a reasonable time after receipt of written notice from the Owner prior to final payment, the Owner may correct it in accordance with the Owner's right to carry out the Work. In such case, an appropriate Change Order shall be issued deducting the cost of correcting the Defective Work from payments then or thereafter due the Constructor. If payments then or thereafter due the Constructor are not sufficient to cover such amounts, the Constructor shall pay the difference to the Owner within forty-five (45) days.

3.9.4 The Constructor's obligations and liability, if any, with respect to any Defective Work discovered after the two-year correction period shall be determined by the Law. If, after the two-year correction period but before the applicable limitation period has expired, the Owner discovers any Work which the Owner considers Defective Work, the Owner shall, unless the Defective Work requires emergency correction, promptly notify the Constructor and allow the Constructor an opportunity to correct the Work if the Constructor elects to do so. If the Constructor elects to correct the Work, it shall provide written notice of such intent within fourteen (14) Days of its receipt of notice from the Owner and shall complete the correction of Work within a mutually agreed timeframe. If the Constructor does not elect to correct the Work, the Owner may have the Work corrected by itself or Others, and, if the Owner intends to seek recovery of those costs from the Constructor, the Owner shall promptly provide the Constructor with an accounting of the correction costs it incurs.

3.9.5 If the Constructor's correction or removal of Defective Work causes damage to or destroys other completed or partially completed Work or existing buildings, the Constructor shall be responsible for the cost of correcting the destroyed or damaged property.

3.9.6 The two-year period for correction of Defective Work does not constitute a limitation period with respect to the enforcement of the Constructor's other obligations under the Contract Documents.

3.9.7 Prior to final payment, at the Owner's option and with the Constructor's agreement, the Owner may elect to accept Defective Work rather than require its removal and correction. In such case, the Contract Price shall be equitably adjusted for any diminution in the value of the Project caused by such Defective Work.

3.10 CORRECTION OF COVERED WORK

3.10.1 On request of the Project Architect, Work that has been covered without a requirement that it be inspected prior to being covered may be uncovered for the Project Architect's and, if desired the Owner's inspection. The Owner shall pay for the costs of uncovering and replacement if the Work proves to be in conformance with the Contract Documents, or if the defective condition was caused by the Owner or Others. If the uncovered Work proves to be defective, the Constructor shall pay the costs of uncovering and replacement.

3.10.2 If, contrary to specific requirements in the Contract Documents or contrary to a specific request from the Project Architect or Owner, a portion of the Work is covered, the Project Architect or Owner, by written request, may require the Constructor to uncover the Work for the Project Architect's and, if desired the Owner's observation. In this circumstance, the Work shall be replaced at the Constructor's expense and with no adjustment to the Contract Time.

3.11 SAFETY OF PERSONS AND PROPERTY

3.11.1 SAFETY PRECAUTIONS AND PROGRAMS The Constructor shall have overall responsibility for safety precautions and programs in the performance of the Work. However, such obligation does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work or for compliance with Laws.

3.11.2 The Constructor shall seek to avoid injury, loss, or damage to persons or property by taking reasonable steps to protect: (a) its employees and other persons at the Worksite; (b) materials and equipment stored at onsite or offsite locations for use in the Work; and (c) property located at the Worksite and adjacent to Work areas, whether or not the property is part of the Worksite.

3.11.3 CONSTRUCTOR'S SAFETY REPRESENTATIVE The Constructor's Worksite safety representative is [REDACTED], who shall act as the Constructor's Worksite safety representative with a duty to prevent accidents. If no individual is identified in this subsection, the Constructor's safety representative shall be the Constructor's Project Manager. The Constructor shall report promptly in writing to the Project Architect, with a copy to the Owner's Representative, all recordable accidents and injuries occurring at the Worksite. When the Constructor is required to file an accident report with a public authority, the Constructor shall furnish a copy of the report to the Project Architect and Owner's Representative.

3.11.4 The Constructor shall provide the Project Architect and Owner's Representative with copies of all notices required of the Constructor by law or regulation. The Constructor's safety program shall comply with the requirements of governmental and quasi-governmental authorities having jurisdiction.

3.11.5 Damage or loss not insured under property insurance which may arise from the Work, to the extent caused by the negligent acts or omissions of the Constructor, or anyone for whose acts the Constructor may be liable, shall be promptly remedied by the Constructor.

3.11.6 If the Project Architect deems any part of the Work or Worksite unsafe, the Project Architect, without assuming responsibility for the Constructor's safety program, may require the Constructor to stop performance of the Work or take corrective measures satisfactory to the Project Architect, or both. If the Constructor does not adopt corrective measures, the Owner may perform them and deduct their cost from the Contract Price. The Constructor agrees to make no claim for damages, for an increase in the Contract Price or for a change in the Contract Time based on the Constructor's compliance with the Project Architect's or Owner's reasonable request.

3.12 EMERGENCIES In an emergency affecting the safety of persons or property, the Constructor shall act in a reasonable manner to prevent threatened damage, injury, or loss. If appropriate, an equitable adjustment in the Contract Price or Contract Time resulting from the actions of the Constructor in an emergency situation shall be determined as provided for in ARTICLE 8.

3.13 HAZARDOUS MATERIALS

3.13.1 A Hazardous Material is any substance or material identified now or in the future as hazardous under Laws, or any other substance or material that may be considered hazardous or otherwise subject to statutory or regulatory requirement governing handling, disposal, or cleanup. The Constructor shall not be obligated to commence or continue work until any Hazardous Material discovered at the Worksite has been removed, rendered, or determined to be harmless by the Owner as certified by an independent testing laboratory and approved by the appropriate governmental agency.

3.13.2 If after commencing the Work, Hazardous Material is discovered at the Worksite, the Constructor shall be entitled to immediately stop Work in the affected area. The Constructor shall promptly report the condition to the Project Architect and Owner's Representative and, if required, the governmental agency with jurisdiction.

3.13.3 The Constructor shall not be required to perform any Work relating to or in the area of Hazardous Material without written mutual agreement.

3.13.4 The Owner shall be responsible for retaining an independent testing laboratory to determine the nature of the material encountered and whether the material requires corrective measures or remedial action. Such measures shall be the sole responsibility of the Owner, and shall be performed in a manner minimizing any adverse effect upon the Work. The Constructor shall resume Work in the area affected by any Hazardous Material only upon written agreement between the Parties after the Hazardous Material has been removed or rendered harmless and only after approval, if necessary, of the governmental agency with jurisdiction.

3.13.5 If the Constructor incurs additional costs or is delayed due to the presence or remediation of Hazardous Material, the Constructor shall be entitled to an equitable adjustment in the Contract Price or the Contract Time.

3.13.6 To the extent permitted by section 6.9 and to the extent not caused by the negligent acts or omissions of the Constructor, its Subcontractors and Subsubcontractors, and the agents, officers, directors, and employees of each of them, the Owner shall defend, indemnify, and hold harmless the Constructor, its Subcontractors and Subsubcontractors, and the agents, officers, directors, and employees of each of them, from and against all claims, damages, losses, costs, and expenses, including but not limited to reasonable attorneys' fees, costs, and expenses incurred in connection with any dispute resolution process, arising out of or relating to the performance of the Work in any area affected by Hazardous Material.

3.13.7 MATERIALS BROUGHT TO THE WORKSITE

3.13.7.1 Material Safety Data (MSD) sheets as required by law and pertaining to materials or substances used or consumed in the performance of the Work, whether obtained by the Constructor, Subcontractors, the Owner, or Others, shall be maintained at the Worksite by the Constructor and made available to the Project Architect, Subcontractors, and Others.

3.13.7.2 The Constructor shall be responsible for the proper delivery, handling, application, storage, removal, and disposal of all materials and substances brought to the Worksite by the Constructor, its Subcontractors, or both, in accordance with the Contract Documents and used or consumed in the performance of the Work.

3.13.7.3 To the extent caused by the negligent acts or omissions of the Constructor, its agents, officers, directors, and employees, the Constructor shall indemnify and hold harmless the Owner, its agents, officers, directors, and employees, from and against any and all claims, damages, losses, costs, and expenses, including but not limited to attorneys' fees, costs, and expenses incurred in connection with any dispute resolution procedure, arising out of or relating to the delivery, handling, application, storage, removal, and disposal of all materials and substances brought to the Worksite by the Constructor, its Subcontractors, or both, in accordance with the Contract Documents.

3.13.7.4 This section 3.13.7 shall survive the completion of the Work or any termination of this Agreement.

3.14 SUBMITTALS

3.14.1 The Constructor shall submit to the Project Architect all shop drawings, samples, product data, and similar submittals required by the Contract Documents for review and approval. The Constructor shall be responsible for the accuracy and conformity of its submittals to the Contract Documents. At no additional cost, the Constructor shall prepare and deliver its submittals in a manner consistent with the Schedule of the Work and in such time and sequence so as not to delay the performance of the Work or the work of the Owner and Others. Constructor submittals shall

identify in writing for each submittal all changes, deviations, or substitutions from the requirements of the Contract Documents. The approval of any Constructor submittal shall not be deemed to authorize changes, deviations or substitutions from the requirements of the Contract Documents unless express written approval is obtained from the Project Architect specifically authorizing such deviation, substitution or change. To the extent a change, deviation or substitution causes an impact to the Contract Price or Contract Time, such approval shall be promptly memorialized in a Change Order. Neither the Project Architect nor Owner shall make any change, deviation or substitution through the submittal process without specifically identifying and authorizing such deviation to the Constructor.

3.14.2 The Constructor agrees upon request to submit in a timely fashion to the Project Architect, with copies to the Owner's Representative, for review any shop drawings, samples, product data, manufacturers' literature or similar submittals as may reasonably be required by the Project Architect.

3.14.3 The Constructor shall perform all Work strictly in accordance with approved submittals. Approval of shop drawings is not an authorization to perform changed work, unless the procedures of ARTICLE 8 are followed. Approval does not relieve the Constructor from responsibility for Defective Work resulting from errors or omissions on the approved shop drawings.

3.14.4 No substitutions shall be made in the Work unless permitted in the Contract Documents and then only after the Constructor obtains approvals required under the Contract Documents for substitutions. All such substitutions shall be promptly memorialized in a Change Order no later than seven (7) Days following approval by the Project Manager and the Owner and, if applicable, Design Professional provide for an adjustment in the Contract Price or Contract Time.

3.14.5 As-Built Documents: The Constructor shall maintain at the Worksite for the Owner one (1) copy of each of the Drawings and Specifications, Addenda, Change Orders, and other modifications, in good order and marked to indicate field changes and selections made during construction; and one (1) copy or sample of approved shop Drawings, Product Data, Samples, and similar required submittals.

3.15.5.1 General: Retain copy of each submittal made and each Addenda, Change Order, and Contract amendment issued affecting Contract Documents during the Construction Period for Project As-Built Document purposes. Post changes and modifications to Project As-Built Documents as they occur; do not wait until the end of the Project.

3.15.5.2 Maintenance of As-Built Documents: Store Project As-Built Documents in the field apart from the Contract Documents used for construction. Do not use Project As-Built Documents for construction purposes. Maintain Project As-Built Documents in good order and in clean, dry, legible condition, protected from deterioration and loss. Provide access to Project As-Built Documents for Project Architect's reference during normal working hours.

(a) Project Architect shall evaluate As-Built Drawings for document condition, order, legibility, accuracy and completeness. Project Architect shall notify Constructor of acceptance or request revisions or replacements and resubmittal. Constructor shall supply acceptable As-Built Drawings within seven (7) Days and prior to Final Payment for the Project.

(b) Project Architect shall be responsible for creating digital Record Drawings incorporating the mark-ups on the As-Built Drawings submitted by the Constructor. Project Architect will issue digital Record Drawings to the Constructor and Owner within fourteen (14) Days following Final Payment

and distribute a minimum of one (1) copy each of Record Drawings to Owner, Landscape Architect and Constructor.

3.15.8.4 As Built Specifications and Record Specifications: Maintain at the Worksite for the Owner a copy of Contract Documents for purposes of annotating where the actual product installation varies from that indicated. Submit the annotated portions of the Contract Documents to Project Architect prior to requesting a Substantial Completion Inspection. Project Architect may request corrections from the Constructor to make the submittal more legible and complete. Project Architect shall be responsible for maintaining its own records on variations in product installations, assembling Record Specifications for the Project in a digital format and for distributing them to the Owner and Constructor at the conclusion of the Project. In preparing the Record Specifications, Project Architect shall:

- (a) Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
- (b) Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
- (c) Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
- (d) Note related Change Orders and Record Drawings where applicable.

3.15 WORKSITE CONDITIONS

3.15.1 WORKSITE VISIT The Constructor acknowledges that it has visited, or has had the opportunity to visit, the Worksite to visually inspect the general and local conditions which could affect the Work.

3.15.2 CONCEALED OR UNKNOWN SITE CONDITIONS If the conditions encountered at the Worksite are (a) subsurface or other physical conditions materially different from those indicated in the Contract Documents, or (b) unusual and unknown physical conditions materially different from conditions ordinarily encountered and generally recognized as inherent in Work provided for in the Contract Documents, the Constructor shall stop affected Work after the condition is first observed and give prompt written notice of the condition to the Project Architect. The Constructor shall not be required to perform any Work relating to the unknown condition without the written mutual agreement of the Parties. Any change in the Contract Price or the Contract Time as a result of the unknown condition shall be determined as provided in ARTICLE 8.

3.16 PERMITS AND TAXES

3.16.1 The Constructor shall give public authorities all notices required by law and shall obtain and pay for all necessary permits, licenses, and renewals pertaining to the Work. The Constructor shall provide to the Project Architect and the Owner's Representative copies of all notices, permits, licenses, and renewals required under this Agreement.

3.16.2 The Constructor shall pay all applicable taxes enacted when bids are received or negotiations concluded for the Work provided by the Constructor.

3.16.3 If, in accordance with the Owner's direction, the Constructor claims an exemption for taxes, the Owner shall indemnify and hold the Constructor harmless from any liability, penalty, interest,

fine, tax assessment, attorneys' fees, or other expense or cost incurred by the Constructor as a result of any such action.

3.17 CUTTING, FITTING, AND PATCHING

3.17.1 The Constructor shall perform cutting, fitting and patching necessary to coordinate the various parts of the Work and to prepare its Work for the work of the Owner or Others.

3.17.2 Cutting, patching or altering the work of the Owner or Others shall be done with the prior written approval of the Owner. Such approval shall not be unreasonably withheld.

3.18 CLEANING UP

3.18.1 The Constructor shall regularly remove debris and waste materials at the Worksite resulting from the Work. Prior to discontinuing Work in an area, the Constructor shall clean the area and remove all rubbish and its construction equipment, tools, machinery, waste, and surplus materials. The Constructor shall minimize and confine dust and debris resulting from construction activities. At the completion of the Work, the Constructor shall remove from the Worksite all construction equipment, tools, surplus materials, waste materials, and debris.

3.18.2 If the Constructor fails to commence compliance with cleanup duties within two (2) Business Days after written notification from the Project Architect of non-compliance, the Project Architect may implement appropriate cleanup measures without further notice and shall deduct the reasonable costs from any amounts due or to become due the Constructor in the next payment period.

3.19 ACCESS TO WORK The Constructor shall facilitate the access of the Project Architect, Owner, and Others to Work in progress.

3.20 COMPLIANCE WITH LAWS The Constructor shall comply with all Laws at its own costs. The Constructor shall be liable to the Owner for all loss, cost, or expense attributable to any acts or omissions by the Constructor, its employees, subcontractors, and agents for failure to comply with Laws, including fines, penalties, or corrective measures. However, liability under this section shall not apply if notice to the Project Architect was given, and advance approval by appropriate authorities, including the Owner, is received.

3.20.1 The Contract Price or Contract Time shall be equitably adjusted by Change Order for additional costs resulting from any changes in Laws, including increased taxes, which were not reasonably anticipated and then enacted after the date of this Agreement.

3.21 CONFIDENTIALITY Unless compelled by law, a governmental agency or authority, an order of a court of competent jurisdiction, or a validly issued subpoena, the Constructor shall treat as confidential and not disclose to third-persons, except Subcontractors, Subsubcontractors, and Material Suppliers as is necessary for the performance of the Work, or use for its own benefit, any of the Owner's confidential information, know-how, discoveries, production methods, and the like that may be disclosed to the Constructor or which the Constructor may acquire in connection with the Work. The Owner shall treat as confidential information, all of the Constructor's estimating systems and historical and parameter cost data that may be disclosed to the Owner in connection with the performance of this Agreement. The Owner and the Constructor shall each specify those items to be treated as confidential and shall mark them as "Confidential." In the event of a legal compulsion or other order seeking disclosure of any Confidential Information, the Constructor or Owner, as the case may be, shall promptly notify the other Party to permit that Party's legal objection, if necessary.

ARTICLE 4 OWNER'S RESPONSIBILITIES

4.1 INFORMATION AND SERVICES Any information or services to be provided by Owner shall be fulfilled with reasonable detail and in a timely manner.

4.2 WORKSITE INFORMATION To the extent the Owner has obtained, or is required elsewhere in the Contract Documents to obtain, the following Worksite information, the Owner shall provide at the Owner's expense and with reasonable promptness:

4.2.1 Information describing the physical characteristics of the Worksite, including surveys, Worksite evaluations, legal descriptions, data or drawings depicting existing conditions, subsurface conditions, and environmental studies, reports, and investigations. Legal descriptions shall include easements, title restrictions, boundaries, and zoning restrictions. Worksite descriptions shall include existing buildings and other construction and all other pertinent Worksite conditions. Adjacent property descriptions shall include structures, streets, sidewalks, alleys, and other features relevant to the Work. Utility details shall include available services, lines at the Worksite and adjacent thereto, and connection points. The information shall include public and private information, subsurface information, grades, contours, and elevations, drainage data, exact locations and dimensions, and benchmarks that can be used by the Constructor in laying out the Work;

4.2.2 Tests, inspections, and other reports dealing with environmental matters, Hazardous Material and other existing conditions, including structural, mechanical, and chemical tests, required by the Contract Documents or by Law; and

4.2.3 Any other information or services requested in writing by the Constructor which are required for the Constructor's performance of the Work and under the Owner's control.

4.3 OWNER'S CUTTING AND PATCHING Cutting, patching, or altering the Work by the Owner or Others shall be done with the prior written approval of the Constructor, which approval shall not be unreasonably withheld.

4.4 OWNER'S RIGHT TO CLEAN UP In case of a dispute between the Constructor and Others with regard to respective responsibilities for cleaning up at the Worksite, the Owner may implement appropriate cleanup measures after two (2) Business Days' notice and allocate the cost among those responsible during the following pay period.

4.5 COST OF CORRECTING DAMAGED OR DESTROYED WORK With regard to damage or loss attributable to the acts or omissions of the Owner or Others and not to the Constructor, the Owner may either (1) promptly remedy the damage or loss or (2) accept the damage or loss. If the Constructor incurs additional costs or is delayed due to such loss or damage, the Constructor shall be entitled to an equitable adjustment in the Contract Price or Contract Time.

ARTICLE 5 SUBCONTRACTS

5.1 SUBCONTRACTORS The Work not performed by the Constructor with its own forces shall be performed by Subcontractors holding valid Public Works Contractor licenses pursuant to Idaho Code § 54-1902. All subcontracts shall be issued on a lump sum basis unless the Owner has given prior written approval of a different method of payment to the Subcontractor.

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK Promptly after the award of this Agreement, the Constructor shall provide the Project Architect and Owner's Representative with a written list of the proposed Subcontractors and significant Material suppliers.

5.3 BINDING OF SUBCONTRACTORS AND MATERIAL SUPPLIERS The Constructor agrees to bind every Subcontractor and Material Supplier (and require every Subcontractor to so bind its subcontractors and material suppliers) to all the provisions of this Agreement and the Contract Documents as they apply to the Subcontractor's or Material Supplier's portions of the Work.

5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

5.4.1 If this Agreement is terminated, each subcontract and supply agreement shall be assigned by the Constructor to the Owner, subject to the prior rights of any surety, provided that:

5.4.1.1 this Agreement is terminated by the Owner pursuant to sections 11.3 or 11.4; and

5.4.1.2 the Owner accepts such assignment after termination by notifying the Subcontractor and Constructor in writing, and assumes all rights and obligations of the Constructor pursuant to each subcontract agreement.

5.4.2 If the Owner accepts such an assignment, and the Work has been suspended for more than thirty (30) consecutive Days, following termination, if appropriate, the Subcontractor's compensation shall be equitably adjusted as a result of the suspension.

ARTICLE 6 TIME

6.1 DATE OF COMMENCEMENT The Constructor shall not commence the Work until it receives a written notice to proceed from the Owner. The notice to proceed shall identify the Date of Commencement.

6.2 SUBSTANTIAL/FINAL COMPLETION Substantial Completion of the Work shall be achieved in **NINETY (90) Days** from the Date of Commencement. Unless otherwise specified in the Certificate of Substantial Completion, the Constructor shall achieve Final Completion within TWENTY-ONE (21) Days after the date of Substantial Completion. The deadlines for Substantial and Final Completion are subject to adjustments as provided for in the Contract Documents.

6.3 Time is of the essence for this Agreement and the Contract Documents.

6.4 Unless instructed by the Owner in writing, the Constructor shall not knowingly commence the Work before the effective date of insurance and bonds to be provided by the Constructor or the Owner as required by the Contract Documents.

6.5 SCHEDULE OF THE WORK

6.5.1 Before submitting the first application for payment, the Constructor shall submit to the Project Architect and Owner's Representative for approval a Schedule of the Work showing the dates on which the Constructor plans to commence and complete various parts of the Work, including dates on which information and approvals are required from the Project Architect. The Constructor shall comply with the approved Schedule of the Work, unless directed by the Project Architect to do otherwise or the Constructor is otherwise entitled to an adjustment in the Contract Time. The Constructor shall update the Schedule of the Work on a monthly basis or at appropriate intervals as required by the conditions of the Work and the Project.

6.5.2 The Project Architect may determine the sequence in which the Work shall be performed, provided it does not unreasonably interfere with the Schedule of the Work. The Owner may require the Constructor to make reasonable changes in the sequence at any time during the performance of the Work in order to facilitate the performance of work by the Owner or Others. To the extent such

changes increase the Constructor's costs or time, the Contract Price and Contract Time shall be equitably adjusted.

6.6 DELAYS AND EXTENSIONS OF TIME

6.6.1 If the Constructor is delayed at any time in the commencement or progress of the Work by any cause beyond the control of the Constructor, the Constructor shall be entitled to an equitable extension of the Contract Time. Examples of causes beyond the control of the Constructor include, but are not limited to, the following: (a) acts or omissions of the Project Architect, Owner, or Others; (b) changes in the Work or the sequencing of the Work ordered by the Project Architect or Owner, or arising from decisions of the Project Architect or Owner that impact the time of performance of the Work; (c) encountering Hazardous Materials, or concealed or unknown conditions; (d) delay authorized by the Project Architect or Owner pending dispute resolution or suspension by the Owner under section 11.1; (e) transportation delays not reasonably foreseeable; (f) labor disputes not involving the Constructor; (g) general labor disputes impacting the Project but not specifically related to the Worksite; (h) fire; (i) Terrorism; (j) epidemics; (k) adverse governmental actions; (l) unavoidable accidents or circumstances; (m) adverse weather conditions not reasonably anticipated. The Constructor shall submit any requests for equitable extensions of Contract Time in accordance with the provisions of ARTICLE 8.

6.6.2 In addition, if the Constructor incurs additional costs as a result of a delay that is caused by items (a) through (d) immediately above, the Constructor shall be entitled to an equitable adjustment in the Contract Price subject to section 6.9.

6.6.3 NOTICE OF DELAYS If delays to the Work are encountered for any reason, the Constructor shall provide prompt written notice to the Project Architect with a copy to the Owner's Representative of the cause of such delays after the Constructor first recognizes the delay. The Owner and the Constructor agree to take reasonable steps to mitigate the effect of such delays.

6.7 NOTICE OF DELAY CLAIMS If the Constructor requests an equitable extension of the Contract Time or an equitable adjustment in the Contract Price as a result of a delay described in the section above, the Constructor shall give the Owner written notice of the claim in accordance with section 8.4. If the Constructor causes delay in the completion of the Work, the Owner shall be entitled to recover its additional costs subject to section 6.9. The Owner shall process any such claim against the Constructor in accordance with ARTICLE 8.

6.8 LIQUIDATED DAMAGES

6.8.1 SUBSTANTIAL COMPLETION The Owner and the Constructor agree that this Agreement shall provide for the imposition of liquidated damages based on the Date of Substantial Completion.

6.8.1.1 The Constructor understands that if the Date of Substantial Completion established by this Agreement, as may be amended by subsequent Change Order, is not attained, the Owner will suffer damages which are difficult to determine and accurately specify. The Constructor agrees that if the Date of Substantial Completion is not attained, the Constructor shall pay the Owner THREE HUNDRED DOLLARS (\$300.00) as liquidated damages and not as a penalty for each Day that Substantial Completion extends beyond the Date of Substantial Completion. The liquidated damages provided herein shall be in lieu of all liability for any and all extra costs, losses, expenses, claims, penalties, and any other damages of whatsoever nature incurred by the Owner which are occasioned by any delay in achieving the Date of Substantial Completion.

6.8.2 FINAL COMPLETION The Owner and the Constructor agree that this Agreement shall provide for the imposition of liquidated damages based on the Date of Final Completion.

6.8.2.1 The Constructor understands that if the Date of Final Completion established by this Agreement, as may be amended by subsequent Change Order, is not attained, the Owner will suffer damages which are difficult to determine and accurately specify. The Constructor agrees that if the Date of Final Completion is not attained, the Constructor shall pay the Owner THREE HUNDRED DOLLARS (\$300.00) as liquidated damages and not as a penalty for each Day that Final Completion extends beyond the Date of Final Completion. The liquidated damages provided herein shall be in lieu of all liability for any and all extra costs, losses, expenses, claims, penalties, and any other damages of whatsoever nature incurred by the Owner which are occasioned by any delay in achieving the Date of Final Completion.

6.8.3 OTHER LIQUIDATED DAMAGES The Owner and the Constructor may agree upon the imposition of liquidated damages based on other project milestones or performance requirements. Such agreement shall be included as an exhibit to this Agreement.

6.9 LIMITED MUTUAL WAIVER OF CONSEQUENTIAL DAMAGES Except for damages mutually agreed upon by the Parties as liquidated damages in subsections 6.8 and excluding losses covered by insurance required by the Contract Documents, the Owner and the Constructor agree to waive all claims against each other for any consequential damages that may arise out of or relate to this Agreement, except for those specific items of damages excluded from this waiver as mutually agreed upon by the Parties and identified below. The Owner agrees to waive damages, including but not limited to the Owner's rental expenses incurred, loss of financing related to the Project, as well as the loss of financing not related to this Project, loss of reputation, or insolvency. The Constructor agrees to waive damages, including but not limited to loss of business, loss of financing, loss of profits not related to this Project, loss of bonding capacity, loss of reputation, or insolvency. The provisions of this section shall also apply to the termination of this Agreement and shall survive such termination.

6.9.1 The Owner and the Constructor shall require similar waivers in contracts with Subcontractors and Others retained for the Project.

ARTICLE 7 PRICE

7.1 LUMP SUM As full compensation for performance by the Constructor of the Work in conformance with the Contract Documents, the Owner shall pay the Constructor the lump sum price of [REDACTED] DOLLARS (\$ [REDACTED]). The lump sum price is hereinafter referred to as the Contract Price, which shall be subject to increase or decrease as provided in ARTICLE 8.

ARTICLE 8 CHANGES

Changes in the Work that are within the general scope of this Agreement shall be accomplished, without invalidating this Agreement, by Change Order and Interim Directed Change.

8.1 CHANGE ORDER

8.1.1 The Constructor may request or the Owner may order changes in the Work or the timing or sequencing of the Work that impacts the Contract Price or the Contract Time. All such changes in the Work that affect Contract Time or Contract Price shall be formalized in a Change Order.

8.1.2 NO OBLIGATION TO PERFORM The Constructor shall not be obligated to perform changes in the Work that impact Contract Price or Contract Time until a Change Order has been executed or a written Interim Directed Change has been issued.

8.2 INTERIM DIRECTED CHANGE

8.2.1 The Owner may issue a written Interim Directed Change directing a change in the Work prior to reaching agreement with the Constructor on the adjustment, if any, in the Contract Price or the Contract Time.

8.2.2 The Owner and the Constructor shall negotiate expeditiously and in good faith for appropriate adjustments, as applicable, to the Contract Price or the Contract Time arising out of an Interim Directed Change. As the changed Work is performed, the Constructor shall submit its costs for such Work with its application for payment beginning with the next application for payment within thirty (30) Days of the issuance of the Interim Directed Change. If there is a dispute as to the cost to the Owner, the Owner shall pay the Constructor fifty percent (50%) of its estimated cost to perform such Work. In such event, the Parties reserve their rights as to the disputed amount, subject to the requirements of ARTICLE 12.

8.2.3 When the Owner and the Constructor agree upon the adjustment in the Contract Price or the Contract Time, for a change in the Work directed by an Interim Directed Change, such agreement shall be the subject of a Change Order. The Change Order shall include all outstanding Interim Directed Changes on which the Owner and Constructor have reached agreement on Contract Price or Contract Time issued since the last Change Order.

8.3 DETERMINATION OF COST

8.3.1 An increase or decrease in the Contract Price or the Contract Time resulting from a change in the Work shall be determined by one or more of the following methods:

8.3.1.1 Unit prices set forth in this Agreement or as subsequently agreed;

8.3.1.2 A mutually accepted, itemized lump sum;

8.3.2 Cost of the Work shall include the following costs necessarily and reasonably incurred by Constructor to perform a change in the Work:

8.3.2.1 Wages paid for labor in the direct employ of the Constructor in the performance of the Work;

8.3.2.2 Salaries of the Constructor's employees when stationed at the field office or branch office to the extent necessary to complete the applicable Work and employees engaged on the road expediting the production or transportation of material and equipment;

8.3.2.3 Cost of applicable employee benefits and taxes, including but not limited to, workers' compensation, unemployment compensation, social security, health, welfare, retirement and other fringe benefits as required by law, labor agreements, or paid under the Constructor's standard personnel policy, insofar as such costs are paid to employees of the Constructor who are included in the Cost of the Work in subsections .1 and .2 immediately above;

8.3.2.4 Reasonable transportation, travel, and hotel expenses of the Constructor's personnel incurred in connection with the Work;

8.3.2.5 Cost of all materials, supplies, and equipment incorporated in the Work, including costs of inspection and testing if not provided by the Owner, transportation, storage, and handling;

8.3.2.6 Payments made by the Constructor to Subcontractors for Work performed under this Agreement;

8.3.2.7 Cost, including transportation and maintenance of all materials, supplies, equipment, temporary facilities, and hand tools not owned by the workers that are used or consumed in the performance of the Work, less salvage value or residual value; and cost less salvage value of such items used, but not consumed that remain the property of the Constructor;

8.3.2.8 Rental charges of all necessary machinery and equipment, exclusive of hand tools owned by workers, used at the Worksite, whether rented from the Constructor or Others, including installation, repair and replacement, dismantling, removal, maintenance, transportation, and delivery costs. Rental from unrelated third parties shall be reimbursed at actual cost. Rentals from the Constructor or its affiliates, subsidiaries, or related parties shall be reimbursed at the prevailing rates in the locality of the Worksite up to eighty-five percent (85%) of the value of the piece of equipment;

8.3.2.9 Cost of the premiums for all insurance and surety bonds which the Constructor is required to procure or deems necessary, and approved by the Owner including any additional premium incurred as a result of any increase in the cost of the Work;

8.3.2.10 Sales, use, gross receipts or other taxes, tariffs, or duties related to the Work for which the Constructor is liable;

8.3.2.11 Permits, fees, licenses, tests, and royalties;

8.3.2.12 Reproduction costs, photographs, facsimile transmissions, long-distance telephone calls, data processing costs and services, postage, express delivery charges, data transmission, telephone service, and computer-related costs at the Worksite to the extent such items are used and consumed in the performance of the Work or are not capable of use after completion of the Work;

8.3.2.13 All water, power, and fuel costs necessary for the Work;

8.3.2.14 Cost of removal of all nonhazardous substances, debris, and waste materials;

8.3.2.15 All costs directly incurred to perform a change in the Work which are reasonably inferable from the Contract Documents for the Changed Work.

8.3.3 DISCOUNTS All discounts for prompt payment shall accrue to the Owner. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment, shall be credited to the Cost of the Work.

8.3.4 COST REPORTING The Constructor shall maintain in conformance with generally accepted accounting principles a complete and current set of records that are prepared or used by the Constructor to calculate the Cost of Work. The Owner shall be afforded access to the Constructor's records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda and similar data relating to requested payment for Cost of the Work. The Constructor shall preserve all such records for a period of three years after the final payment or longer where required by law.

8.3.5 COST AND SCHEDULE ESTIMATES The Constructor shall use reasonable skill and judgment in the preparation of a cost estimate or schedule for a change to the Work, but does not warrant or guarantee their accuracy.

8.3.6 If an increase or decrease in the Contract Price or Contract Time cannot be agreed to as set forth in subsection 8.3.1, and the Owner issues an Interim Directed Change, the cost of the change in the Work shall be determined by the reasonable actual expense incurred and savings realized in the performance of the Work resulting from the change. If there is a net increase in the Contract Price, the Constructor's Overhead and profit shall be adjusted accordingly. In case of a net

decrease in the Contract Price, the Constructor's Overhead and profit shall not be adjusted unless ten percent (10%) or more of the Project is deleted. The Constructor shall maintain a documented, itemized accounting evidencing the expenses and savings.

8.3.7 UNIT PRICES If unit prices are set forth in the Contract Documents or are subsequently agreed to by the Parties, but the character or quantity of such unit items as originally contemplated is so different in a proposed Change Order that the original unit prices will cause substantial inequity to the Owner or the Constructor, such unit prices shall be equitably adjusted.

8.3.8 If the Owner and the Constructor disagree as to whether work required by the Owner is within the scope of the Work, the Constructor shall furnish the Owner with an estimate of the costs to perform the disputed work in accordance with the Owner's interpretations. If the Owner issues a written order for the Constructor to proceed, the Constructor shall perform the disputed work and the Owner shall pay the Constructor fifty percent (50%) of its estimated cost to perform the work. In such event, both Parties reserve their rights as to whether the work was within the scope of the Work, subject to the requirements of ARTICLE 12. The Owner's payment does not prejudice its right to be reimbursed should it be determined that the disputed work was within the scope of the Work. The Constructor's receipt of payment for the disputed work does not prejudice its right to receive full payment for the disputed work should it be determined that the disputed work is not within the scope of the Work.

8.4 CLAIMS FOR ADDITIONAL COST OR TIME

8.4.1 Except as provided in subsection 6.6.2 and section 6.7 for any claim for an increase in the Contract Price or the Contract Time, the Constructor shall give the Owner written notice of the claim, including appropriate supporting documentation, within five (5) Business Days after the occurrence giving rise to the claim or within five (5) Business Days after the Constructor first recognizes the condition giving rise to the claim, whichever is later. Except in an emergency, notice shall be given before proceeding with the Work.

8.4.2 Suspension of Work: Constructor shall not proceed with work which would alter, cover, damage or destroy evidence in support of Constructor's Claim. If Constructor proceeds to perform Work, with or without notice to Project Architect, that alters, covers, damages or destroys evidence in support of Constructor's Claim, Constructor is indicating by proceeding its acceptance and agreement that the work performed does not add to the Contract Sum or Contract Time.

8.4.3 Action on Change Order: Project Architect shall review the Claim and shall forward recommendations to Owner regarding the Claim within five (5) business days. Negotiation of changes to the Contract Sum and/or Contract Time between the Owner and Contractor shall follow the procedures set forth in the Contract Documents.

8.4.4 Owner and Project Architect shall respond in writing approving or denying the Constructor's claim no later than fourteen (14) Days after receipt of the Constructor's claim. Owner's failure to so respond shall be deemed a denial of the claim. Any change in the Contract Price or the Contract Time resulting from such claim shall be authorized by Change Order.

8.5 INCIDENTAL CHANGES The Project Architect may direct the Constructor to perform incidental changes in the Work, upon concurrence with the Constructor that such changes do not involve adjustments in the Contract Price or Contract Time. Incidental changes shall be consistent with the scope and intent of the Contract Documents. The Project Architect shall initiate an incidental change in the Work by issuing a written order to the Constructor. Such written notice shall be carried out promptly and is binding on the Parties.

ARTICLE 9 PAYMENT

9.1 SCHEDULE OF VALUES In accordance with requirements in Division 01 Section 01 29 00 for "Schedule of Values," the Constructor shall prepare and submit to the Project Architect a Schedule of Values apportioned to the various divisions or phases of the Work. Each line item contained in the Schedule of Values shall be assigned a value such that the total of all items shall equal the Contract Price. Maintain the Schedule of Values during the construction period. If the Schedule of Values is revised, submit the updated Schedule of Values for Project Architect's review and approval after each meeting or other activity where revisions have been recognized or made.

9.2 APPLICATIONS FOR PAYMENT

9.2.1 PROGRESS PAYMENTS In accordance with requirements in Division 01 Section 01 29 00 for "Applications for Payment", the Constructor shall submit to the Project Architect a monthly application for payment no later than the 5th Business Day of the calendar month for the preceding thirty (30) Days. Constructor's applications for payment shall be itemized and supported by the Constructor's Schedule of Values and any other substantiating data as required by this Agreement. Applications for payment shall include payment requests on account of properly authorized Change Orders or Interim Directed Changes. The Owner shall pay the amount otherwise due on any payment application, as certified by the Project Architect, no later than thirty (30) Days after the Constructor has submitted a complete and accurate payment application and the Owner has approved the Constructor's payment application, or such shorter time period as required by applicable state statute. The Owner may deduct from any progress payment amounts that may be retained pursuant to subsection 9.2.4. The initial Application for Payment and the Applications for Payment at Substantial Completion and Final Completion have additional requirements as stated in Division 01 Section 01 29 00 "Applications for Payment".

9.2.2 STORED MATERIALS AND EQUIPMENT Unless otherwise provided in the Contract Documents, applications for payment may include materials and equipment not yet incorporated into the Work but delivered to and suitably stored onsite or offsite including applicable insurance, storage, and costs incurred in transporting the materials to an offsite storage facility. Approval of payment applications for stored materials and equipment stored offsite shall be conditioned on a submission by the Constructor of bills of sale and proof of required insurance, or such other documentation satisfactory to the Owner to establish the proper valuation of the stored materials and equipment, the Owner's title to such materials and equipment, and to otherwise protect the Owner's interests therein, including transportation to the Worksite.

9.2.3 LIEN WAIVERS AND LIENS Constructor acknowledges Owner is a public entity, that any property owned by Owner is considered public property, and that liens on public property are not enforceable. Constructor agrees that it shall not file any liens against property owned or controlled by Owner or by Ada County Highway District ("ACHD") which is a part of the Worksite (the "Property"). Constructor agrees that no lien will be at any time be filed against the Property, or any part thereof, by any of Constructor's subcontractors or other person employed by or furnishing labor, services, equipment, or materials to Constructor or any of its subcontractors for, in, or about the performance of the Work. The preceding clause will be inserted in all of the Constructor's or any of its subcontractor's purchase orders and material agreements. Subject to Owner's payment of the compensation in accordance with the terms of this Agreement, Constructor will promptly discharge all liens, if any, filed against the Property by Constructor's subcontractors, suppliers and materialmen, and agents and persons employed by any of such persons.

9.2.4 RETAINAGE From each progress payment made prior to Substantial Completion, the Owner may retain FIVE percent (5%) of the amount otherwise due after deduction of any amounts as provided in section 9.3, and in no event shall such percentage exceed any applicable statutory requirements. If the Owner chooses to use this retainage provision:

9.2.4.1 the Owner may, in its sole discretion, reduce the amount to be retained at any time;

9.2.4.2 the Owner may release retainage on that portion of the Work a Subcontractor has completed in whole or in part, and which the Owner has accepted. In lieu of retainage, the Constructor may furnish a retention bond or other security interest acceptable to the Owner, to be held by the Owner.

9.3 ADJUSTMENT OF CONSTRUCTOR'S PAYMENT APPLICATION The Owner may adjust or reject a payment application or nullify a previously approved payment application, in whole or in part, as may reasonably be necessary to protect the Owner from loss or damage based upon the following, to the extent that the Constructor is responsible under this Agreement:

9.3.1 the Constructor's repeated failure to perform the Work as required by the Contract Documents;

9.3.2 Except as accepted by the insurer providing builders risk or other property insurance covering the project, loss or damage arising out of or relating to this Agreement and caused by the Constructor to the Owner or to Others to whom the Owner may be liable;

9.3.3 the Constructor's failure to properly pay Subcontractors and Material Suppliers following receipt of such payment from the Owner;

9.3.4 rejected, nonconforming or Defective Work not corrected in a timely fashion;

9.3.5 reasonable evidence of delay in performance of the Work such that the Work will not be completed within the Contract Time;

9.3.6 reasonable evidence demonstrating that the unpaid balance of the Contract Price is insufficient to fund the cost to complete the Work; and

9.3.7 uninsured third-party claims involving the Constructor, or reasonable evidence demonstrating that third-party claims are likely to be filed unless and until the Constructor furnishes the Owner with adequate security in the form of a surety bond, letter of credit, or other collateral or commitment sufficient to discharge such claims if established.

No later than seven (7) Days after receipt of an application for payment, the Project Architect shall give written notice to the Constructor, at the time of disapproving or nullifying all or part of an application for payment, stating its specific reasons for such disapproval or nullification, and the remedial actions to be taken by the Constructor in order to receive payment. When the above reasons for disapproving or nullifying an application for payment are removed, payment will be promptly made for the amount previously withheld.

9.4 ACCEPTANCE OF WORK Neither the Owner's payment of progress payments nor its partial or full use or occupancy of the Project constitutes acceptance of Work not complying with the Contract Documents.

9.5 PAYMENT DELAY If for any reason not the fault of the Constructor, the Constructor does not receive a progress payment from the Owner within seven (7) Days after the time such payment is due, then the Constructor, upon giving seven (7) Days' written notice to the Owner, and without prejudice to and in addition to any other legal remedies, may stop Work until payment of the full amount owing to the Constructor has been received. Interest shall not accrue on any unpaid amounts. The Contract Price and Contract Time shall be equitably adjusted by a Change Order for reasonable cost and delay resulting from shutdown, delay and start-up.

9.6 SUBSTANTIAL COMPLETION

9.6.1 CLOSEOUT PROCEDURES The Constructor shall comply with the requirements stated in Division 01 Section 01 77 00 CLOSEOUT PROCEDURES, in conjunction with Constructor's compliance with the requirements in sections 9.6 and 9.7.

9.6.2 The Constructor shall notify the Project Architect and, if directed, the Owner, when it considers Substantial Completion of the Work or a designated portion to have been achieved. The Project Architect and Owner's Representative shall promptly conduct an inspection to determine whether the Work or designated portion can be occupied or used for its intended use by the Owner without excessive interference in completing any remaining unfinished Work. If the Project Architect determines that the Work or designated portion has not reached Substantial Completion, the Project Architect shall promptly compile a list of items ("Punch List") to be completed or corrected so the Owner may occupy or use the Work or designated portion for its intended use. The Constructor shall promptly complete all items on the Punch List and the list compiled by the Project Architect.

9.6.3 When Substantial Completion of the Work or a designated portion is achieved, the Owner shall prepare a Certificate of Substantial Completion establishing the date of Substantial Completion and the respective responsibilities of the Owner and Constructor for interim items such as security, maintenance, utilities, insurance, and damage to the Work. In the absence of a clear delineation of responsibilities, the Owner shall assume all responsibilities for items such as security, maintenance, utilities, insurance, and damage to the Work. The Certificate of Substantial Completion shall also list any items to be completed or corrected, and establish the time for their completion or correction. The Certificate of Substantial Completion shall be submitted first to the Project Architect for written concurrence that Substantial Completion has been achieved and then to the Constructor for written acceptance of responsibilities assigned in the Certificate of Substantial Completion. The Certificate of Substantial Completion with signatures from the Project Architect and the Constructor shall be submitted to the Owner for Owner's signature indicating Owner's acceptance of responsibilities assigned to the Owner in the Certificate of Substantial Completion and approval of the Certificate. A copy of the signed Certificate of Substantial Completion shall be provided to the Constructor.

9.6.4 Unless otherwise provided in the Certificate of Substantial Completion, warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or a designated portion.

9.6.5 Upon the Owner's written acceptance and issuance of the Certificate of Substantial Completion, the Owner shall pay to the Constructor the remaining retainage held by the Owner for the Work described in the Certificate of Substantial Completion, less a sum equal to two hundred percent (200%) of the estimated cost of completing or correcting remaining items on that part of the Work, as agreed to by the Owner and Constructor as necessary to achieve Final Completion. Uncompleted items shall be completed by the Constructor in a mutually agreed upon timeframe. The Owner shall pay the Constructor monthly the amount retained for unfinished items as each item is completed.

9.7 PARTIAL OCCUPANCY OR USE

9.7.1 The Owner may occupy or use completed or partially completed portions of the Work when: (a) the portion of the Work is designated in a Certificate of Substantial Completion; (b) appropriate insurer(s) consent to the occupancy or use; and (c) appropriate public authorities authorize the occupancy or use. Such partial occupancy or use shall constitute Substantial Completion of that portion of the Work.

9.8 FINAL COMPLETION AND FINAL PAYMENT

9.8.1 CLOSEOUT PROCEDURES The Constructor shall comply with the requirements in Division 01 Section 01 77 00 CLOSEOUT PROCEDURES, in conjunction with Constructor's compliance with the requirements in this section.

9.8.2 INSPECTION Upon notification from the Constructor that the Work is complete and ready for final inspection and acceptance, the Project Architect and Owner's Representative shall promptly conduct an inspection to determine if the Work has been completed and is acceptable under the Contract Documents.

9.8.3 If the Project Architect and Owner's Representative determine that the Project has attained Final Completion, the Project Architect shall request the following submissions from the Constructor:

- (a) an affidavit declaring any indebtedness connected with the Work, e.g. payrolls or invoices for materials or equipment, to have been paid, satisfied, or to be paid with the proceeds of final payment, so as not to encumber the Owner's property;
- (b) as-built drawings and specifications, manuals, copies of warranties, and all other close-out documents required by the Contract Documents;
- (c) release of any liens, conditioned on final payment being received;
- (d) consent of any surety;
- (e) any outstanding known and unreported accidents or injuries experienced by the Constructor or its Subcontractors at the Worksite; and
- (f) any other submissions required by Section 01 77 00 CLOSEOUT PROCEDURES.

9.8.4 When Final Completion has been achieved, the Constructor shall prepare for the Owner's written acceptance a final application for payment stating that to the best of the Constructor's knowledge, and based on the Owner's inspections, the Work has reached Final Completion in accordance with the Contract Documents.

9.8.5 Upon receipt of a final application for payment and Constructor's satisfactory completion of closeout procedures stated in sections 9.6 and 9.8, the Project Architect shall prepare a Certificate of Final Completion establishing the date of Final Completion. Upon signature by the Project Architect, the Certificate of Final Completion shall be submitted to the Constructor for signature. The Certificate of Final Completion with signatures from the Project Architect and the Constructor shall be returned to the Owner for Owner's signature indicating Owner's approval of the Certificate of Final Completion. A copy of the signed Certification of Final Completion shall be provided to the Constructor. The Project Architect's signature on the Final Completion Certificate shall signify the following: (a) Final Completion has been achieved; (b) Project has been inspected and complies with the requirements of the Contract Documents; and (c) Constructor has submitted all required closeout submittals and completed all required closeout procedures.

9.8.6 Final payment of the balance of the Contract Price shall be made to the Constructor within thirty (30) Days after the Constructor has submitted a complete and accurate application for final payment, has satisfactorily completed the requirements as set forth in sections 9.6 and 9.8 above, and a Certificate of Final Completion has been executed by the Owner and the Constructor.

9.8.7 If, after Substantial Completion of the Work, the Final Completion of a portion of the Work is materially delayed through no fault of the Constructor, the Owner shall pay the balance due for portion(s) of the Work fully completed and accepted. If the remaining contract balance for Work not fully completed and accepted is less than the retained amount prior to payment, the Constructor shall submit to the Project Architect the written consent of any surety to payment of the balance due for portions of the Work that are fully completed and accepted. Such payment shall not constitute a waiver of claims, but otherwise shall be governed by these final payment provisions.

9.8.8 OWNER RESERVATION OF CLAIMS Claims not reserved in writing by the Owner with the making of final payment shall be waived except for claims relating to liens or similar encumbrances, warranties, Defective Work, and latent defects.

9.8.9 ACCEPTANCE OF FINAL PAYMENT Unless the Constructor provides written identification of unsettled claims with an application for final payment, its acceptance of final payment constitutes a waiver of such claims.

9.9 LATE PAYMENT Payments due but unpaid shall bear interest from the date payment is due at the rate allowed by the State of Idaho.

ARTICLE 10 INDEMNITY, INSURANCE, AND BONDS

10.1 INDEMNITY

10.1.1 To the fullest extent permitted by law, the Constructor shall indemnify and hold harmless the Owner, the Owner's officers, directors, members, consultants, agents, and employees, the Design Professionals and the Design Professionals' officers, directors, members, consultants, agents, and employees and Others (the Indemnitees) from all claims for bodily injury and property damage, other than to the Work itself and other property insured, including reasonable attorneys' fees, costs and expenses, that may arise from the performance of the Work, but only to the extent caused by the negligent or intentional acts or omissions of the Constructor, Subcontractors, or anyone employed directly or indirectly by any of them or by anyone for whose acts any of them may be liable. The Constructor shall be entitled to reimbursement of any defense costs paid above the Constructor's percentage of liability for the underlying claim to the extent provided for by the subsection 10.1.2 below.

10.1.2 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Constructor, its officers, directors, members, consultants, agents, and employees, Subcontractors, or anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable from all claims for bodily injury and property damage, other than property insured, including reasonable attorneys' fees, costs and expenses, that may arise from the performance of work by the Owner, Owner's Representative, the Project Architect, and Others, but only to the extent caused by the negligent acts or omissions of the Owner, Owner's Representative, the Project Architect, or Others. The Owner shall be entitled to reimbursement of any defense costs paid above the Owner's percentage of liability for the underlying claim to the extent provided for by the subsection 10.1.1 above.

10.1.3 NO LIMITATION ON LIABILITY In any and all claims against the Indemnitees by any employee of the Constructor, anyone directly or indirectly employed by the Constructor or anyone for whose acts the Constructor may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Constructor under workers' compensation acts, disability benefit acts, or other employment benefit acts.

10.2 INSURANCE

Constructor's insurance obligations are set forth in Division 01 Section 00 73 16 INSURANCE AND BONDING REQUIREMENTS.

10.3 BONDS

Constructor's bond obligations are set forth Division 01 Section 00 73 16 INSURANCE AND BONDING REQUIREMENTS.

ARTICLE 11 SUSPENSION, NOTICE TO CURE, AND TERMINATION

11.1 SUSPENSION BY OWNER FOR CONVENIENCE

11.1.1 OWNER SUSPENSION Should the Project Architect and/or Owner order the Constructor in writing to suspend, delay, or interrupt the performance of the Work for the convenience of the Owner and not due to any act or omission of the Constructor or any person or entity for whose acts or omissions the Constructor may be liable, then the Constructor shall immediately suspend, delay or interrupt that portion of the Work for the time period ordered by the Project Architect and/or Owner. The Contract Price and the Contract Time shall be equitably adjusted by Change Order for the cost and delay resulting from any such suspension.

11.1.2 Any action taken by the Project Architect and/or Owner that is permitted by any other provision of the Contract Documents and that result in a suspension of part or all of the Work does not constitute a suspension of Work under this section 11.1.

11.2 NOTICE TO CURE A DEFAULT If the Constructor persistently fails to supply enough qualified workers, proper materials, or equipment to maintain the approved Schedule of the Work, or fails to make prompt payment to its workers, Subcontractors, or Material Suppliers, disregards Laws or orders of any public authority having jurisdiction, or is otherwise guilty of a material breach of a provision of this Agreement, the Constructor may be deemed in default. If the Constructor fails within seven (7) Days after receipt of written notice to commence and continue satisfactory correction of such default with diligence and promptness, then the Owner shall give the Constructor a second notice to correct the default within a three (3) Day period. If the Constructor fails to promptly commence and continue satisfactory correction of the default following receipt of such second notice, the Owner without prejudice to any other rights or remedies may: (a) take possession of the Worksite; (b) complete the Work utilizing reasonable means; (c) withhold payment due to the Constructor; and (d) as the Owner deems necessary, supply workers and materials, equipment, and other facilities for the satisfactory correction of the default, and charge the Constructor the costs and expenses, including reasonable Overhead, profit, and attorneys' fees.

11.2.1 In the event of an emergency affecting the safety of persons or property, the Owner may immediately commence and continue satisfactory correction of such default without first giving written notice to the Constructor, but shall give prompt written notice of such action to the Constructor following commencement of the action.

11.3 OWNER'S RIGHT TO TERMINATE FOR DEFAULT

11.3.1 TERMINATION BY OWNER FOR DEFAULT If, within seven (7) Days of receipt of a notice to cure pursuant to section 11.2, the Constructor fails to commence and satisfactorily continue correction of the default set forth in the notice to cure, the Owner may notify the Constructor and, if applicable, the surety, that it intends to terminate this Agreement for default absent appropriate corrective action within fourteen (14) additional Days. After the expiration of the additional fourteen (14) Day period, the Owner may terminate this Agreement by written notice absent appropriate corrective action. Termination for default is in addition to any other remedies available to the Owner under section 11.2. If the Owner's costs arising out of the Constructor's failure to cure, including the costs of completing the Work and reasonable attorneys' fees, exceed the unpaid Contract Price, the Constructor shall be liable to the Owner for such excess costs. If the Owner's costs are less than the unpaid Contract Price, the Owner shall pay the difference to the Constructor. If the Owner exercises its rights under this section 11.3, upon the request of the Constructor, the Owner shall furnish to the Constructor a detailed accounting of the costs incurred by the Owner.

11.3.2 USE OF CONSTRUCTOR'S MATERIALS, SUPPLIES, AND EQUIPMENT If the Owner or Others perform work under this section 11.3, the Owner shall have the right to take and use any materials, supplies, and equipment belonging to the Constructor and located at the Worksite for the purpose of completing any remaining Work. Immediately upon completion of the Work, any remaining materials, supplies, or equipment not consumed or incorporated in the Work shall be

returned to the Constructor in substantially the same condition as when they were taken, reasonable wear and tear excepted.

11.3.3 If the Constructor files a petition under the Bankruptcy Code, this Agreement shall terminate if the Constructor or the Constructor's trustee rejects the Agreement, or if there has been a default and the Constructor is unable to give adequate assurance that the Constructor will perform as required by this Agreement or otherwise is unable to comply with the requirements for assuming this Agreement under the applicable provisions of the Bankruptcy Code.

11.3.4 The Owner shall make reasonable efforts to mitigate damages arising from Constructor default, and shall promptly invoice the Constructor for all amounts due pursuant to sections 11.2 and 11.3.

11.3.5 If the Owner terminates this Agreement for default, and it is later determined that the Constructor was not in default, or that the default was excusable under the terms of the Contract Documents, then, in such event, the termination shall be deemed a termination for convenience, and the rights of the Parties shall be as set forth in section 11.4.

11.4 TERMINATION BY OWNER FOR CONVENIENCE

11.4.1 Upon written notice to the Constructor, the Owner may, without cause, terminate this Agreement. The Constructor shall immediately stop the Work, follow the Owner's instructions regarding shutdown and termination procedures, and strive to minimize any further costs.

11.4.2 If the Owner terminates this Agreement for Convenience, the Constructor shall be paid: (a) for the Work performed to date including Overhead and profit; and (b) for all demobilization costs and costs incurred as a result of the termination but not including Overhead or profit on Work not performed.

11.4.3 If the Owner terminates this Agreement, the Constructor shall:

11.4.3.1 Execute and deliver to the Owner all papers and take all action required to assign, transfer, and vest in the Owner the rights of the Constructor to all materials, supplies and equipment for which payment has been or will be made in accordance with the Contract Documents and all subcontracts, orders and commitments which have been made in accordance with the Contract Documents;

11.4.3.2 Exert reasonable effort to reduce to a minimum the Owner's liability for subcontracts, orders, and commitments that have not been fulfilled at the time of the termination;

11.4.3.3 Cancel any subcontracts, orders, and commitments as the Owner directs; and

11.4.3.4 Sell at prices approved by the Owner any materials, supplies, and equipment as the Owner directs, with all proceeds paid or credited to the Owner.

11.5 CONSTRUCTOR'S RIGHT TO TERMINATE

11.5.1 Upon seven (7) Days' written notice to the Owner, the Constructor may terminate this Agreement if the Work has been stopped for a thirty (30) Day period through no fault of the Constructor for any of the following reasons:

11.5.1.1 under court order or order of other governmental authorities having jurisdiction;

11.5.1.2 as a result of the declaration of a national emergency or other governmental act during which, through no act or fault of the Constructor, materials are not available; or

11.5.1.3 suspension by the Owner for convenience pursuant to section 11.1

11.5.2 In addition, upon seven (7) Days' written notice to the Owner, the Constructor may terminate this Agreement if the Owner:

11.5.2.1 assigns this Agreement over the Constructor's reasonable objection; or

11.5.2.2 fails to pay the Constructor in accordance with this Agreement and the Constructor has complied with section 9.5; or

11.5.2.3 otherwise materially breaches this Agreement.

11.5.3 Upon termination by the Constructor in accordance with section 11.5, the Constructor shall be entitled to recover from the Owner payment for all Work executed and for any proven loss, cost, or expense in connection with the Work, including all demobilization costs plus reasonable Overhead and profit on Work not performed.

11.6 OBLIGATIONS ARISING BEFORE TERMINATION Even after termination, the provisions of this Agreement still apply to any Work performed, payments made, events occurring, costs charged or incurred or obligations arising before the termination date.

ARTICLE 12 DISPUTE MITIGATION AND RESOLUTION

12.1 WORK CONTINUANCE AND PAYMENT Unless otherwise agreed in writing, the Constructor shall continue the Work and maintain the Schedule of the Work during any dispute mitigation or resolution proceedings. If the Constructor continues to perform, the Owner shall continue to make payments in accordance with this Agreement.

12.2 DIRECT DISCUSSIONS In the event that a dispute arises between Owner and Constructor regarding application or interpretation of any provision of this Agreement, the aggrieved Party shall promptly notify the other Party to this Agreement of the dispute within ten (10) days after such dispute arises. If the Parties shall have failed to resolve the dispute within thirty (30) days after delivery of such notice, the Parties may first endeavor to settle the dispute in an amicable manner by mediation. If the Parties elect to mediate their dispute, the Parties will select a mediator by mutual agreement and agree to each pay half of the mediator's costs and fees. The mediation will take place in Boise, Idaho, unless otherwise agreed by the Parties in writing. Should the Parties be unable to resolve the dispute to their mutual satisfaction within thirty (30) days after such completion of mediation, each Party shall have the right to pursue any rights or remedies it may have at law or in equity. If the Parties do not mutually agree to mediate the dispute, either Party may pursue any rights or remedies it may have at law.

ARTICLE 13 MISCELLANEOUS

13.1 EXTENT OF AGREEMENT Except as expressly provided, this Agreement is for the exclusive benefit of the Parties, and not for the benefit of any third party. This Agreement represents the entire and integrated agreement between the Parties, and supersedes all prior negotiations, representations, or agreements, either written or oral.

13.2 ASSIGNMENT Except as to the assignment of proceeds, the Parties shall not assign their interest in this Agreement without the written consent of the other. The terms and conditions of this Agreement shall be binding upon both Parties, their partners, successors, assigns, and legal representatives. Neither Party shall assign the Agreement as a whole without written consent of the other except that the Owner may assign the Agreement to a wholly owned subsidiary of the Owner when the Owner has fully indemnified the Constructor or to an institutional lender providing construction financing for the Project as

long as the assignment is no less favorable to the Constructor than this Agreement. If such assignment occurs, the Constructor shall execute any consent reasonably required. In such event, the wholly owned subsidiary or lender shall assume the Owner's rights and obligations under the Contract Documents. If either Party attempts to make such an assignment, that Party shall nevertheless remain legally responsible for all obligations under this Agreement, unless otherwise agreed in writing by the other Party.

13.3 GOVERNING LAW This Agreement shall be governed by the laws of the State of Idaho.

13.4 SEVERABILITY The partial or complete invalidity of any one or more provisions of this Agreement shall not affect the validity or continuing force and effect of any other provision.

13.5 NO WAIVER OF PERFORMANCE The failure of either Party to insist, in any one or more instances, on the performance of any of the terms, covenants, or conditions of this Agreement, or to exercise any of its rights, shall not be construed as a waiver or relinquishment of such term, covenant, condition, or right with respect to further performance or any other term, covenant, condition, or right.

13.6 TITLES The titles given to the articles are for ease of reference only and shall not be relied upon or cited for any other purpose.

13.7 JOINT DRAFTING The Parties expressly agree that this Agreement was jointly drafted, and that both had opportunity to negotiate its terms and to obtain the assistance of counsel in reviewing its terms prior to execution. Therefore, this Agreement shall be construed neither against nor in favor of either Party, but shall be construed in a neutral manner.

13.8 RIGHTS AND REMEDIES The Parties' rights, liabilities, responsibilities and remedies with respect to this Agreement, whether in contract, tort, negligence or otherwise, shall be exclusively those expressly set forth in this Agreement.

ARTICLE 14 CONTRACT DOCUMENTS

14.1 EXISTING CONTRACT DOCUMENTS This Contract expressly incorporates the following documents, together with any amendments that may be agreed to in writing by both parties:

Project Manual dated **MARCH 3, 2020**, including:

- PROJECT MANUAL COVER PAGE
- 00 01 10 TABLE OF CONTENTS
- 00 11 16 INVITATION TO BID
- 00 21 13 INSTRUCTIONS TO BIDDERS
- 00 25 13 PRE BID MEETING
- 00 41 13 BID FORM
- 00 43 22 UNIT PRICES BID FORM
- 00 45 46 CONTRACTOR'S AFFIDAVIT CONCERNING TAXES
- 00 52 13 AGREEMENT BETWEEN OWNER AND CONTRACTOR
- 00 62 76 APPLICATION FOR PAYMENT FORM
- 00 73 00 SUPPLEMENTARY CONDITIONS
- 00 73 16 INSURANCE AND BONDING REQUIREMENTS
- 00 73 73 STATUTORY REQUIREMENTS – TAX COMMISSION
- 01 10 00 SUMMARY
- 01 25 00 SUBSTITUTION PROCEDURES
- 01 26 00 CONTRACT MODIFICATION PROCEDURES
- 01 29 00 PAYMENT PROCEDURES
- 01 31 00 PROJECT MANAGEMENT AND COORDINATION
- 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION

01 40 00 QUALITY REQUIREMENTS
01 50 00 TEMPORARY FACILITIES AND CONTROLS
01 73 00 EXECUTION
01 77 00 CLOSEOUT PROCEDURES

02 41 19 SELECTIVE DEMOLITION
04 20 00 UNIT MASONRY
06 10 53 MISCELLANEOUS ROUGH CARPENTRY
07 92 00 JOINT SEALANTS
08 11 13 HOLLOW METAL DOORS AND FRAMES
08 31 13 ACCESS DOORS AND FRAMES
08 41 13 ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS
08 71 00.1 DOOR HARDWARE – 9TH & FRONT GARAGE
08 71 00.2 DOOR HARDWARE – 9TH & MAIN GARAGE
08 71 00.3 DOOR HARDWARE – CAPITOL & MYRTLE GARAGE
08 71 00.4 DOOR HARDWARE – CAPITOL & MAIN GARAGE
08 80 00 GLAZING
09 29 00. GYPSUM BOARD
09 30 00 CERAMIC TILING
09 51 13 ACOUSTIC PANEL CEILINGS
09 65 13 RESILENT BASE AND ACCESSORIES
09 91 23 PAINTING
10 26 00 WALL AND DOOR PROTECTION
10 28 00 TOILET, BATCH, AND LAUNDRY ACCESSORIES
32 13 13 CONCRETE PAVING

DRAWINGS

9TH & FRONT GARAGE UPGRADES - ARCHITECT'S PROJECT NO. 19060
G0.01 COVER SHEET
G0.02 DRAWING INFORMATION
A2.11 FLOOR PLANS
A8.11 SCHEDULES
P1.0. PLUMBING PLAN

9TH & MAIN GARAGE UPGRADES - ARCHITECT'S PROJECT NO. 19073
G0.01 COVER SHEET
G0.02 DRAWING INFORMATION
A2.11 FLOOR PLANS
A8.11 SCHEDULES
P1.0 PLUMBING PLAN

CAPITOL & MYRTLE GARAGE UPGRADES - ARCHITECT'S PROJECT NO. 19074
G0.01 COVER SHEET
G0.02 DRAWING INFORMATION
A2.11 FLOOR PLANS
A8.11 SCHEDULES
P1.0 PLUMBING PLAN

CAPITOL & MAIN GARAGE UPGRADES - ARCHITECT'S PROJECT NO. 19075
G0.01 COVER SHEET
G0.02 DRAWING INFORMATION
A2.11 FLOOR PLANS
A2.12 NEW ACCESSIBLE RAMP AND DETAILS
A8.11 SCHEDULES
P1.0 PLUMBING PLAN

Bid Addenda dated xxxxxxxx
Constructor's Bid dated xxxxxx
Payment and Performance Bonds dated xxxxxx
Insurance Certificates dated xxxxxx

14.2 INTERPRETATION OF CONTRACT DOCUMENTS

14.2.1 The drawings and specifications are complementary. If Work is shown only on one but not on the other, the Constructor shall perform the Work as though fully described on both, consistent with the Contract Documents and reasonably inferable from them.

14.2.2 In case of conflicts between the drawings and specifications, the specifications shall govern. In any case of omissions or errors in figures, drawings, or specifications, the Constructor shall immediately submit the matter to the Project Architect for clarification. The Project Architect shall confer with the Owner's Representative, and shall issue a clarification to the Constructor. Owner's clarifications are final and binding on all Parties, subject to an equitable adjustment in Contract Time or Contract Price or dispute mitigation and resolution.

14.2.3 Where figures are given, they shall be preferred to scaled dimensions.

14.2.4 Unless otherwise specifically defined in this Agreement, any terms that have well-known technical or trade meanings shall be interpreted in accordance with their well-known meanings.

14.2.5 ORDER OF PRECEDENCE In case of any inconsistency, conflict, or ambiguity among the Contract Documents, the documents shall govern in the following order: (a) Change Orders and written amendments to this Agreement; (b) this Agreement; (c) subject to subsection 14.2.2, the drawings (large scale governing over small scale), specifications, and addenda issued prior to the execution of this Agreement or signed by both Parties; (d) information furnished by the Owner pursuant to subsection 3.13.4 or designated as a Contract Document in section 14.1; (e) other documents listed in this Agreement. Among categories of documents having the same order of precedence, the term or provision that includes the latest date shall control. Information identified in one Contract Document and not identified in another shall not be considered a conflict or inconsistency.

End of Agreement | *Signatures appear on the following page.*

IN WITNESS WHEREOF, OWNER AND CONSTRUCTOR have executed this Agreement with an effective date as first written above.

OWNER: Capital City Development Corporation

BY: _____
John Brunelle, Executive Director

Date: _____

Approved as to Form

Mary Watson, General Counsel | Contracts Manager

CONSTRUCTOR: [insert company name]

BY: _____
[insert name and title]

Date: _____

END OF DOCUMENT

Budget Info / For Office Use	
Fund / District	401
Account	6125
Activity Code	19039
PO #	
Contract Term	

END OF SECTION 00 52 13

SECTION 00 62 76 APPLICATION FOR PAYMENT FORM

APPLICATION FOR PAYMENT NO. _____

To: Capital City Development Corporation (OWNER)
From: _____
Contract: _____
Project: _____
OWNER's Contract No. _____
PROJECT ARCHITECT's Project No. _____

For Work accomplished through the date of:

- 1. Original Contract Price: \$ _____
2. Net change by Change Orders and Written Amendments (+/-): \$ _____
3. Current Contract Price (1 plus 2): \$ _____
4. Total completed and stored to date: \$ _____
5. Retainage (per Agreement): _____% of completed Work: \$ _____
_____ % of stored material: \$ _____
Total Retainage: \$ _____
6. Total completed and stored to date less retainage (4 minus 5): \$ _____
7. Less previous Application for Payments: \$ _____
8. DUE THIS APPLICATION (6 MINUS 7): \$ _____

Accompanying Documentation:

CONTRACTOR'S Certification: The undersigned CONTRACTOR certifies that: 1.) all previous progress payments received from OWNER on account of Work done under the Contract referred to above have been applied on account to discharge CONTRACTOR's legitimate obligations incurred in connection with Work covered by prior Applications for Payment numbered 1 through _____ inclusive; 2.) title of all Work, materials, and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to OWNER indemnifying OWNER against any such Lien, security interest or encumbrance); and 3.) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective.

Dated: _____ CONTRACTOR

Notarized By: _____
State of _____
County of _____
Subscribed and sworn to before me this _____ day of _____, _____.

Notary Public
My Commission expires: _____

Payment of the above AMOUNT DUE THIS APPLICATION is recommended.

Dated: _____ PROJECT ARCHITECT / OWNER'S PROJECTMANAGER

APPLICATION FOR PAYMENT – INSTRUCTIONS

A. GENERAL INFORMATION

The sample Schedule of Values (next page) is intended as a guide only. Many projects require a more extensive form with space for numerous items, descriptions of Change Orders, identification of variable quantity adjustments, summary of materials and equipment stored at the site and other information. It is expected that a separate form will be developed by Project Architect and Contractor at the time Contractor's Schedule of Values is finalized. Note also that the format for retainage must be changed if the Contract permits (or the law provides), and Contractor elects to deposit securities in lieu of retainage. See Division 01 Section 01 10 00 "Applications for Payment" for provisions concerning payments to Contractor.

B. COMPLETING THE FORM

The Schedule of Values, submitted and approved as provided in the General Conditions, should be reproduced as appropriate in the space indicated on the Application for Payment form. Note that the cost of materials and equipment is often listed separately from the cost of installation. Also, note that each Unit Price is deemed to include Contractor's overhead and profit.

All Change Orders affecting the Contract Price should be identified and included in the Schedule of Values as required for progress payments.

The form is suitable for use in the Final Application for Payment as well as for Progress Payments; however, the required accompanying documentation is usually more extensive for final payment. All accompanying documentation should be identified in the space provided on the form.

C. LEGAL REVIEW

All accompanying documentation of a legal nature, such as Lien waivers, should be reviewed by an attorney, and Project Architect should so advise Owner.

END OF SECTION 00 62 76

Project: ParkBOI Garages - Door, Hardware & Ada Upgrades							Application No.		1
Contractor:							Application Date		XX/XX/XX
Application for Payment							From		To
Continuation Sheet							XX/XX/XX		XX/XX/XX
A	B	C	D	E	F	G	H	I	J
Work Completed									
Item No.	Description of Work	Scheduled Value	Previous Application	This Period	Materials Presently Stored	Total Completed & Stored	%	Balance to Finish	Retainage to Date
<i>EXAMPLE ONLY</i> <i>Contractor to List Based on Scope of Work</i>									
1	Mobilization, Bond					\$0.00	#DIV/0!	\$0.00	\$0.00
2	Demolition					\$0.00	#DIV/0!	\$0.00	\$0.00
3	Masonry					\$0.00	#DIV/0!	\$0.00	\$0.00
4	Carpentry					\$0.00	#DIV/0!	\$0.00	\$0.00
5	Plumbing					\$0.00	#DIV/0!	\$0.00	\$0.00
6	Doors & Frames					\$0.00	#DIV/0!	\$0.00	\$0.00
7	Finishes					\$0.00	#DIV/0!	\$0.00	\$0.00
		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00			\$0.00
Retainage for This Period				\$0.00	\$0.00				
Application No.									
Total Completed & Stored		\$0.00							
Less Retainage for this Period - Work Completed		\$0.00							
Less Retainage for this Period - Materials Presently Stored		\$0.00							
Total Requested for Payment		\$0.00							

SECTION 00 73 00 SUPPLEMENTARY CONDITIONS

1. **FEDERAL, STATE, AND LOCAL PAYROLL TAXES:** Neither federal, state or local income taxes, nor payroll taxes of any kind shall be withheld and paid by Owner on behalf of Contractor or the employees of Contractor. Contractor shall not be treated as an employee with respect to the services performed hereunder for federal or state tax purposes. Contractor understands that Contractor is responsible to pay, according to law, Contractor's income tax. Contractor further understands that Contractor may be liable for self-employment (Social Security) tax to be paid by Contractor according to law.
2. **LICENSES AND LAW:** Contractor represents that it possesses the requisite skill, knowledge, and experience necessary, as well as all licenses required to perform the services under this Agreement. Contractor further agrees to comply with all applicable laws, ordinances, and codes of Federal, State and local governments in the performance of the services hereunder.
3. **FRINGE BENEFITS:** Because Contractor is engaged in its own independently established business, Contractor is not eligible for, and shall not participate in, any employee pension, health, or other fringe benefit plans of Owner.
4. **AMENDMENTS:** This Agreement, including the amount of compensation and the Scope of Work, may be amended only in writing, upon mutual agreement of both Owner and Contractor.
5. **DISCRIMINATION PROHIBITED:** In performing the services required herein, Contractor shall not discriminate against any person on the basis of race, color, religion, sex, sexual orientation, gender identity, national origin or ancestry, age, or handicap. Violation of this section shall constitute a material breach of this Agreement and be deemed grounds for cancellation, termination or suspension of the Agreement by Owner, in whole or in part, and may result in ineligibility for further work for Owner.
6. **NUMERATION:** Owner and Contractor acknowledge the Agreement may contain gaps in the numbering of the provisions. Despite the gaps in the numbering, Owner and Contractor acknowledge the Agreement is the complete Agreement between them.
7. **SILENCE OF SPECIFICATION:** The apparent silence of this specification and supplemental specifications as to any detail, or the apparent omission from it of a detailed description concerning any point shall be regarded as meaning that only best commercial practice is to be used. Any exception to this specification shall be cause for rejection. Owner reserves the right to verify specification compliance and other information with published sources as deemed necessary.
8. **ACCIDENT PREVENTION:** The Contractor shall provide and maintain work environments and procedures which will:
 - A. Safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities.
 - B. Comply with all local, County, State, or other applicable legal requirements and will exercise all legally required safety precautions at all times.

- C. Ensure that all Contractor employees who are performing work in the streets wear an appropriate safety vest.
- D. Avoid interruptions of Government operations and delays in Project completion dates; and will exercise due care during the performance of work to protect from damage all existing facilities, structures, landscaping and utilities on local jurisdiction and private property.
- E. For these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall:
 - i) Provide appropriate safety barricades, signs, and signal lights;
 - ii) Ensure that any additional measures the Owner determines to be reasonably necessary for the purposes are taken.
 - iii) Take every reasonable effort to keep sidewalks, vehicle travel lanes, driveways and crosswalks open at all times.
 - v) Report to Owner immediately any Contractor caused damages.
 - vi) Effect the prompt repair any damage to any public property incurred while installing the required items. Repairs to be completed as quickly as is reasonably possible and as required by local ordinance.

9. EMPLOYMENT OF IDAHO RESIDENTS IN PUBLIC WORKS CONSTRUCTION. Contractor shall comply with Idaho Code § 44-1001 in performing the Work on the Project. **This Code provision is reproduced below for convenience from the State of Idaho website and shall be verified by Contractor.**

44-1001. EMPLOYMENT OF RESIDENTS OF IDAHO — WAGE SCALE — FEDERAL FUNDS. In all state, county, municipal, and school construction, repair, and maintenance work under any of the laws of this state the contractor, or person in charge thereof must employ ninety-five percent (95%) bona fide Idaho residents as employees on any such contracts except for procurement authorized in section 67-2808(2), Idaho Code, or where under such contracts fifty (50) or less persons are employed the contractor may employ ten percent (10%) nonresidents, provided however, in such a case employers must give preference to the employment of bona fide Idaho residents in the performance of such work; provided, that in work involving the expenditure of federal aid funds this act shall not be enforced in such a manner as to conflict with or be contrary to the federal statutes prescribing a labor preference to honorably discharged members of the United States armed forces, including airmen, soldiers, sailors, and marines, prohibiting as unlawful any other preference or discrimination among the citizens of the United States.

END OF SECTION 00 73 00

SECTION 00 73 16 INSURANCE AND BONDING REQUIREMENTS

Insurance

Upon execution of the Contract and prior to commencing any Work under the Contract, Contractor shall obtain at its sole cost and expense and thereafter maintain, for the duration of the Contract, at least the minimum insurance coverages set forth below:

- (a) Worker's compensation insurance as required by applicable law or regulation;
- (b) Employer's liability insurance in the minimum amount of \$100,000 each accident for bodily injury, \$100,000 each employee for bodily injury by disease and \$500,000 policy limit for bodily injury by disease;
- (c) Commercial General Liability ("CGL") insurance covering all operations by or on behalf of Contractor with minimum limits of liability of \$1,000,000 for each occurrence and \$2,000,000 aggregate for both bodily injury and property damage. Contractor may provide insurance up to the required limits through a CGL policy or through a CGL policy and an umbrella policy.

The aggregate limits shall apply separately to the Project, or the Contractor shall obtain separate insurance to provide the required limit which shall not be subject to depletion because of claims arising out of any other project or activity of the Contractor.

The CGL insurance policy shall name Owner as Additional Insured and shall protect its officers, agents and employees from and against claims for bodily injury, property damage, personal injury and advertising injury that shall be no less comprehensive and no more restrictive than the coverage provided by Insurance Services Office (ISO) form for Commercial General (CG 00 01 04 13).

By its terms or appropriate endorsements such insurance shall include the following coverage, to wit: Bodily Injury, Property Damage, Fire Legal Liability (not less than the replacement value of the portion of the premises occupied), Personal Injury, Blanket Contractual, Independent Contractors, Premises Operations, Products and Completed Operations for a minimum of two (2) years following Final Completion of the Project. The policy cannot be endorsed to exclude the perils of explosion (x), collapse (c) and underground (u) exposures without the specific written approval of the Owner. Owner shall be named as an Additional Insured by the terms of the policy or by an endorsement issued by the insurer; and

- (d) Automobile liability insurance including coverage for owned, hired, and non-owned automobiles. The limits of liability shall not be less than \$1,000,000 combined single limit each accident for bodily injury and property damage combined. Contractor shall require each of its subcontractors to include in their liability insurance policies coverage for automobile contractual liability. The automobile liability insurance policy shall name Owner as Additional Insured and shall protect its officers, agents and employees from and against claims.

All insurance required in the Contract shall be occurrence based coverage as opposed to claims based coverage and shall be procured from companies which are authorized to do business in Idaho.

To the extent commercially available to the Contractor from its current insurance company, insurance policies required under the Contract shall contain a provision that the insurance company or its designee must give the Owner written notice transmitted in paper or electronic format: (a) 30 Days before coverage is non-renewed by the insurance company and (b) within 10 Business Days after cancelation of coverage by the insurance company. Prior to commencing the Work and upon renewal or replacement of the insurance policies, the Contractor shall furnish the Owner with certificates of insurance until two years after Substantial Completion or longer if required by the Contract. In addition, if any insurance policy required under the Contract is not to be immediately replaced without lapse in coverage when it expires, exhausts its limits, or is to be cancelled, the Contractor shall give Owner prompt written notice upon actual or constructive knowledge of such condition.

Contractor may include all subcontractors as insureds under the Contractor's policies in lieu of separate policies by each subcontractor.

Contractor shall furnish Owner with a copies of the CGL policies or endorsement naming Owner as an Additional Insured and certificates of insurance including the required endorsements for Contractor and all subcontractors not included under Contractor's policy prior to execution of the contract by Owner and prior to any work being performed.

All insurance provided by Contractor under the Contract shall include a waiver of subrogation by the insurers in favor of Owner. Contractor hereby releases CCDC, including its respective affiliates, directors, and employees, for losses or claims for bodily injury, property damage covered by Contractor's insurance or other insured claims arising out of Contractor's performance under the Contract.

The foregoing insurance coverage shall be primary and noncontributing with respect to any other insurance or self-insurance that may be maintained by Owner. The fact that the Contractor has obtained the insurance required shall in no manner lessen or affect the Contractor's other obligations or liabilities set forth in the Contract.

Payment and Performance Bonds

Payment and Performance Bonds are required of the Contractor. Such bonds shall be issued by a surety admitted in the state of Idaho, payable to Owner, and must be acceptable to the Owner to be valid. The Owner's acceptance shall not be withheld without a reasonable cause. The penal sum of the bonds shall each be one hundred percent (100%) of the original Contract Price. Any increase in the Contract Price that exceeds ten percent (10%) in the aggregate shall require a rider to the Bonds increasing penal sums accordingly. Up to such ten percent (10%) amount, the penal sum of the bond shall remain equal to one hundred percent (100%) of the Contract Price. The Contractor shall endeavor to keep its surety advised of changes potentially impacting the Contract Price and Contract Time, though the Contractor shall require that its surety waives any requirement to be notified of any alteration or extension of time within the scope of the initial Agreement. The performance bond shall include coverage in favor of Owner for correction of Defective Work by the Contractor for two years following Substantial Completion of the Work.

END OF SECTION 00 73 16

SECTION 00 73 73 STATUTORY REQUIREMENTS – TAX COMMISSION

Contractor shall complete the WH-5 PUBLIC WORKS CONTRACT REPORT and provide to Owner at the time of execution of the Contract. See WH-5 report on next page.

Do not file with the State Tax Commission; Owner will file the Report.

Idaho Code sections 54-1904A and 63-3624(g) require all public works contracts to be reported to the Tax Commission within thirty (30) days after a contract is awarded.

END OF SECTION 00 73 73

WH-5 Public Works Contract Report

Idaho Code sections 54-1904A and 63-3624(g) require all public works contracts to be reported to the Tax Commission. This form must be filed with the Tax Commission within 30 days after a contract is awarded.

Contract awarded by (public body and address)

Contract awarded to (contractor's name and address)

State of incorporation	Federal Employer Identification Number (EIN)	Date qualified to do business in Idaho
Business operates as <input type="checkbox"/> Sole proprietorship <input type="checkbox"/> Partnership <input type="checkbox"/> Corporation <input type="checkbox"/> LLC		Public Works contractor license number
Sole proprietor's Social Security number	Idaho sales/use tax permit number	Idaho withholding tax permit number
Awarding agency project number		Amount of contract \$
Description and location of work to be performed		

PROJECT DATES

Scheduled project start date: _____ Completion date: _____

If the following information is not available at this time, please indicate date it will be: _____

ALL SUBCONTRACTORS

Name		Federal EIN	
Address		Public works contractor number	
City, State, ZIP	<input type="checkbox"/> LLC <input type="checkbox"/> Sole proprietorship	<input type="checkbox"/> Corporation <input type="checkbox"/> Partnership	Amount of subcontract \$
Description of work			
Name		Federal EIN	
Address		Public works contractor number	
City, State, ZIP	<input type="checkbox"/> LLC <input type="checkbox"/> Sole proprietorship	<input type="checkbox"/> Corporation <input type="checkbox"/> Partnership	Amount of subcontract \$
Description of work			
Name		Federal EIN	
Address		Public works contractor number	
City, State, ZIP	<input type="checkbox"/> LLC <input type="checkbox"/> Sole proprietorship	<input type="checkbox"/> Corporation <input type="checkbox"/> Partnership	Amount of subcontract \$
Description of work			
Name		Federal EIN	
Address		Public works contractor number	
City, State, ZIP	<input type="checkbox"/> LLC <input type="checkbox"/> Sole proprietorship	<input type="checkbox"/> Corporation <input type="checkbox"/> Partnership	Amount of subcontract \$
Description of work			

ALL SUBCONTRACTORS (CONTINUED)

Name		Federal EIN	
Address		Public works contractor number	
City, State, ZIP	<input type="checkbox"/> LLC <input type="checkbox"/> Sole proprietorship	<input type="checkbox"/> Corporation <input type="checkbox"/> Partnership	Amount of subcontract \$
Description of work			

Name		Federal EIN	
Address		Public works contractor number	
City, State, ZIP	<input type="checkbox"/> LLC <input type="checkbox"/> Sole proprietorship	<input type="checkbox"/> Corporation <input type="checkbox"/> Partnership	Amount of subcontract \$
Description of work			

Name		Federal EIN	
Address		Public works contractor number	
City, State, ZIP	<input type="checkbox"/> LLC <input type="checkbox"/> Sole proprietorship	<input type="checkbox"/> Corporation <input type="checkbox"/> Partnership	Amount of subcontract \$
Description of work			

SUPPLIERS

Use the space below to report major suppliers of materials and supplies; items removed from inventory; equipment purchased, rented, or leased for use in project; materials provided by government agency. Please indicate how sales or use tax was paid.

Name		Federal EIN	Total value \$
Address		Materials and equipment purchased and used	
City, State, ZIP	Phone	<input type="checkbox"/> Tax paid to supplier <input type="checkbox"/> Tax paid to state* <input type="checkbox"/> No tax paid	

Name		Federal EIN	Total value \$
Address		Materials and equipment purchased and used	
City, State, ZIP	Phone	<input type="checkbox"/> Tax paid to supplier <input type="checkbox"/> Tax paid to state* <input type="checkbox"/> No tax paid	

Name		Federal EIN	Total value \$
Address		Materials and equipment purchased and used	
City, State, ZIP	Phone	<input type="checkbox"/> Tax paid to supplier <input type="checkbox"/> Tax paid to state* <input type="checkbox"/> No tax paid	

Name		Federal EIN	Total value \$
Address		Materials and equipment purchased and used	
City, State, ZIP	Phone	<input type="checkbox"/> Tax paid to supplier <input type="checkbox"/> Tax paid to state* <input type="checkbox"/> No tax paid	

* If tax was not paid to suppliers but **was** or **will be** reported as "items subject to use tax" under your permit number, indicate period of return on which payment **was** or **will be** reported: _____
 If tax was paid to a state **other** than Idaho, name state next to "total value" box(es) above. If tax is due and has **not previously been reported**, attach payment to this form. **If you need more room, please photocopy this page.**

SIGN _____ HERE _____	Authorized signature	Print name	Phone number	Date
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File with the Idaho State Tax Commission, PO Box 36, Boise ID 83722-2210.

For more information, call (208) 334-7618 • Fax: (208) 332-6619 • E-mail: Contractdesk@tax.idaho.gov.

SECTION 01 10 00 – SUMMARY**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Section Includes:
 - 1. Project information.
 - 2. Work covered by Contract Documents.
 - 3. Definitions.
 - 4. Access to site.
 - 5. Coordination with occupants & other parties affected by construction.
 - 6. Work restrictions.
 - 7. Construction Schedule.
 - 8. Unit Prices for Change Orders

1.2 PROJECT INFORMATION

- A. Project Identification: ParkBOI Garage – Door, Hardware and ADA Upgrade Project.
 - 1. Project Locations:
 - a. 9th & Front Garage, 312 South 9th Street, Boise, Idaho, (Architect's Project No. 19060)
 - b. 9th & Main Garage, 848 West Main Street, Boise, Idaho (Architect's Project No. 19073)
 - c. Capitol & Myrtle Garage, 401 South Capitol Boulevard, Boise, Idaho (Architect's Project No. 19074)
 - d. Capitol & Main Garage, 770 West Main Street, Boise, Idaho (Architect's Project No. 19075)
- B. Owner: Capital City Development Corporation (CCDC).
 - 1. Owner's Representative: Karl Woods, CCDC Project Manager
Telephone: 208-384-4264 (main line);
kwoods@ccdchoise.com
- C. Project Architect: Slichter Ugrin Architecture, Inc.
 - 1. Greg Ugrin
Telephone: 208-658-1679 (office) Ext.1006
gregu@suarchitecture.com

2. John Day
Telephone: 208-658-1679 (office) Ext 1008
johnd@suarchitecture.com

D. Parking Operator: The Car Park, Inc.

1. Contact: Dave Deignan, General Manager;
Telephone: 208-368-7944, Ext 419

1.3 WORK COVERED BY CONTRACT DOCUMENTS (PROJECT SCOPE OR WORK)

A. The Project Scope or Work is defined by the Contract Documents and is summarized below:

1. The scope of work will include hollow metal door and door hardware replacement in elevator lobbies and stair towers. Accessibility upgrades will be limited to the parking attendant restrooms, including new fixtures, accessories, and painting. A new concrete accessible ramp at the Capitol & Main Garage will conclude the scope of work.

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.4 DEFINITIONS

A. Substantial Completion: Point in execution of Contract in which the Contractor believes scope of work is complete and Project Architect has reviewed the Work and provided written approval to the Contractor. Refer to Division 01 Section 017700 "Closeout Procedures" for Substantial Completion procedures.

1. The Contractor shall substantially complete the Work within ninety (90) days from the Date of Commencement.

1.5 ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated by the following requirements.

B. Use of Site: Limit use of Project site to work in areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Limits: Confine construction operations to Work Areas as shown on Drawings.
2. Driveways, Entrances and Adjacent Sidewalks: Keep Garage driveways, entrances and adjacent sidewalks serving premises clear and available to access at all times. Do not use these areas for parking or storage of materials.

- a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
3. Storage outside Work Area: May be permitted on roof levels of the garages by cordoning off 1 -2 parking stalls or other available floor area in coordination with and approval by the Parking Operator. Storage area shall not interfere with Owner's operations. Limits of storage area shall be marked by fencing, barricades or similar method. Contractor accepts responsibility for the security of any materials or equipment kept in Contractor's storage areas as part of Contract.

1.6 COORDINATION WITH OCCUPANTS & OTHER PARTIES AFFECTED BY CONSTRUCTION

- A. Partial Owner Occupancy: Owner will occupy the premises during the entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits unless otherwise indicated.

1. ParkBOI Garage Operations

- a. Garages are open 24 hours per day, 7 days per week.
- b. ParkBOI is Boise's public parking garage system catering to monthly-parking employees of nearby buildings as well as transient hourly parkers. Peak use across the system is on week days from 11:00 a.m. to 2:00 p.m. Lowest occupancy levels are generally on weekdays from 11:00 p.m. to 5:00 a.m.

2. Temporary Closures:

- a. At all times, the Garage shall be open to vehicular and pedestrian traffic, parking customers, and the general public on all levels of the Garage, except as otherwise provided in this Section.
- b. Institute temporary closures to protect safety of parking customers, motorists, pedestrians the general public from construction activity and to protect the Work from damage in coordination with the Parking Operator approval.
- c. Entrances and Stairwells: Contractor may close one (1) stairwell per garage for up to one (1) week. Contractor must sign the doors to the stairwells stating how to get to the other stairwell and ramp. Contractor to coordinate signage with Owner prior to any closing.
- d. Notice of Closures: Submit list of proposed closures and method of implementing closures to Parking Operator and Owner's Representative one week prior to Contractor's need for closures. Parking Operator shall indicate its approval or request revisions within two (2) business days of receipt of list.

3. Traffic Management Plan:
 - a. Initial Plan: Submit a plan to Owner and Parking Operator for how traffic will be managed during construction operations prior to or at the preconstruction meeting. Obtain approval from Owner and Parking Operator for the traffic management plan prior to commencement of the Work.
 - b. Weekly Updates: Provide Parking Operator with a schedule of work to be performed in each upcoming week no later than Wednesday of the preceding week. Include in the schedule any requests for the following items in the upcoming week.
 - 1) Temporary closures of parking stalls.
 - 2) Temporary closure of pedestrian entrances/exits to parking levels.
 - c. Coordinate with and obtain approval from Parking Operator prior to implementing any temporary closures.
 4. Traffic Safety: Contractor shall assume responsibility for safety of pedestrians near or within Work Areas and in any location where the Contractor implements changes to the normal pedestrian flow in the Garages. Owner and Parking Operator reserve the right to evaluate if Contractor's traffic control measures are adequate once these measures are in operation and to request additional or alternative traffic controls to maintain public safety in the Garages.
 5. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
 6. Provide no fewer than three (3) business days' notice to Owner of activities that will affect Owner's operations.
- B. Contractor Responsibilities for Community Relations:
1. Prior to commencement of construction, participate with Owner in development of a communication and community relations plan and problem-solving approach for resolving day-to-day issues, concerns and complaints raised by parking customers, nearby businesses and their customers, condominium residents, and the general public who may be affected by construction activities during the construction period ("Other Parties Affected by Construction"). Contractor shall:
 - a. Assume responsibility for communicating the importance of maintaining good community relations during the Project to employees, subcontractors, and other construction personnel.
 - b. Enlist employees, subcontractors and other construction personnel in implementing the community relations plan.
 - c. Identify a point person employed by the Contractor who will represent the Contractor in taking calls from and meeting with Other Parties Affected by Construction.

- d. Provide contact information for the point person which can be given to the general public.
 - e. Attend meetings with the Owner, Project Architect, Parking Operator and Other Parties Affected by Construction to address community relations issues as needed.
- C. Owner and Parking Operator as Liaison: Owner and Parking Operator will act as liaison between Contractor and monthly parkers regarding temporary closures.

1.7 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
- 1. Comply with limitations on use of public streets and sidewalks and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours:
- 1. Work which creates noticeable noise levels for Other Parties Affected by Construction shall be limited to 8:00 a.m. to 4:00 p.m. Contractor will coordinate with Owner and Parking Operator prior to commencement
 - 2. No work can be performed on Saturdays once the Capital City Public Market commences in Spring 2020. All other work on unrestricted days shall have unrestricted hours.
- C. Restricted Days: As of the date of these Specifications, there are no known events in downtown Boise that will create work restrictions during the construction period. Special events may arise during the construction period that will create work restrictions. Owner and Contractor will coordinate any work restrictions at that time.
- D. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others.
- E. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner's operations. Notify Project Architect and the appropriate parties not fewer than two (2) business days in advance of proposed disruptive operations.
- F. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor-air intakes.
- G. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

1.8 CONSTRUCTION SCHEDULE

- A. Contractor shall submit a tentative Construction Schedule including all activities, locations, and dates to Project Architect at or before the Preconstruction Meeting.

Submit a detailed Construction Schedule for Project Architect's review and approval prior to commencement of Work.

- B. Contractor shall not begin any work until receipt of a written Notice to Proceed. Contractor shall diligently maintain progress and complete the work by the required Substantial and Final Completion dates.
- C. Construction Schedule shall provide for a minimum of disruption to adjacent residents and businesses.
- D. Contractor shall update the Construction Schedule as the Work progresses and provide a copy of schedule revisions to the Project Architect as they occur. At a minimum, Contractor shall provide an updated schedule no later than the first business day of each month. Schedule revisions which would affect Contractor's ability to complete the Work by the established Substantial Completion or Final Completion date require Project Architect and Owner approval through issuance of an approved Change Order.

1.9 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: Specifications in this Project Manual use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 2. Specification requirements shall be performed by Contractor unless specifically stated otherwise.
- B. Drawing Coordination: Requirements for materials and products identified on the Drawings are described in detail on the Drawings. One or more of the following are used on the Drawings to identify materials and products:
 - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 - 2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
- C. Division 01: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION 01 10 00

SECTION 01 25 00 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling requests for substitutions made after award of the Contract.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after award of the Contract are considered to be requests for substitutions. The following are not considered to be requests for substitutions:
 - 1. Substitutions requested during the bidding period, and accepted by Addendum prior to award of the Contract, are included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.
 - 2. Revisions to the Contract Documents requested by the Owner or Project Architect.
 - 3. Specified options of products and construction methods included in the Contract Documents.
 - 4. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 SUBMITTALS

- A. Substitution Requests: The Owner and/or the Project Architect will consider requests for substitution if received within 45 days after commencement of the Work. Requests received more than 45 days after commencement of the Work may be considered or rejected at the discretion of the Owner and/or Project Architect.
 - 1. Submit 3 copies of each request for substitution for consideration. Submit requests according to procedures required for change-order proposals.
 - 2. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers.
 - 3. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:

- a. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate contractors, that will be necessary to accommodate the proposed substitution.
 - b. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements, such as performance, weight, size, durability, visual effect, and LEED material requirements.
 - c. Product Data, including Drawings and descriptions of products and fabrication and installation procedures.
 - d. Samples, where applicable or requested.
 - e. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.
 - f. Cost information, including a proposal of the net change, if any in the Contract Sum.
 - g. The Contractor's certification that the proposed substitution conforms to requirements in the Contract Documents in every respect and is appropriate for the applications indicated.
 - h. The Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.
4. The Owner and/or Project Architect's Action: If necessary, the Owner and/or Project Architect will request additional information or documentation for evaluation within one week of receipt of a request for substitution. The Owner and/or Project Architect will notify the Contractor of acceptance or rejection of the substitution within 2 weeks of receipt of the request, or within one week of receipt of additional information or documentation, whichever is later. Acceptance will be in the form of a Change Order.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Conditions: The Owner and/or Project Architect will receive and consider the Contractor's request for substitution when one or more of the following conditions are satisfied, as determined by the Owner and/or Project Architect. If the following conditions are not satisfied, the Owner and/or Project Architect will return the requests without action except to record noncompliance with these requirements.
1. Extensive revisions to the Contract Documents are not required.
 2. Proposed changes are in keeping with the general intent of the Contract Documents.
 3. The request is timely, fully documented, and properly submitted.
 4. The request is directly related to an "or-equal" clause or similar language in the Contract Documents.

5. The requested substitution offers the Owner a substantial advantage, in cost, time, energy conservation, or other considerations, after deducting additional responsibilities the Owner must assume. The Owner's additional responsibilities may include compensation to the Project Architect for redesign and evaluation services, increased cost of other construction by the Owner, and similar considerations.
 6. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
 7. The specified product or method of construction cannot be provided in a manner that is compatible with other materials and where the Contractor certifies that the substitution will overcome the incompatibility.
 8. The specified product or method of construction cannot be coordinated with other materials and where the Contractor certifies that the proposed substitution can be coordinated.
 9. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provides the required warranty.
- B. The Contractor's submittal and the Owner and/or Project Architect's acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with the Contract Documents do not constitute an acceptable or valid request for substitution, nor do they constitute approval.

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 25 00

SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

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

1.3 MINOR CHANGES IN THE WORK

- A. Owner or Project Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.

1.4 CHANGE ORDER PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Owner or Project Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal requests issued by Owner or Project Architect are for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.
 - 2. Within five (5) days of receipt of a proposal request, submit an estimate of cost necessary to execute the change to the Owner or Project Architect for the Owner's review.
 - a. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change on the Contract Time, including, but not limited to, changes in activity duration, start and finish times, and activity relationship.

Use available total float before requesting an extension of the Contract Time.

- B. Contractor-Initiated Proposals: When latent or unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Owner.
1. Include a statement outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.
 2. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include costs of labor and supervision directly attributable to the change.
 5. Include an updated Contractor's construction schedule that indicates the effect of the change on the Contract Time, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 6. Comply with requirements in Division 01 Section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.

1.5 CONSTRUCTION CHANGE DIRECTIVE

- A. Work Change Directive: When the Owner and the Contractor disagree on the terms of a Proposal Request, the Owner and Project Architect may issue a Work Change Directive. A Work Change Directive instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
1. Work Change Directive contains a complete description of change in the Work. It also designates the method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Work Change Directive.
1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

1.6 UNIT PRICES FOR CHANGE ORDERS

- A. Unit Prices Offered by Contractor and Accepted by Owner are those listed on 00 43 22 UNIT PRICES BID FORM, submitted by Contractor.
- B. Application of Unit Prices during Contract Time: The unit prices which were provided by the Contractor and accepted by the Owner as part of the bidding process, will be

used during the Contract Time if changes in the Scope of Work occur which would add or subtract square footage, lineal footage or lump sum units included in the Unit Prices Table to or from the Project.

1.7 CHANGE ORDER PROCEDURES

- A. Upon the Owner's approval of a Proposal Request, the Owner or Project Architect will issue a Change Order for signatures.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 26 00

SECTION 01 29 00 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
 - 1. Coordinate the Schedule of Values and Applications for Payment with Contractor's Construction Schedule, Submittal Schedule, and List of Subcontracts.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules.
 - 2. Submit the Schedules of Values for Owner's review and approval no later than the date for the Preconstruction Meeting.
- B. Format and Content: Use a Schedule of Values similar to the sample (associated with Section 00 62 76 Application for Payment Form) provided in the Project Manual, or use an alternate form acceptable to the Owner; follow the format and submit complete information as indicated in the sample.
 - 1. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports.
 - 2. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 - 3. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

4. Each item in the Schedules of Values and Payment Applications shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
5. Schedule Updating: Update and resubmit the Schedule of Values before the next Application for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The period covered by each Application for Payment is one month, ending on the last day of the month. Contractor shall submit the Application for Payment by the fifth business day following the last day of the month. Applications received after the fifth business day following the last day of the month shall be reviewed the following month, without exception.
- C. Application for Payment Forms: Use Application for Payment form provided or an equivalent form acceptable to the Project Architect.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Owner will return incomplete applications without action.
 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Information on Mechanic's Liens: Contractor acknowledges that Owner is a public entity and that any property owned by Owner is considered public property, and that liens on public property are not enforceable. Contractor agrees that it shall not file any liens against property owned or controlled by Owner which is a part of the Worksite (the "Property"). Subject to Owner's payment of the compensation in accordance with the terms of this Agreement, Contractor will promptly discharge all liens, if any, filed against the Property by Contractor's subcontractors, suppliers and materialmen, and agents and persons employed by any of such persons.

- F. Initial Application for Payment: Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. List of principal suppliers and fabricators.
 3. Schedule of Values.
 4. Contractor's Construction Schedule.
 5. Copies of building permits.
 6. Copies of authorizations and licenses from governing authorities for performance of the Work.
 7. Certificates of insurance and insurance policies.
 8. Performance and payment bonds.
 9. Data needed to acquire the Owner's insurance.
 10. Report of preconstruction.
- G. Application for Payment at Substantial Completion: After the Project Architect issues the Certificate of Substantial Completion, submit an Application for Payment.
1. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
 2. Administrative actions and submittals that shall precede or coincide with this application include:
 - a. Occupancy permits and similar approvals.
 - b. Warranties (guarantees) and maintenance agreements.
 - c. Test/adjust/balance records.
 - d. Maintenance instructions.
 - e. Changeover information related to Owner's occupancy, use, operation, and maintenance.
 - f. Final cleaning.
 - g. Application for reduction of retainage and consent of surety.
 - h. List of incomplete Work, recognized as exceptions to Project Architect's Certificate of Substantial Completion.
- H. Final Payment Application: Administrative actions and submissions that must precede or coincide with submittal of the final Application for Payment include the following:
1. Completion of Project closeout requirements.
 2. Completion of items specified for completion after Substantial Completion.
 3. Transmittal of required Project construction records to the Owner.
 4. Insurance certificates for products and completed operations where required.
 5. Proof that taxes, fees, and similar obligations were paid.
 6. Removal of temporary facilities and services.
 7. Removal of surplus materials, rubbish, and similar elements.
 8. Updated final statement, accounting for final changes to the Contract Sum.
 9. Tax Release from the Idaho State Tax Commission.
 10. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
 11. Evidence that claims have been settled, if applicable.
 12. Final liquidated damages settlement statement, if applicable.

- I. Contractor shall execute an Acknowledgment of Final Payment Form provided to Contractor by Owner in exchange for the Final Payment.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 29 00

SECTION 01 31 00 – PROJECT MANAGEMENT AND COORDINATION**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. General Coordination Procedures
 - 2. Requests for Information (RFI's)
 - 3. Project Meetings

1.3 DEFINITIONS

- A. RFI: Request from Owner, Project Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 GENERAL COORDINATION PROCEDURES.

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation, connection and operation of each part of the Work.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to:
 - 1. Preparation of Contractor's Construction Schedule.
 - 2. Preparation of the Schedule of Values.
 - 3. Installation and removal of temporary facilities and controls.

4. Delivery and processing of submittals.
5. Progress Meetings
6. Project closeout activities.

1.5 REQUESTS FOR INFORMATION (RFIs).

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI to the Project Architect in the format specified.
1. Use the RFI Form provided in the Project Manual or an alternative form acceptable to the Project Architect; follow the format and submit complete information as indicated on the provided form.
 2. Project Architect will return RFIs submitted to Project Architect by other entities controlled by Contractor with no response.
 3. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Project Architect's Action: Project Architect will review each RFI, determine action required, and respond. Allow 48 hours (weekends omitted) for Project Architect's response for each RFI.
1. Project Architect's action may include a request for additional information, in which case Project Architect's time for response will date from time of receipt of additional information.
 2. Project Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Contract Modification Procedures.
 - a. If Contractor believes the Project Architect's RFI response warrants a change in the Contract Time or the Contract Sum, notify Project Architect in writing within 48 hours (weekends omitted) of receipt of the RFI response.

1.6 PROJECT MEETINGS

- A. General: Conduct progress meetings at regular intervals.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Project Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda; distribute to all invited attendees.
 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Project Architect, within three (3) business days of the meeting.
- B. Preconstruction Meeting: Owner shall schedule and conduct a Preconstruction Meeting to review responsibilities and personnel assignments at a time convenient to

Contractor and Project Architect, but no later than seven (7) Days after execution of the Agreement and prior to start of construction.

1. Attendees: Authorized representatives of Owner, Project Architect, Parking Operator, Contractor, and Contractor's Project Manager; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to make decisions related to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including:
 - a. Designation of key personnel and their duties.
 - b. Lines of communications.
 - c. Distribution of the Contract Documents.
 - d. Tentative Construction Schedule.
 - e. Construction phasing.
 - f. Access & Security Plan.
 - g. Communication and community relations strategy.
 - h. Procedures for RFIs.
 - i. Submittal procedures.
 - j. Procedures for processing field decisions and Change Orders.
 - k. Procedures for testing and inspecting.
 - l. Procedures for processing Applications for Payment.
 - m. Use of premises and existing building.
 - n. Owner's occupancy requirements.
 - o. Work restrictions (days and hours); events that may create restrictions.
 - p. Limits on use of elevators and stairwells.
 - q. Traffic controls and temporary closures (includes Procedures).
 - r. Parking availability.
 - s. Work and storage areas.
 - t. Equipment deliveries and priorities.
 - u. First aid.
 - v. Progress cleaning.
 3. Minutes: Owner or designee will record and distribute meeting minutes.
- C. Progress Meetings: Contractor shall conduct a weekly Progress Meeting with Project Architect and Owner's Representative each week during the construction period in order to coordinate construction activities and to identify and resolve issues arising during construction.
1. Location: Progress Meetings are typically held in the field but may be held at Owner's offices if an office location is needed.
 2. Attendees: Contractor, Project Architect, Owner's Representative and any subcontractors or subconsultants needed in attendance to better coordinate the work. Contractor shall be responsible for notifying subcontractors, and Project Architect shall be responsible for notifying subconsultants needed in attendance.
 3. Agenda: Items to be discussed not limited to the following:
 - a. Project Schedule.

- b. Status of Work, including any specific field issues or questions.
- c. Review present and future needs of Attendees, including:
 - 1) Interface requirements.
 - 2) Status of submittals.
 - 3) Deliveries.
 - 4) Site utilization and access.
 - 5) Quality and work standards.
 - 6) Status of correction of deficient items.
 - 7) Field observations.
 - 8) Testing results.
 - 9) Status of RFIs.
 - 10) Pending changes.
- 4. Minutes: Project Architect shall be responsible for preparing and distributing meeting minutes to Owner, Contractor, and any subcontractors or subconsultants that have work assignments resulting from the meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 31 00

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's Construction Schedule.
 - 2. Site condition reports.

1.3 INFORMATIONAL SUBMITTALS

- A. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period. After receipt of Contractor's initial schedule, Project Manager may approve the format or may request reasonable modifications to the format. Contractor shall revise the Construction Schedule format consistent with Project Manager's requested modifications and provide a revised Construction Schedule to Project Manager.
- B. Site Condition Reports: Submit at time of discovery of differing conditions.

1.4 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from entities involved.
 - 2. Coordinate each construction activity in the Construction Schedule with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Time Frame: Extend schedule from date established for the Notice of Award to date of Final Completion. Submit Construction Schedule to Project Manager prior to or on the date established for the Preconstruction Meeting.
- B. Preparation and Level of Detail:
1. Show process Contractor anticipates following for the duration of the Project such that Owner and Project Manager will have a general understanding of the sequence of construction, in order to facilitate communication with the parking customers, condominium residents, adjacent property owners, businesses, tenants and other affected by construction.
 2. Utilize a Gantt-style chart or alternate format acceptable to the Project Manager to illustrate the sequencing and relationship between construction activities. Indicate each phase of construction and each significant construction activity within each phase separately. Identify first workday of each week with a continuous vertical line.
 3. Show anticipated dates for temporary closures if allowed by Section 01 10 00 "Summary".
 4. Include timing of required submittals and allow for time required to review and respond to submittals.
 5. Include timing of testing and inspections, and when the manufacturer's representative is required to be present.
 6. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Project Manager's administrative procedures necessary for Certificate of Substantial Completion.
 7. Punch List and Final Completion: Include time for the punch list process and not more than five (5) business days for completion of punch list items and final completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents, and show how the sequence of the Work is affected.
1. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Owner occupancy of premises throughout entire construction period except Work Areas under construction.
 - e. Use of premises restrictions (see Section 01 10 00 "Summary").
 - f. Seasonal variations.
 - g. Environmental control.
 2. Work Stages: Indicate important stages of construction for each major portion of the Work.

2.2 REPORTS

- A. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information Form to Project Manager. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating:
 - 1. Update the Construction Schedule on a periodic basis to assure it is a fair representation of actual and projected construction progress, and whenever there is a change in the Construction Schedule due approval of a Construction Change Directive or Change Order.
 - 2. Revise Construction Schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated Construction Schedule concurrently with the report of each such meeting.
- B. Distribution: Distribute copies of approved Construction Schedule to Owner, Project Architect, subcontractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
 - 1. When revisions are made, distribute updated Construction Schedule to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submittals required for performance of the Work, including: Shop Drawings, Product Data, Samples, and other submittals.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Project Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals." Submittals may be rejected for not complying with requirements.
- B. Informational Submittals: Written and graphic information and physical samples that do not require Project Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 - 3. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

- a. Project Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- B. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Project Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow forty-eight (48) hours for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required.
 2. Resubmittal Review: Allow forty-eight (48) hours for review of each resubmittal.
 3. No extension of Contract Time will be authorized because of failure to transmit submittals to the Project Architect sufficiently in advance of the Work to permit processing.
- D. Electronic Submittals: Owner and Project Architect require electronic submittals. Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01).
 - b. Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Project Architect.
 4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of Contractor's Project Manager.
 - d. Name of firm or entity that prepared submittal.
 - e. Names of subcontractor, manufacturer, and supplier.
 - f. Category and type of submittal.
 - g. Submittal purpose and description.
 - h. Transmittal number.
 - i. Transmittal index and navigation links to each specification section or drawing number for which a submittal is being made.
 - j. Location(s) where product is to be installed, as appropriate.
 - k. Related physical samples submitted directly.
 - l. Indication of full or partial submittal.
 - m. Other necessary identification.
 - n. Remarks.

- E. Options: Identify options requiring selection by Project Architect.
- F. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 - 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Project Architect's action stamp.
- G. Distribution: Furnish copies of final submittals to manufacturers' representatives, subcontractors, suppliers, fabricators, Installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- H. Use for Construction: Use only final action submittals that are marked with approval notation from Project Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
 - 1. Submit electronic submittals via email as PDF electronic files.
 - a. Each submittal shall have a shop drawing or Contractor's document stamp on the submittal prior to submittal to Project Architect. Contractor's document stamp shall indicate that Contractor reviewed the submittal and determined, to the best of Contractor's ability, the submittal is in general conformance with the Drawings and Specifications. Contractor's document stamp shall be signed and dated.
 - b. Project Architect will return annotated electronic file. Annotate and retain one copy of file as an electronic Project record document file.
 - 2. Action Submittals: Submit via email as PDF electronic files. Project Architect will return annotated electronic file.
 - 3. Informational Submittals: Submit via email as PDF electronic files. Project Architect will not respond to informational submittals.
 - 4. Certificates and Certifications Submittals: Provide a digital signature on electronically submitted certificates and certifications where allowed. Provide a notarized statement on original paper copy certificates and certifications where indicated or where required by Project Architect or Owner.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Each submittal and/or product data shall have a shop drawing or Contractor's document stamp on the submittal prior to submittal to Project Architect. Contractor's document stamp shall indicate that Contractor reviewed the submittal and determined, to the best of Contractor's ability, the submittal is in general conformance with the Drawings and Specifications. Contractor's document stamp shall be signed and dated.
 4. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 5. Submit Product Data before or concurrent with Samples.
- C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Specification Section number and reference.
 - b. Generic description of Sample.
 - c. Sample source.
 - d. Product name or name of manufacturer.
 - e. Compliance with recognized standards.
 - f. Availability and delivery time.
 3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
 4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.

5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Project Architect will return submittal with options selected.
6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit one set of Samples. Project Architect will retain Sample set.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three (3) sets of paired units that show approximate limits of variations.
- D. Application for Payment and Schedule of Values: Comply with requirements specified in Section 01 29 00 "Payment Procedures."
- E. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 01 77 00 "Closeout Procedures."
- F. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- G. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- H. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- I. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

- J. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work under the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Project Architect.
- B. Project Closeout and Maintenance Material Submittals: Follow the requirements in Section 01 77 00 "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 PROJECT ARCHITECT'S ACTION

- A. General: Project Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from the Project Architect.
- B. Action Submittals: Project Architect will review each submittal, make marks to indicate corrections or revisions required, and return promptly. Project Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate the action taken.
- C. Informational Submittals: Project Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Project Architect will forward each submittal which complies with requirements to appropriate party.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents may be returned by the Project Architect without action.

END OF SECTION 01 33 00

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in these Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and -control services required by Project Architect, Owner, or authorities having jurisdiction are not limited by provisions of this section.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated in the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Project Architect.
- C. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- D. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities

having jurisdiction, to establish product performance and compliance with specified requirements.

- E. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- F. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- H. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- I. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Project Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Project Architect for a decision before proceeding.

1.5 ACTION SUBMITTALS

- A. Shop Drawings: For integrated exterior mockups, provide plans, sections, and elevations, indicating materials and size of mockup construction.
 - 1. Indicate manufacturer and model number of individual components.
 - 2. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

1.6 INFORMATIONAL SUBMITTALS

- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- B. Qualification Data: For Contractor's quality-control personnel.

1.7 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan prior to or on the date established for the Preconstruction Conference. Submit in format acceptable to Project Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's Construction Schedule.
- B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
 - 1. Project quality-control manager may also serve as Project superintendent.
 - 2. Project quality-control manager shall be on site full time during surface preparation and installation of traffic coating system.
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
- D. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.
- E. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work the Project Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.8 REPORTS AND DOCUMENTS

- A. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
 - 1. Name, address, and telephone number of technical representative making report.
 - 2. Statement on condition of substrates and their acceptability for installation of product.
 - 3. Statement that products at Project site comply with requirements.

4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.
- B. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Specification Sections. Include the following:
1. Name, address, and telephone number of factory-authorized service representative making report.
 2. Statement that equipment complies with requirements.
 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 4. Statement whether conditions, products, and installation will affect warranty.
 5. Other required items indicated in individual Specification Sections.
- C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.9 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- D. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- E. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.10 QUALITY CONTROL

- A. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 3. Notify testing agencies at least 36 hours in advance of time when Work that requires testing or inspecting will be performed.
 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- B. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.
- C. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- D. Retesting/Reinspection: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Delivery of samples to testing agencies.

6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- F. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and –control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

1.3 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated in this Section.

PART 2 - PRODUCTS**2.1 MATERIALS**

- A. Contractor shall be responsible to select appropriate materials and methods for the following temporary installations and for advising the Parking Operator of the materials and methods to be used prior to installation:
 1. Securing each Work Area such that the general public does not enter a Work Area during the duration of construction in that Work Area. Contractor is responsible for the safety of each Work Area and protection of the Work from damage.
 2. Delineating and securing temporary storage areas.
 3. Establishing temporary closures.

2.2 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

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

3.2 TEMPORARY UTILITY INSTALLATION

- A. Water Service: Do not connect to Owner's existing water service facilities. Water supply is not available on all levels of Owner's facility. Contractor shall furnish own water supply for construction operations.
- B. Wastewater: Dispose of any wastewater from construction operations at an approved off-site location. Do not dispose of wastewater into Owner's sanitary sewer system, public storm drains, or tree wells. Disposal of wastewater into any storm sewer is strictly prohibited under Title 8, Chapter 15 of the Boise City Code. Contractor is responsible for proper off-site disposal in a legal manner of all wastewater generated by the Work and for any associated disposal fees.
- C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Temporary toilets shall be secured when construction personnel are not present in the adjacent Work Area. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- D. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
 - 1. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
- E. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
 - 1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.
 - 2. Provide ventilation of elevator vestibule and stairwells as required for installation of coating systems. Ventilation shall be adequate to confine vapors resulting from

coating system application to Work Areas and prevent intrusion into occupied spaces and adjacent properties.

3. Use dust partitions as necessary to prevent windblown debris from entering workspace and noxious fumes from entering public areas or occupied areas.
- F. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low or high temperatures. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- G. Electric Power Service: Electric power from Owner's existing system may be used if outlets are readily available to Work Area without payment of use charges. Provide connections and extensions of services as required for construction operations. Maintain equipment in a condition acceptable to Owner. Electric extensions crossing pedestrian and vehicular traffic areas shall be protected and taped securely to avoid creating hazards. Parking Operator reserves the right to disallow the use of electrical extensions if deemed a safety hazard.
- H. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.3 SUPPORT FACILITIES INSTALLATION

- A. Parking: Owner will provide two (2) roof-top parking spaces for use by construction personnel, in the garage where Contractor's work is being performed, at no charge to the Contractor. Contractor shall submit list of personnel working on the Project that will be authorized to use designated parking areas. Authorized construction personnel will be issued parking passes. Contractor shall coordinate with the Parking Operator on parking logistics.
- B. Traffic Management: See Section 01 10 00 for requirements related to traffic management planning in the Garages when Work is being performed.
- C. Waste Disposal Facilities:
1. Provide waste collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress and final cleaning requirements in Section 01 73 00.
 2. Care shall be taken not to overload the existing slab structure during waste removal operations.
 3. Remove trash, waste and construction debris from Project site and legally dispose of them in a legal and lawful manner. Comply with the requirements of authorities having jurisdiction. Owner advises that Owner does not own any trash or recycling dumpsters in the Garage, and dumpsters are not available for Contractor's use.

- D. Existing Elevator Use: Use of elevators by construction personnel will be permitted, provided elevators are cleaned and maintained in a condition acceptable to Owner. If floors or walls become dirty, clean them at least weekly. Use of Owner's existing elevators shall not be used to move equipment, construction materials, or supplies. Carrying tool belts and light hand tools by construction personnel when using elevators is acceptable. At Substantial Completion, restore elevators to condition existing before initial use, including replacing worn cables, guide shoes, and similar items of limited life.
1. Do not load elevators beyond their rated weight capacity.
 2. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevator car and entrance doors and frame. If, despite such protection, elevators become damaged, engage authorized elevator technician to restore damaged work so no evidence remains of correction work. Return items that cannot be refinished in field to the shop, make required repairs and refinish entire unit, or provide new units as required.
 3. Maintain normal elevator operation and public access to at least one (1) elevator and elevator landing in the Garage at all times.
- E. Existing Stair Usage: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use. If stairs become damaged from use by construction personnel, restore damaged areas so no evidence remains of correction work.
1. Do not damage handrails guardrails walls, ceiling, stair tread, landing surfaces, or other fixtures and surfaces in the stairwells.
 2. Contractor may close one stairwell (including landings) and its adjacent elevator per Garage for up to seven (7) days. Contractor must maintain normal stairwell operation and public access to one (1) stairwell (including landings) and adjacent elevator per Garage at all times.
 - a. Contractor must sign the stairwell doors stating how to get to the other stairwell and garage ramp. Signage to be approved by Owner or authorities having jurisdiction.
- F. Existing Smoke Alarms: Protect existing smoke alarms from damage. A smoke alarm in an elevator lobby or on an elevator landing shall remain in operation when the elevator lobby is open for public use. A smoke alarm in an elevator lobby may be disabled when work is being performed in the lobby and/or the lobby is closed to public use. Coordinate disabling of smoke alarms with the Parking Operator.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that

minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

- C. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Secure Work Areas to protect public safety and to prevent unauthorized entrance, vandalism, theft, and damage to the Work whenever construction personnel are absent from the Work Area.
- D. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- E. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- F. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.
 - 1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.

3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Maintenance: Maintain facilities in good operating condition until removal.
- B. Termination and Removal: Remove each temporary facility when needed for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are property of Contractor.
 - 2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period.

END OF SECTION 01 50 0

SECTION 01 73 00 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout
 - 2. Installation of the Work
 - 3. Progress cleaning
 - 4. Protection of installed construction.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 INFORMATIONAL SUBMITTALS

- A. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:
 - 1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
 - 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
 - 3. Products: List products to be used for patching and firms or entities that will perform patching work.
 - 4. Dates: Indicate when cutting and patching will be performed.
 - 5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.

- a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

1.5 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 1. Structural Elements: When cutting and patching structural elements, notify Project Architect of locations and details of cutting and await directions from Project Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
 - a. Primary operational systems and equipment.
 - b. Fire separation assemblies.
 - c. Air or smoke barriers.
 - d. Fire-suppression systems.
 - e. Mechanical systems piping and ducts.
 - f. Control systems.
 - g. Communication systems.
 - h. Fire-detection and -alarm systems.
 - i. Conveying systems.
 - j. Electrical wiring systems.
 - k. Operating systems of special construction.
 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:
 - a. Water, moisture, or vapor barriers.
 - b. Membranes and flashings.
 - c. Exterior curtain-wall construction.
 - d. Sprayed fire-resistive material.
 - e. Equipment supports.
 - f. Piping, ductwork, vessels, and equipment.
 - g. Noise- and vibration-control elements and systems.
 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's

aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Project Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of utilities, mechanical and electrical systems, and other construction affecting the Work.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine floors for suitable conditions where products and systems are to be installed.
 - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - 1. Description of the Work.
 - 2. List of detrimental conditions, including substrates.
 - 3. List of unacceptable installation tolerances.
 - 4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information (RFI) to Project Architect.

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Project Architect promptly.

3.4 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produces harmful noise levels.
- G. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

3.5 PROGRESS CLEANING

- A. General: Clean Project site and Work Areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
 - 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire Work Area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- F. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sanitary or storm sewers, tree wells, or into waterways.
- G. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

- H. Limiting Exposures: Supervise construction operations to assure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 01 73 00

SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. List of incomplete items (Punch List).
 - 3. Final Completion procedures.
 - 4. Warranties
 - 5. Maintenance manuals.
 - 6. Project Record Documents.
 - 7. Materials.
 - 8. Final cleaning.
 - 9. Repair of the Work.

1.3 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion Inspection: Deliver the following submittals to the Project Architect a minimum of five (5) business days prior to requesting Substantial Completion Inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, and similar final record information.
 - 3. Submit closeout submittals specified in individual Specification Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.

4. Submit test/adjust/balance records.
 5. Submit changeover information related to Owner's use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of five (5) business days prior to requesting inspection for determining date of the Substantial Completion. List items below that are incomplete at time of request.
1. Terminate and remove temporary facilities from Project Site, along with mockups, construction tools, and similar elements.
 2. Complete final cleaning requirements.
 3. Repair and restore existing buildings and improvements if damaged and/or defaced by construction activity whether inside or outside Project Site to match existing condition prior to commencement of construction.
 4. Touch up and otherwise repair and restore marred exposed finished to eliminate visual defects including touchup painting.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of three (3) business days prior to date the Work will be completed and ready for inspection. On receipt of request, Project Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Project Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Project Architect, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections is completed or corrected.
 2. Results of completed inspection will form the basis for requirements for Final Completion.

1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 3. Include the following information at the top of each page:
 - a. Project Name
 - b. Date
 - c. Name of Project Architect
 - d. Name of Contractor
 - e. Page number

1.5 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
1. Submit a final Application for Payment according to Contract requirements.
 2. Certified List of Incomplete Items: submit certified copy of Project Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by the Project Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of two (2) business days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Project Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Project Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete or defective is completed or corrected.
- C. Acknowledgement of Final Payment: Contractor shall execute an Acknowledgment of Final Payment Form provided by Owner in exchange for Final Payment.

1.6 WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Project Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Partial Occupancy: Submit properly executed warranties within fifteen (15) Days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
1. Bind warranties and bonds in heavy-duty, three-ring, loose-leaf binders, thickness as necessary to accommodate contents and sized to receive 8-1/2-by-11-inch paper.
 2. Provide heavy paper dividers with tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

PART 2 - PRODUCTS

2.1 MAINTENANCE MANUALS

- A. Submit maintenance manuals available from manufacturers and suppliers for concrete, traffic coatings, water repellent and joint sealants to Project Architect in PDF format and paper copies at the time the Substantial Completion Inspection is requested.
 1. PDF documents shall be submitted as a digital folder by flash drive or disk and shall include the Project name in the folder name. Each manufacturer's or supplier's maintenance documentation shall be in a separate digital file within the digital folder. The digital folder shall also include a PDF document with the following information:
 - a. Name of Project
 - b. Project Location
 - c. Name and contact information for Contractor
 - d. Contact information for each manufacturer and supplier providing maintenance information.
 2. Bind paper copies in heavy-duty, three-ring, loose-leaf binders, thickness as necessary to accommodate contents and sized to receive 8-1/2-by-11-inch paper. Identify the binder on the front and spine with the typed or printed title "MAINTENANCE MANUALS," Project name, and name of Contractor

2.2 PROJECT RECORD DOCUMENTS

- A. As-Built Drawings and Record Drawings:
 1. As Built Drawings: Submit one set of original, clean Drawings issued by Owner as part of the Contract Documents ("Contract Drawings") marked-up to show any changes made in the field during the course of construction such as design changes approved by Owner, actual installations, component relocations required for coordination, rerouting of distribution system, etc. which differ from the original Drawings ("As-Built Drawings"). Deliver As-Built Drawings to the Project Architect at the time the Substantial Completion Inspection is requested. Project Architect will indicate whether general scope of changes, additional information recorded and quality of drafting are acceptable. If the submittal is not acceptable to Project Architect, it will be returned to Contractor for corrections.
 2. Record Drawings: Project Architect shall be responsible for creating digital Record Drawings incorporating the mark-ups on the As-Built Drawings

submitted by the Contractor. Project Architect will issue digital Record Drawings to the Contractor and Owner with upon Final Completion of the Project.

B. Record Specifications:

1. Maintain copy of the Contract Documents for purposes of annotating where the actual product installation varies from that indicated in the Contract Documents. Submit annotated portions of the Contract Documents to the Project Architect prior to requesting a Substantial Completion Inspection. The Project Architect may request corrections in the Contractor's submittal to make the submittal more legible and complete.
2. Project Architect shall be responsible for maintaining its own records on variations in product installations, for assembling Record Specifications for the Project in a digital format and for distributing them to the Owner and Contractor at the conclusion of the Project.

2.3 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site in areas disturbed by construction activities of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.

- c. Remove tools, construction equipment, machinery, and surplus material from Project site.
- d. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
- e. Clean elevators and stair treads, and elevator vestibule and stair towers to remove construction residue and debris, and foreign substances.
- f. Remove debris and surface dust from limited access spaces affected by construction.
- g. Sweep concrete floors broom clean in unoccupied spaces.
- h. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
- i. Remove labels that are not permanent.
- j. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- k. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
- l. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
- m. Leave Project clean and ready for occupancy.

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces and touching up with matching materials. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
 4. Repair and restore existing building surfaces if damaged and/or defaced by construction activity whether inside or outside Project Site to match existing condition prior to commencement of construction.

END OF SECTION 01 77 00

SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Demolition and removal of selected site elements.
3. Salvage of existing items to be reused or recycled.

B. Related Requirements:

1. Section 01 10 00 "Summary" for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.
2. Section 01 73 00 "Execution" for cutting and patching procedures.

1.3 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 reuse.
- 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.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

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

1.5 PREINSTALLATION MEETINGS

- A. Pre-demolition Conference: Conduct conference at Project site.
 - 1. Inspect and discuss condition of construction to be selectively demolished.
 - 2. Review structural load limitations of existing structure.
 - 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 - 5. Review areas where existing construction is to remain and requires protection.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For refrigerant recovery technician.
- B. Engineering Survey: Submit engineering survey of condition of building.
- C. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property. Indicate proposed locations and construction of barriers.
- D. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's building manager's and other tenants' on-site operations are uninterrupted.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Use of elevator and stairs.
 - 5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- E. Pre-demolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations. Comply with Section 013200 "Construction Progress Documentation." Submit before Work begins.
- F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

- G. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

1.7 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.

1.8 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.9 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

1.10 WARRANTY

- A. 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.

1.11 COORDINATION

- A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

3.2 PREPARATION

- A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
 - 2. Arrange to shut off utilities with utility companies.
 - 3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.

- a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
- b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
- c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
- d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
- e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
- f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
- g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

3.4 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 015000 "Temporary Facilities and Controls."
- B. Remove temporary barricades and protections where hazards no longer exist.

3.5 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.

4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 5. Maintain adequate ventilation when using cutting torches.
 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 9. Dispose of demolished items and materials promptly.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to Owner's storage area.
 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.
- 3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS
- A. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch (19 mm) 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. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, and then remove concrete between saw cuts.

- C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.
- D. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, and then break up and remove.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 - 4. Comply with requirements specified in Section 015000 "Temporary Facilities."
- B. Burning: Do not burn demolished materials.

3.8 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.9 SELECTIVE DEMOLITION SCHEDULE

- A. Remove: All Doors indicated to be replaced. Remove all lavatories and water closets indicated to be replaced.
- B. Remove and Reinstall: All toilet accessories indicated to be reinstalled.

END OF SECTION 02 41 19

SECTION 04 20 00 - UNIT MASONRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Concrete masonry units.
2. Mortar and grout.
3. Steel reinforcing bars.
4. Masonry-joint reinforcement.
5. Miscellaneous masonry accessories.

B. Related Requirements:

1. Section 09 91 23 "Painting" for painting applications on concrete masonry units.

1.3 ALLOWANCES

- A. Concrete Masonry Units at existing conditions where infill or repair work is required.

1.4 DEFINITIONS

- A. CMU(s): Concrete masonry unit(s).
- B. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.5 ACTION SUBMITTALS

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

1.6 INFORMATIONAL SUBMITTALS

- A. List of Materials Used in Constructing Mockups: List generic product names together with manufacturers, manufacturers' product names, model numbers, lot numbers, batch numbers, source of supply, and other information as required to identify materials used. Include mix proportions for mortar and grout and source of aggregates.

1. Submittal is for information only. Receipt of list does not constitute approval of deviations from the Contract Documents unless such deviations are specifically brought to the attention of Architect and approved in writing.

- B. Qualification Data: For testing agency.
 - C. Material Certificates: For each type and size of the following:
 - 1. Masonry units.
 - a. Include data on material properties.
 - b. For masonry units, include data and calculations establishing average net-area compressive strength of units.
 - 2. Integral water repellent used in CMUs.
 - 3. Cementitious materials. Include name of manufacturer, brand name, and type.
 - 4. Mortar admixtures.
 - 5. Preblended, dry mortar mixes. Include description of type and proportions of ingredients.
 - 6. Grout mixes. Include description of type and proportions of ingredients.
 - 7. Reinforcing bars.
 - 8. Joint reinforcement.
 - 9. Anchors, ties, and metal accessories.
 - D. 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 C109/C109M for compressive strength, ASTM C1506 for water retention, and ASTM C91/C91M for air content.
 - 2. Include test reports, according to ASTM C1019, for grout mixes required to comply with compressive strength requirement.
 - E. Statement of Compressive Strength of Masonry: For each combination of masonry unit type and mortar type, provide statement of average net-area compressive strength of masonry units, mortar type, and resulting net-area compressive strength of masonry determined according to TMS 602/ACI 530.1/ASCE 6.
 - F. Cold-Weather and Hot-Weather Procedures: Detailed description of methods, materials, and equipment to be used to comply with requirements.
- 1.7 QUALITY ASSURANCE
- A. Testing Agency Qualifications: Qualified according to ASTM C1093 for testing indicated.
- 1.8 DELIVERY, STORAGE, AND HANDLING
- A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.
 - B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
 - C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

- D. Deliver preblended, dry mortar mix in moisture-resistant containers. Store preblended, dry mortar mix in delivery containers on elevated platforms in a dry location or in covered weatherproof dispensing silos.
- E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.9 FIELD CONDITIONS

- A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
 - 1. Extend cover a minimum of 24 inches (600 mm) down both sides of walls, and hold cover securely in place.
 - 2. Where one wythe of multiwythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24 inches (600 mm) down face next to unconstructed wythe, and hold cover in place.
- B. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least three days after building masonry walls or columns.
- C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.
 - 1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
 - 2. Protect sills, ledges, and projections from mortar droppings.
 - 3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
 - 4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.
- D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.
 - 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning.
- E. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.
- B. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.

2.2 PERFORMANCE REQUIREMENTS

- A. Provide structural unit masonry that develops indicated net-area compressive strengths at 28 days.
 - 1. Determine net-area compressive strength of masonry from average net-area compressive strengths of masonry units and mortar types (unit-strength method) according to TMS 602/ACI 530.1/ASCE 6.
 - 2. Determine net-area compressive strength of masonry by testing masonry prisms according to ASTM C1314.

2.3 UNIT MASONRY, GENERAL

- A. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6, except as modified by requirements in the Contract Documents.
- B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects are exposed in the completed Work and will be within 20 feet (6 m) vertically and horizontally of a walking surface.
- C. Fire-Resistance Ratings: Comply with requirements for fire-resistance-rated assembly designs indicated.
 - 1. Where fire-resistance-rated construction is indicated, units shall be listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction.

2.4 CONCRETE MASONRY UNITS

- A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.
 - 1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
 - 2. Provide square-edged units for outside corners unless otherwise indicated.
- B. Integral Water Repellent: Provide units made with integral water repellent for exposed units and where indicated.

1. Integral Water Repellent: Liquid polymeric, integral water-repellent admixture that does not reduce flexural bond strength. Units made with integral water repellent, when tested according to ASTM E514/E514M as a wall assembly made with mortar containing integral water-repellent manufacturer's mortar additive, with test period extended to 24 hours, shall show no visible water or leaks on the back of test specimen.
 - a. ACM Chemistries.
 - b. BASF Corporation; Construction Systems.
 - c. Euclid Chemical Company (The); an RPM company.
 - d. Grace Construction Products; W.R. Grace & Co. -- Conn.
 - C. Insulated CMUs: Where indicated or required, units shall contain rigid, specially shaped, molded-polystyrene insulation units complying with ASTM C578, Type I, designed for installing in cores of masonry units.
 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:
 - a. Basalite.
 - D. Decorative CMUs: ASTM C90.
 1. Manufacturers:
 - a. Basalite.
 2. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2150 psi (14.8 MPa).
 3. Density Classification: Normal weight.
 4. Size (Width): Manufactured to dimensions specified in "CMUs" Paragraph.
 5. Pattern and Texture:
 - a. Precision-Face Finish, Match Architect's samples.
 6. Colors: Basalite – Standard Grey.
 7. Sizes:
 - a. 8" (D) x 16" (W) x 8" (H).
 - b. Match to existing dimensional sizes for units required at existing conditions.
- ## 2.5 MORTAR AND GROUT MATERIALS
- A. Portland Cement: ASTM C150/C150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
 1. Alkali content shall not be more than 0.1 percent when tested according to ASTM C114.
 - B. Hydrated Lime: ASTM C207, Type S.
 - C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.

- D. Aggregate for Mortar: ASTM C144.
1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
 2. For joints less than 1/4 inch (6 mm) thick, use aggregate graded with 100 percent passing the No. 16 (1.18-mm) sieve.
 3. White-Mortar Aggregates: Natural white sand or crushed white stone.
 4. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.
- E. Aggregate for Grout: ASTM C404.
- F. Epoxy Pointing Mortar: ASTM C395, epoxy-resin-based material formulated for use as pointing mortar for glazed or pre-faced masonry units (and approved for such use by manufacturer of units); in color indicated or, if not otherwise indicated, as selected by Architect from manufacturer's colors.
- G. Refractory Mortar Mix: Ground fireclay or nonwater-soluble, calcium aluminate, medium-duty refractory mortar that passes ASTM C199 test; or an equivalent product acceptable to authorities having jurisdiction.
- H. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C494/C494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.
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:
 - a. BASF Corporation; Construction Systems.
 - b. Euclid Chemical Company (The); an RPM company.
 - c. Grace Construction Products; W.R. Grace & Co. -- Conn.
- I. Water-Repellent Admixture: Liquid water-repellent mortar admixture intended for use with CMUs containing integral water repellent from same manufacturer.
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:
 - a. BASF Corporation; Construction Systems.
 - b. Euclid Chemical Company (The); an RPM company.
 - c. Grace Construction Products; W.R. Grace & Co. -- Conn.
- J. Water: Potable.

2.6 REINFORCEMENT

- A. Uncoated-Steel Reinforcing Bars: ASTM A615/A615M or ASTM A996/A996M, Grade 60 (Grade 420).

- B. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells and to hold reinforcing bars in center of cells. Units are formed from 0.148-inch (3.77-mm) steel wire, hot-dip galvanized after fabrication. Provide units designed for number of bars indicated.
- C. Masonry-Joint Reinforcement, General: ASTM A951/A951M.
 - 1. Interior Walls: Mill-galvanized carbon steel.
 - 2. Exterior Walls: Hot-dip galvanized carbon steel.
 - 3. Wire Size for Side Rods: 0.148-inch (3.77-mm) diameter.
 - 4. Wire Size for Cross Rods: 0.148-inch (3.77-mm) diameter.
 - 5. Wire Size for Veneer Ties: 0.148-inch (3.77-mm) diameter.
 - 6. Spacing of Cross Rods, Tabs, and Cross Ties: Not more than 16 inches (407 mm) o.c.
 - 7. Provide in lengths of not less than 10 feet (3 m), with prefabricated corner and tee units.
- D. Masonry-Joint Reinforcement for Single-Wythe Masonry: Ladder type with single pair of side rods.
- E. Masonry-Joint Reinforcement for Veneers Anchored with Seismic Masonry-Veneer Anchors: Single 0.187-inch- (4.76-mm-) diameter, hot-dip galvanized carbon steel continuous wire.

2.7 MASONRY CLEANERS

- A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Diedrich Technologies, Inc.
 - b. EaCo Chem, Inc.
 - c. PROSOCO, Inc.

2.8 MORTAR AND GROUT MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.
 - 1. Do not use calcium chloride in mortar or grout.
 - 2. Use portland cement-lime mortar unless otherwise indicated.
 - 3. For exterior masonry, use portland cement-lime mortar.
 - 4. For reinforced masonry, use portland cement-lime mortar.
 - 5. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.
- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.

- C. Mortar for Unit Masonry: Comply with ASTM C270, Proportion Specification. Provide the following types of mortar for applications stated unless another type is indicated or needed to provide required compressive strength of masonry.
1. For masonry below grade or in contact with earth, use Type M.
 2. For reinforced masonry, use Type M
 3. For mortar parge coats, use Type S.
 4. For exterior, above-grade, load-bearing and nonload-bearing walls and parapet walls; for interior load-bearing walls; for interior nonload-bearing partitions; and for other applications where another type is not indicated, use Type N.
 5. For interior nonload-bearing partitions, Type O may be used instead of Type N.
- D. Grout for Unit Masonry: Comply with ASTM C476.
1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with TMS 602/ACI 530.1/ASCE 6 for dimensions of grout spaces and pour height.
 2. Proportion grout in accordance with ASTM C476, paragraph 4.2.2 for specified 28-day compressive strength indicated, but not less than 2000 psi (14 MPa).
 3. Provide grout with a slump of 8 to 11 inches (200 to 280 mm) as measured according to ASTM C143/C143M.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
 2. Verify that foundations are within tolerances specified.
 3. Verify that reinforcing dowels are properly placed.
 4. Verify that substrates are free of substances that impair mortar bond.
- B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Thickness: Build cavity and composite walls and other masonry construction to full thickness shown. Build single-wythe walls to actual widths of masonry units, using units of widths indicated.
- B. Build chases and recesses to accommodate items specified in this and other Sections.
- C. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match construction immediately adjacent to opening.

- D. 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.
- E. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.
- F. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.

3.3 TOLERANCES

A. Dimensions and Locations of Elements:

- 1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch (12 mm) or minus 1/4 inch (6 mm).
- 2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch (12 mm).
- 3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch (6 mm) in a story height or 1/2 inch (12 mm) total.

B. Lines and Levels:

- 1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 feet (6 mm in 3 m), or 1/2-inch (12-mm) maximum.
- 2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 1/2-inch (12-mm) maximum.
- 3. For vertical lines and surfaces, do not vary from plumb by more than 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (9 mm in 6 m), or 1/2-inch (12-mm) maximum.
- 4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 1/2-inch (12-mm) maximum.
- 5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (9 mm in 6 m), or 1/2-inch (12-mm) maximum.
- 6. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet (6 mm in 3 m), or 1/2-inch (12-mm) maximum.
- 7. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch (1.5 mm) except due to warpage of masonry units within tolerances specified for warpage of units.

C. Joints:

- 1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm), with a maximum thickness limited to 1/2 inch (12 mm).
- 2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch (3 mm).
- 3. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch (9 mm) or minus 1/4 inch (6 mm).
- 4. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm).

5. For exposed bed joints and head joints of stacked bond, do not vary from a straight line by more than 1/16 inch (1.5 mm) from one masonry unit to the next.

3.4 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in bond pattern indicated on Drawings; do not use units with less-than-nominal 4-inch (100-mm) horizontal face dimensions at corners or jambs.
- C. Stopping and Resuming Work: Stop work by stepping back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.
- D. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.
- E. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.
- 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 (600 mm) under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

3.5 MORTAR BEDDING AND JOINTING

- A. Lay CMUs as follows:
 1. Bed face shells in mortar and make head joints of depth equal to bed joints.
 2. Bed webs in mortar in all courses of piers, columns, and pilasters.
 3. Bed webs in mortar in grouted masonry, including starting course on footings.
 4. Fully bed entire units, including areas under cells, at starting course on footings where cells are not grouted.
 5. Fully bed units and fill cells with mortar at anchors and ties as needed to fully embed anchors and ties in mortar.
- B. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.
- C. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.
- D. Cut joints flush where indicated to receive waterproofing unless otherwise indicated.

3.6 MASONRY-JOINT REINFORCEMENT

- A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch (16 mm) on exterior side of walls, 1/2 inch (13 mm) elsewhere. Lap reinforcement a minimum of 6 inches (150 mm).
1. Space reinforcement not more than 16 inches (406 mm) o.c.
 2. Space reinforcement not more than 8 inches (203 mm) o.c. in foundation walls and parapet walls.
 3. Provide reinforcement not more than 8 inches (203 mm) above and below wall openings and extending 12 inches (305 mm) beyond openings.
- B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated.
- C. Provide continuity at wall intersections by using prefabricated T-shaped units.
- D. Provide continuity at corners by using prefabricated L-shaped units.
- E. Cut and bend reinforcing units as directed by manufacturer for continuity at [corners,] returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

3.7 CONTROL AND EXPANSION JOINTS

- A. General: Install control- and expansion-joint materials in unit masonry as masonry progresses. Do not allow materials to span control and expansion joints without provision to allow for in-plane wall or partition movement.
- B. Form control joints in concrete masonry using one of the following methods:
1. Fit bond-breaker strips into hollow contour in ends of CMUs on one side of control joint. Fill resultant core with grout, and rake out joints in exposed faces for application of sealant.
 2. Install preformed control-joint gaskets designed to fit standard sash block.
 3. Install interlocking units designed for control joints. Install bond-breaker strips at joint. Keep head joints free and clear of mortar, or rake out joint for application of sealant.
 4. Install temporary foam-plastic filler in head joints, and remove filler when unit masonry is complete for application of sealant.
- C. Form expansion joints in brick as follows:
1. Build flanges of metal expansion strips into masonry. Lap each joint 4 inches (100 mm) in direction of water flow. Seal joints below grade and at junctures with horizontal expansion joints if any.
 2. Build flanges of factory-fabricated, expansion-joint units into masonry.
 3. Build in compressible joint fillers where indicated.
 4. Form open joint full depth of brick wythe and of width indicated, but not less than [3/8 inch (10 mm)] [1/2 inch (13 mm)] <Insert minimum width> for installation of sealant and backer rod specified in Section 079200 "Joint Sealants."
- D. Provide horizontal, pressure-relieving joints by either leaving an airspace or inserting a compressible filler of width required for installing sealant and backer rod specified in Section 079200 "Joint Sealants," but not less than 3/8 inch (10 mm).

1. Locate horizontal, pressure-relieving joints beneath shelf angles supporting masonry.

3.8 REINFORCED UNIT MASONRY

- A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.
 1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
 2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and that of other loads that may be placed on them during construction.
- B. Placing Reinforcement: Comply with requirements in TMS 602/ACI 530.1/ASCE 6.
- C. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.
 1. Comply with requirements in TMS 602/ACI 530.1/ASCE 6 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
 2. Limit height of vertical grout pours to not more than 60 inches (1520 mm).

3.9 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.
- B. Inspections: Special inspections according to Level B in TMS 402/ACI 530/ASCE 5.
 1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
 2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.
 3. Place grout only after inspectors have verified proportions of site-prepared grout.
- C. Testing Prior to Construction: One set of tests.
- D. Testing Frequency: One set of tests for each 5000 sq. ft. (464 sq. m) of wall area or portion thereof.
- E. Clay Masonry Unit Test: For each type of unit provided, according to ASTM C67 for compressive strength.
- F. Concrete Masonry Unit Test: For each type of unit provided, according to ASTM C140 for compressive strength.
- G. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, according to ASTM C780.

- H. Mortar Test (Property Specification): For each mix provided, according to ASTM C780. Test mortar for mortar air content and compressive strength.
- I. Grout Test (Compressive Strength): For each mix provided, according to ASTM C1019.
- J. Prism Test: For each type of construction provided, according to ASTM C1314 at 28 days.

3.10 PARGING

- A. Parge exterior faces of below-grade masonry walls, where indicated, in two uniform coats to a total thickness of 3/4 inch (19 mm). Dampen wall before applying first coat, and scarify first coat to ensure full bond to subsequent coat.
- B. Use a steel-trowel finish to produce a smooth, flat, dense surface with a maximum surface variation of 1/8 inch per foot (3 mm per 300 mm). Form a wash at top of parging and a cove at bottom.
- C. Damp-cure parging for at least 24 hours and protect parging until cured.

3.11 REPAIRING, POINTING, AND CLEANING

- A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.
- B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.
- C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
 - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - 2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
 - 3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
 - 4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
 - 5. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
 - 6. Clean concrete masonry by applicable cleaning methods indicated in NCMA TEK 8-4A.
 - 7. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.
 - 8. Clean stone trim to comply with stone supplier's written instructions.

9. Clean limestone units to comply with recommendations in ILI's "Indiana Limestone Handbook."

3.12 MASONRY WASTE DISPOSAL

- A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
- B. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.
 1. Crush masonry waste to less than 4 inches (100 mm) in each dimension.
 2. Mix masonry waste with at least two parts of specified fill material for each part of masonry waste. Fill material is specified in Section 312000 "Earth Moving."
 3. Do not dispose of masonry waste as fill within 18 inches (450 mm) of finished grade.
- C. Masonry Waste Recycling: Return broken CMUs not used as fill to manufacturer for recycling.
- D. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above or recycled, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 04 20 00

SECTION 06 10 53 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Wood blocking, nailers.
 - 2. Plywood backing panels.

1.3 DEFINITIONS

- A. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) or greater but less than 5 inches nominal (114 mm actual) in least dimension.
- B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 - 1. NeLMA: Northeastern Lumber Manufacturers' Association.
 - 2. NHLA: National Hardwood Lumber Association.
 - 3. NLGA: National Lumber Grades Authority.
 - 4. SPIB: The Southern Pine Inspection Bureau.
 - 5. WCLIB: West Coast Lumber Inspection Bureau.
 - 6. WWPA: Western Wood Products Association.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. For exposed lumber indicated to receive a stained or natural finish, [mark grade stamp on end or back of each piece] [or] [omit grade stamp and provide certificates of grade compliance issued by grading agency].

3. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
4. Provide dressed lumber, S4S, unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWP A U1 to the requirements of Use Category 3 (UC3).
 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
 2. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Application: Treat items indicated on Drawings, and the following:
 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Comply with performance requirements in AWP A UCFA/B
 1. Use treatment that does not promote corrosion of metal fasteners.
 2. Use Exterior type for exterior locations.
 3. Use Interior Type A, unless otherwise indicated.

2.4 DIMENSION LUMBER FRAMING

- A. Maximum Moisture Content: 15 percent.
- B. Other Framing: No. 2 grade.

2.5 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 1. Blocking.
 2. Nailers.
 3. Cants.
 4. Furring.
 5. Grounds.

- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber with 15 percent maximum moisture content of any species.
- C. For blocking not used for attachment of other construction Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.6 PLYWOOD BACKING PANELS

- A. Telephone and Electrical Equipment Backing Panels: DOC PS 1, Exterior, AC, fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch (19-mm) nominal thickness.

2.7 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
 - 1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Screws for Fastening to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
- C. Lag Bolts: ASME B18.2.1 (ASME B18.2.3.8M).
- D. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.
- E. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
 - 1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
 - 2. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 (ASTM F 738M and ASTM F 836M, Grade A1 or A4).

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- B. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- C. Framing Standard: Comply with AF&PA's "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- D. Metal Framing Anchors: Install metal framing to comply with manufacturer's written instructions.
- E. Do not splice structural members between supports, unless otherwise indicated.
- F. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
 - 1. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than 96 inches (2438 mm) o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces.
 - 2. Fire block concealed spaces between floor sleepers with same material as sleepers to limit concealed spaces to not more than 100 sq. ft. (9.3 sq. m) and to solidly fill space below partitions.
 - 3. Fire block concealed spaces behind combustible cornices and exterior trim at not more than 20 feet (6 m) o.c.
- G. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- H. Comply with AWWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- I. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
- J. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials.

Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads, unless otherwise indicated.

3.2 WOOD GROUND, BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.
- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches (38 mm) wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.3 PROTECTION

- A. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 06 10 53

SECTION 07 92 00 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Exterior joints in the following vertical surfaces and nontraffic horizontal surfaces:
 - a. Control and expansion joints in unit masonry and stone cladding.
 - b. Joints between different materials listed above.
 - c. Perimeter joints between materials listed above and frames of doors and windows.
 - d. Others as indicated.
2. Exterior joints in the following horizontal traffic surfaces:
 - a. Control, expansion joints on isolation joints in cast-in-place concrete slabs and pavements.
 - b. Others as indicated.
3. Interior joints in the following vertical surfaces and nontraffic horizontal surfaces:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - c. Perimeter joints between materials listed above and frames of doors and windows.
 - d. Interior side of perimeter joints of exterior openings where indicated.
 - e. Others as indicated.
4. Interior joints in the following horizontal traffic surfaces.
 - a. Isolation joints cast-in-place concrete slabs.
 - b. Others as indicated.

B. Related Requirements:

1. Section 04 22 00 "Unit Masonry" for masonry control and expansion joint fillers and gaskets.
2. Section 09 29 00 "Gypsum Board" for sealing perimeter joints of gypsum board partitions to reduce sound transmission.
3. Section 32 13 73 "Concrete Paving Joint Sealants" for sealing joints in paved roads, parking lots, walkways, and curbing.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each kind of joint sealant.
- B. Preconstruction Laboratory Test Reports: From sealant manufacturer, indicating the following:
 - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
 - 2. Interpretation of test results and written recommendations for primers and substrate preparation are needed for adhesion.
- C. Preconstruction Field-Adhesion-Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on testing specified in "Preconstruction Testing" Article.
- D. Field-Adhesion-Test Reports: For each sealant application tested.
- E. Sample Warranties: For special warranties.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
- B. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.

1.6 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
 - 2. When joint substrates are wet.
 - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.7 WARRANTY

- A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 URETHANE JOINT SEALANTS

- A. Two-Part Urethane: Self-leveling, ASTM C920, Type M, Grade P, Class 25.
 - 1. Chem-Calk CC-550, by Bostik.
 - 2. Vulkem 245, by Mameco.
 - 3. Vulkem 255, Wide-Joint, by Mameco.
 - 4. NR-200 Urexpan, by Pecora Corporation.
 - 5. Sikaflex-2c NS/SL, by Sika Corporation.
- B. Two-Part Urethane: Non-sag, ASTM C920, Type M, Grade NS, Class 25.
 - 1. Chem-Calk 500, by Bostik.
 - 2. Vulkem 227, by Mameco.
 - 3. Sikaflex-2c NS/SL, by Sika Corporation.
 - 4. Dynatrol II, by Pecora Corporation.
 - 5. Sonolastic NP 2, by Sonneborn Building Products, ChemRex Inc.
- C. One-Part Urethane: Self-leveling, ASTM C920, Type S, Grade P, Class 25.
 - 1. Urexpan NR-201, by Pecora Corporation.
 - 2. Vulkem 45, by Mameco.

3. Sololastic SL1, by Sonneborn Building Products, ChemRex Inc.
4. Sikaflex IC-SL, by Sika Corporation.

D. One-Part Urethane: Non-Sag, ASTM C920, Type S, Grade NS, Class 25.

1. Vulkem 116, by Mameco.
2. Sololastic NP 1, by Sonneborn Building Products, ChemRex Inc.
3. Sikaflex IA, by Sika Corporation.
4. Chem-Calk 900, by Bostik.

E. One-Part Urethane: Non-Sag, ASTM C920, Type S, Grade NS, Class 25.

1. 795 Silicone Structural Glazing, Glazing, and Weatherproofing Sealant, by Dow Corning.
2. SilPruf NB SC900 Sealant, by General Electric Company.
3. 898 Silicone Sanitary Sealant, by Pecora Corporation.
4. OmniSeal, by Sonneborn Building Products, ChemRex Inc.

2.3 SILICONE JOINT SEALANTS

A. One-Part Silicones: ASTM C920, Type S, Grade NS, Class 25. Vertical surfaces only.

1. 795 Silicone Structural Glazing, Glazing, and Weatherproofing Sealant, by Dow Corning.
2. 864 Architectural Silicone, by Pecora Corporation.

B. One-Part Silicones: ASTM C920, Type S, Grade NS, Class 25. Vertical surfaces only.

1. 795 Silicone Structural Glazing, Glazing, and Weatherproofing Sealant (colors only), by Dow Corning.
2. 995-A, Dow Corning.
3. Construction 1200 Sealant, General Electric Company.

C. One-Part Silicones: ASTM C920, Type S, Grade NS, Class 25. Vertical surfaces only.

1. 795 Silicone Structural Glazing, Glazing, and Weatherproofing Sealant (colors only), by Dow Corning.
2. 864 Architectural Silicones (colors only), by Pecora Corporation.
3. Construction 1200 Sealant, General Electric Company.
4. 999-A, Dow Corning.

D. One-Part Silicones: ASTM C920, Type S, Grade NS, Class 25.

1. 786 Mildew Resistant Silicone Sealant, Dow Corning.

2. SCS 1700 Sanitary Sealant, General Electric.
3. 898 Silicone Sanitary Sealant, Pecora Corporation.

2.4 ACRYLIC LATEX:

- A. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C834, Type OP, Grade NF.
- B. One-Part Acrylic Latex: Non-Sag, ASTM-C-834-76.
 1. Chem-Calk 600, by Bostik.
 2. LC-130, by MACCO Adhesives, The Glidden Company.
 3. Essa-ply, ALS, by W.R. Meadows, Inc.
 4. AC-20 + Silicone Acrylic Latex, by Pecora Corporation.
 5. Sonolac, Sonneborn Building Products, ChemRex Inc.

2.5 ACOUSTIC SEALANTS:

1. AC-20 FTR Acoustic and Insulation Sealant, by Pecora Corporation.
2. 60+ Unicrylic, by Pecora Corporation.
3. Sheetrock Acoustic Sealant, by United States Gypsum.

2.6 BUTYLS:

- A. Butyl-Rubber-Based Joint Sealants: ASTM C1311.
- B. One-Part Butyl: Non-Sag, FS TT-S-1657.
 1. Chem-Calk 300, by Bostik.
 2. BC-158 Butyl Rubber, by Pecora Corporation (ASTM C 1085).

2.7 PREFORMED COMPRESSIBLE & NON-COMPRESSIBLE FILLERS:

- A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
 1. Backer Rod – Closed cell polyethylene foam:
 - a. HBR Back Rod, by Nomaco.
 - b. #92 Greenrod, by Nomaco.
 - c. Sonofoam Closed-Cell Backer Rod, Sonneborn Building Products, ChemRex, Inc.
 2. Backer Rod – Open cell polyethylene foam:

- a. Denver Foam, by Backer Rod Mfg Inc.
 - b. Foam Pack II, by Nomaco.
3. Neoprene compression seals:
- a. WE, WF, and WG Series, by Watson Bowman & Acme Corp.
 - b. Will-Seal 150 Precompressed Expanding Foam Sealants, by Will-Seal, a Division of Illbruck.
4. Butyl Rod: Kirkhill Rubber Co.
- B. Bond Breaker Tape: Polyethylene tape of plastic as recommended by sealant manufacturer, to be applied to sealant surfaces where bond to substrate of joint filler must be avoided for proper performance of sealant.

2.8 PAVING SEALANTS

- A. Two-Part Urethane: Self-leveling, ASTM C920, Type M, Grade P, Class 25.
1. Vulkem 202, by Mameco. (Jef Fuel Resistant) (FS SS-S-200D. Type H only).
 2. NR-300 Urexpan, by Pecora Corporation. (FS SS-S-200E).
- B. One-Part Urethane: Self-leveling, ASTM C920, Type S, Grade P, Class 25.
1. Sonomeric I Sealant, by Sonneborn Building Products, ChemRex Inc. (FS SS-S-200E).
 2. Vulkem 45, by Mameco.

2.9 COLORS

- A. Generally use sealant colors matching of material joint is located in.
- B. Where a joint occurs between two materials of differing colors and Contractor cannot determine which material to match, contact the Architect for selection.

2.10 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Masonry.
 - 3. Remove laitance and form-release agents from concrete.
 - 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint profile per Figure 8A in ASTM C1193 unless otherwise indicated.
 - 4. Provide flush joint profile at according to Figure 8B in ASTM C1193.
 - 5. Provide recessed joint configuration of recess depth and at according to Figure 8C in ASTM C1193.
 - a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.4 FIELD QUALITY CONTROL

- A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
 - 1. Extent of Testing: Test completed and cured sealant joints as follows:

- a. Perform 10 tests for the first 1000 feet (300 m) of joint length for each kind of sealant and joint substrate.
 - b. Perform one test for each 1000 feet (300 m) of joint length thereafter or one test per each floor per elevation.
2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C1193 or Method A, Tail Procedure, in ASTM C1521.
 - a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
 3. Inspect tested joints and report on the following:
 - a. Whether sealants filled joint cavities and are free of voids.
 - b. Whether sealant dimensions and configurations comply with specified requirements.
 - c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion complies with sealant manufacturer's field-adhesion hand-pull test criteria.
 4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant material, sealant configuration, and sealant dimensions.
 5. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.
- B. Evaluation of Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.
- ### 3.5 CLEANING
- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.
- ### 3.6 PROTECTION
- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.7 JOINT-SEALANT SCHEDULE

A. Exterior Joints:

1. Perimeters of exterior openings where frames and other penetrations meet exterior façade of building: CMU.
 - a. Sealant No. 2.2. A.2.
 - b. Sealant No. 2.2. B.1. (for prefinished materials only)
2. Expansion and control joints in exterior surfaces of cast-in-place concrete walls.
 - a. Sealant No. 2.2. A.2.
 - b. Sealant No. 2.2. A.4.
 - c. Material No. 2.2. F.1.
3. Expansion and control joints in exterior surfaces of unit masonry walls.
 - a. Sealant No. 2.2. A..2.
4. Coping joints, coping-to-façade joints, cornice and wash, or horizontal surface joints not subject to foot or vehicular traffic.
 - a. Sealant No. 2.2. A.2.
 - b. Sealant No. 2.2. A.4.
 - c. Sealant No. 2.2. B.1. (for prefinished materials only)
5. Joints in horizontal wearing and non-wearing surfaces.
 - a. Sealant No. 2.2. A.1.
 - b. Sealant No. 2.2. A.3.
 - c. Material No 2.2. F.1.
6. Paving joints and curbs.
 - a. Sealant No. 2.2. A.4.
 - b. Sealant No. 2.9. B.
7. Setting bed for threshold and saddles.
 - a. Sealant No. 2.2. D.1.
8. Painted metal lap or flashing joints.
 - a. Sealant No. 2.2. B.1.

B. Interior Joints:

1. Seal interior perimeters of exterior openings.
2. Expansion and control joints on interior of exterior masonry walls.
3. Perimeter of interior hollow metal and aluminum frames.

4. Interior masonry vertical control joints and intersecting masonry walls; CMU to CMU, CMU to concrete.
 5. Joints at intersection of exterior masonry walls and interior gypsum board partitions.

 6. For all the listed above interior joints:
 - a. Sealant No. 2.2. A.2.
 - b. Sealant No. 2.2. A.4.
 - c. Sealant No. 2.2. B.1. (for prefinished materials only)

 7. Exposed interior control joints in drywall and concealed joints.
 - a. Sealant No. 2.2. C.1.
 - b. Sealant No. 2.2. C.1.
 - c. Sealant No. 2.2. D.1.
 - d. Sealant No. 2.2. D.3.
 - e. Sealant No. 2.2. E.1.

 8. Perimeter of bathroom fixtures: sinks, urinals, water closets, etc.
 - a. Sealant No. 2.2. B.4.

 9. Interior expansion and control joints in floor surfaces exposed to foot traffic.
 - a. Sealant No. 2.2. A.1.
 - b. Sealant No. 2.2. A.3.
 - c. Material No. 2.2. F.1.

 10. Interior saw-cut control joints in exposed concrete floors exposed to traffic.
 - a. Sealant No. 2.2. A.1.

 11. Interior non-moving joints, including control, contraction, or construction joints, in interior floor slabs exposed to heavy duty traffic.
 - a. Sealant No. 2.2. A.

 12. Painted metal lap joints.
 - a. Sealant 2.1. B.1.
- C. Glazing:
1. General Purpose Glazing.
 - a. Sealant No. 2.2. B.3.
 2. End Damming.

- a. Sealant No. 2.2. E.

END OF SECTION 07 92 00

SECTION 08 11 13 – HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes steel doors and frames.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 8 Section 08 71 00 "Door Hardware" for door hardware.
 - 2. Division 9 Section 09 91 23 "Painting" for field painting primed doors and frames.

1.3 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product Data for each type of door frame specified, including details of construction, materials, dimensions, hardware preparation, core, label compliance, sound ratings, profiles, and finishes.
- C. Shop Drawings showing fabrication and installation of steel door frames. Include details of each frame type, elevations of door design types, conditions at openings, details of construction, location and installation requirements of door and frame hardware and reinforcements, and details of joints and connections. Show anchorage and accessory items.
- D. Door Schedule: Submit schedule of doors and frames using same reference numbers for details and openings as those on Contract Drawings.
 - 1. Indicate coordination of glazing frames and stops with glass and glazing requirements.

1.4 QUALITY ASSURANCE

- A. Provide door frames complying with ANSI/SDI 100 "Recommended Specifications for Standard Steel Doors and Frames" and as specified.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver door frames cardboard-wrapped or crated to provide protection during transit and job storage. Provide additional protection to prevent damage to finish of factory-finished doors and frames.

- B. Inspect door frames on delivery for damage. Minor damages may be repaired provided refinished items match new work and are acceptable to Architect; otherwise, remove and replace damaged items as directed.
- C. Store door frames at building site under cover. Place units on minimum 4-inch- (100-mm-) high wood blocking. Avoid using nonvented plastic or canvas shelters that could create a humidity chamber. If cardboard wrappers on doors become wet, remove cartons immediately. Provide minimum 1/4-inch (6-mm) spaces between stacked doors to promote air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:
 - 1. Steel Door Frames:
 - a. Ceco Door Products.
 - b. Karpen Steel Custom Doors and Frames.
 - c. Steelcraft.

2.2 MATERIALS

- A. Cold-Rolled Steel Sheets: Carbon steel complying with ASTM A 366 (ASTM A 366M), commercial quality, or ASTM A 620 (ASTM A 620M), drawing quality, special killed.
- B. Supports and Anchors: Fabricated from not less than 0.0478-inch- (1.2-mm-) thick steel sheet; 0.0516-inch- (1.3-mm-) thick galvanized steel where used with galvanized steel frames.
- C. Inserts, Bolts, and Fasteners: Manufacturer's standard units. Where items are to be built into exterior walls, hot-dip galvanize complying with ASTM A 153, Class C or D as applicable.

2.3 DOORS

- A. Provide doors of design indicated, not less than thickness indicated; fabricated with smooth surfaces, without visible joints or seams on exposed faces unless otherwise indicated. Comply with ANSI/SDI A250.8.
 - 1. Design: Flush panel
 - 2. Core Construction: Manufacturer's standard kraft-paper honeycomb, polystyrene, polyurethane, polyisocyanurate, mineral-board, or vertical steel stiffener core.
 - a. Thermal-Rated (Insulated) Door: Where indicated provide doors fabricated with thermal-resistance value (R-value) of not less than 6.0 deg F x h x sq.ft./Btu when tested according to ASTM C 1363.
 - 3. Vertical Edges of Single-Acting Doors: Manufacturer's standard.
 - 4. Top and Bottom Edges: Closed with flush or inverted 0.042-inch-(1.0 mm) thick, end closures or channels of same material as face sheets.

- B. Exterior Doors: Face sheets fabricated from metallic-coated steel sheet. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:
 - 1. Level 2 and Physical Performance Level B (Heavy Duty), Model 2 (Seamless).
- C. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.
- D. Fabricate concealed stiffeners and hardware from either cold- or hot-rolled steel sheet.

2.4 FRAMES

- A. Provide metal frames for doors according to ANSI/SDI 100, and of types and styles as shown on Drawings and schedules. Conceal fastenings, unless otherwise indicated. Fabricate frames of minimum 0.0478-inch- (1.2-mm-) thick cold-rolled steel sheet.
 - 1. Fabricate frames with mitered or coped and continuously welded corners.
- B. Door Silencers: Drill stops to receive 3 silencers on strike jambs of single-door frames and 2 silencers on heads of double-door frames.

2.5 FABRICATION

- A. Fabricate steel door frame units to be rigid, neat in appearance, and free from defects, warp, or buckle. Where practical, fit and assemble units in manufacturer's plant. Clearly identify work that cannot be permanently factory assembled before shipment, to assure proper assembly at Project site. Comply with ANSI/SDI 100 requirements.
 - 1. Clearances: Not more than 1/8 inch (3.2 mm) at jambs and heads, except not more than 1/4 inch (6.4 mm) between non-fire-rated pairs of doors. Not more than 3/4 inch (19 mm) at bottom.
- B. Tolerances: Comply with SDI 117 "Manufacturing Tolerances Standard Steel Doors and Frames."
- C. Fabricate concealed stiffeners, reinforcement, edge channels, louvers, and moldings from either cold- or hot-rolled steel sheet.
- D. Exposed Fasteners: Unless otherwise indicated, provide countersunk flat or oval heads for exposed screws and bolts.
- E. Hardware Preparation: Prepare frames to receive mortised and concealed hardware according to final door hardware schedule and templates provided by hardware supplier. Comply with applicable requirements of SDI 107 and ANSI A115 Series specifications for door and frame preparation for hardware.
- F. Reinforce door frames to receive surface-applied hardware. Drilling and tapping for surface-applied hardware may be done at Project site.

- G. Locate hardware as indicated on Shop Drawings or, if not indicated, according to the Door and Hardware Institute's (DHI) "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."

2.6 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual" for recommendations relative to applying and designating finishes.
- B. Comply with SSPC-PA 1, "Paint Application Specification No. 1," for steel sheet finishes.
- C. Apply primers and organic finishes to frames after fabrication.

2.7 STEEL SHEET FINISHES

- A. Surface Preparation: Solvent-clean surfaces to comply with SSPC-SP 1 to remove dirt, oil, grease, and other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel to comply with SSPC-SP 5 (White Metal Blast Cleaning) or SSPC-SP 8 (Pickling).
- B. Pretreatment: Immediately after surface preparation, apply a conversion coating of type suited to organic coating applied over it.
- C. Factory Priming for Field-Painted Finish: Apply shop primer that complies with ANSI A224.1 acceptance criteria, is compatible with finish paint systems indicated, and has capability to provide a sound foundation for field-applied topcoats. Apply primer immediately after surface preparation and pretreatment.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Install steel door frames and accessories according to Shop Drawings, manufacturer's data, and as specified.
- B. Placing Frames: Comply with provisions of SDI 105, unless otherwise indicated. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is completed, remove temporary braces and spreaders, leaving surfaces smooth and undamaged.
 - 1. Except for frames located in existing concrete, masonry, or gypsum board assembly construction, place frames before constructing enclosing walls and ceilings.

3.2 ADJUSTING AND CLEANING

- A. Prime Coat Touchup: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touchup of compatible air-drying primer.

- B. Protection Removal: Immediately before final inspection, remove protective wrappings from doors and frames.

END OF SECTION 081113

SECTION 08 31 13 - ACCESS DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes access doors and frames for walls and ceilings.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Samples: For each type of access door and frame and for each finish specified, complete assembly minimum 6 by 6 inches (150 by 150 mm) in size.

PART 2 - PRODUCTS

2.1 ACCESS DOORS AND FRAMES

- A. Flush Access Doors with Exposed Flanges:
 - 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:
 - a. Acudor Products, Inc.
 - b. JL Industries, Inc.; a division of the Activar Construction Products Group.
 - c. Larsens Manufacturing Company.
 - d. Milcor; Commercial Products Group of Hart & Cooley, Inc.
 - e. Nystrom, Inc.
 - 2. Description: Face of door flush with frame, with exposed flange and concealed hinge.
 - 3. Locations: Wall.
 - 4. Door Sizes: 12" x 12, 8" x 8".
 - 5. Quantity: 2.
 - 6. Uncoated Steel Sheet for Door: Nominal 0.060 inch (1.52 mm), 16 gage, factory primed.
 - 7. Frame Material: Same material, thickness, and finish as door.

8. Latch and Lock: Latch bolt, key operated.

2.2 MATERIALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Steel Sheet: Uncoated or electrolytic zinc coated, ASTM A 879/A 879M, with cold-rolled steel sheet substrate complying with ASTM A 1008/A 1008M, Commercial Steel (CS), exposed.
- C. Frame Anchors: Same material as door face.
- D. Inserts, Bolts, and Anchor Fasteners: Hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329.

2.3 FABRICATION

- A. General: Provide access door and frame assemblies manufactured as integral units ready for installation.
- B. Metal Surfaces: For metal surfaces exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.
- C. Doors and Frames: Grind exposed welds smooth and flush with adjacent surfaces. Furnish mounting holes, attachment devices and fasteners of type required to secure access doors to types of supports indicated.
 1. For concealed flanges with drywall bead, provide edge trim for gypsum panels securely attached to perimeter of frames.
- D. Latch and Lock Hardware:
 1. Quantity: Furnish number of latches and locks required to hold doors tightly closed.
 2. Keys: Furnish two keys per lock and key all locks alike.

2.4 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- D. Painted Finishes: Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

1. Factory Primed: Apply manufacturer's standard, lead- and chromate-free, universal primer immediately after surface preparation and pretreatment.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with manufacturer's written instructions for installing access doors and frames.

3.3 ADJUSTING

- A. Adjust doors and hardware, after installation, for proper operation.

END OF SECTION 08 31 13

SECTION 08 41 13 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Storefront framing.
- 2. Manual-swing entrance doors.

B. Related Requirements:

- 1. Section 08 80 00 "Glazing" for tempered glass units.

1.3 ALLOWANCES

- A. Aluminum Storefront Framing (Square Foot) and individual Doors if determined existing framing and / or door needs to be replaced in addition to what is indicated on the Drawings.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

- 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: For aluminum-framed entrances and storefronts. Include plans, elevations, sections, full-size details, and attachments to other work.

- 1. Include details of provisions for assembly expansion and contraction and for draining moisture occurring within the assembly to the exterior.
- 2. Include full-size isometric details of each type of vertical-to-horizontal intersection of aluminum-framed entrances and storefronts, showing the following:
 - a. Joinery, including concealed welds.
 - b. Anchorage.
 - c. Expansion provisions.
 - d. Glazing.

- e. Flashing and drainage.
 - 3. Show connection to and continuity with adjacent thermal, weather, air, and vapor barriers.
 - 4. Include point-to-point wiring diagrams showing the following:
 - a. Power requirements for each electrically operated door hardware.
 - b. Location and types of switches, signal device, conduit sizes, and number and size of wires.
 - C. Samples for Initial Selection: For units with factory-applied color finishes.
 - D. Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes.
 - E. Fabrication Sample: Of each vertical-to-horizontal intersection of assemblies, made from 12-inch (300-mm) lengths of full-size components and showing details of the following:
 - 1. Joinery, including concealed welds.
 - 2. Anchorage.
 - 3. Expansion provisions.
 - 4. Glazing.
 - 5. Flashing and drainage.
 - F. Entrance Door Hardware Schedule: Prepared by or under supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.
 - G. Delegated-Design Submittal: For aluminum-framed entrances and storefronts indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- 1.5 INFORMATIONAL SUBMITTALS
- A. Energy Performance Certificates: For aluminum-framed entrances and storefronts, accessories, and components, from manufacturer.
 - 1. Basis for Certification: NFRC-certified energy performance values for each aluminum-framed entrance and storefront.
 - B. Sample Warranties: For special warranties.
- 1.6 CLOSEOUT SUBMITTALS
- A. Maintenance Data: For aluminum-framed entrances and storefronts to include in maintenance manuals.
 - B. Maintenance Data for Structural Sealant: For structural-sealant-glazed storefront to include in maintenance manuals. Include ASTM C 1401 recommendations for post-installation-phase quality-control program.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
- B. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.
 - 1. Do not change intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If changes are proposed, submit comprehensive explanatory data to Architect for review.
- C. Structural-Sealant Glazing: Comply with ASTM C 1401 for design and installation of storefront systems.

1.8 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of aluminum-framed entrances and storefronts that do not comply with requirements or that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures, including, but not limited to, excessive deflection.
 - b. Noise or vibration created by wind and thermal and structural movements.
 - c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - d. Water penetration through fixed glazing and framing areas.
 - e. Failure of operating components.
 - 2. Warranty Period: 10 years from date of Substantial Completion.
- B. Special Finish Warranty: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

2.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design aluminum-framed entrances and storefronts.
- B. General Performance: Comply with performance requirements specified, as determined by testing of aluminum-framed entrances and storefronts representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.
1. Aluminum-framed entrances and storefronts shall withstand movements of supporting structure, including, but not limited to, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
 2. Failure also includes the following:
 - a. Thermal stresses transferring to building structure.
 - b. Glass breakage.
 - c. Noise or vibration created by wind and thermal and structural movements.
 - d. Loosening or weakening of fasteners, attachments, and other components.
 - e. Failure of operating units.
- C. Structural Loads:
1. Wind Loads: As indicated on Drawings.
- D. Deflection of Framing Members: At design wind pressure, as follows:
1. Deflection Normal to Wall Plane: Limited to edge of glass in a direction perpendicular to glass plane not exceeding 1/175 of the glass edge length for each individual glazing lite or an amount that restricts edge deflection of individual glazing lites to 3/4 inch (19.1 mm), whichever is less.
 2. Deflection Parallel to Glazing Plane: Limited to 1/360 of clear span or 1/8 inch (3.2 mm), whichever is smaller.
 3. Cantilever Deflection: Where framing members overhang an anchor point, as follows:
 - a. Perpendicular to Plane of Wall: No greater than 1/240 of clear span plus 1/4 inch (6.35 mm) for spans greater than 11 feet 8-1/4 inches (3.6 m) or 1/175 times span, for spans of less than 11 feet 8-1/4 inches (3.6 m).
- E. Structural: Test according to ASTM E 330/E 330M as follows:

1. When tested at positive and negative wind-load design pressures, storefront assemblies, including entrance doors, do not evidence deflection exceeding specified limits.
 2. When tested at 150 percent of positive and negative wind-load design pressures, storefront assemblies, including entrance doors and anchorage, do not evidence material failures, structural distress, or permanent deformation of main framing members exceeding 0.2 percent of span.
 3. Test Durations: As required by design wind velocity, but not less than 10 seconds.
- F. Air Infiltration: Test according to ASTM E 283 for infiltration as follows:
1. Fixed Framing and Glass Area:
 - a. Maximum air leakage of 0.06 cfm/sq. ft. (0.30 L/s per sq. m) at a static-air-pressure differential of 1.57 lbf/sq. ft. (75 Pa).
 2. Entrance Doors:
 - a. Pair of Doors: Maximum air leakage of 1.0 cfm/sq. ft. (5.08 L/s per sq. m) at a static-air-pressure differential of 1.57 lbf/sq. ft. (75Pa).
 - b. Single Doors: Maximum air leakage of 0.5 cfm/sq. ft. (2.54 L/s per sq. m) at a static-air-pressure differential of 1.57 lbf/sq. ft. (75 Pa).
- G. Water Penetration under Static Pressure: Test according to ASTM E 331 as follows:
1. No evidence of water penetration through fixed glazing and framing areas, including entrance doors, when tested according to a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft. (300 Pa).
- H. Water Penetration under Dynamic Pressure: Test according to AAMA 501.1 as follows:
1. No evidence of water penetration through fixed glazing and framing areas when tested at dynamic pressure equal to 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft. (300 Pa).
 2. Maximum Water Leakage: According to AAMA 501.1. Water leakage does not include water controlled by flashing and gutters, or water that is drained to exterior.
- I. Seismic Performance: Aluminum-framed entrances and storefronts shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
1. Seismic Drift Causing Glass Fallout: Complying with criteria for passing based on building occupancy type when tested according to AAMA 501.6 at design displacement and 1.5 times the design displacement.
- J. Energy Performance: Certify and label energy performance according to NFRC as follows:
1. Thermal Transmittance (U-factor): Fixed glazing and framing areas as a system shall have U-factor of not more than 0.45 Btu/sq. ft. x h x deg F (2.55 W/sq. m x K) as determined according to NFRC 100.
 2. Solar Heat Gain Coefficient (SHGC): Fixed glazing and framing areas as a system shall have SHGC of no greater than 0.59 as determined according to NFRC 200.

3. Condensation Resistance: Fixed glazing and framing areas as a system shall have an NFRC-certified condensation resistance rating of no less than 15 as determined according to NFRC 500.
- K. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes.
1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
 2. Thermal Cycling: No buckling; stress on glass; sealant failure; excess stress on framing, anchors, and fasteners; or reduction of performance when tested according to AAMA 501.5.
 - a. High Exterior Ambient-Air Temperature: That which produces an exterior metal-surface temperature of 180 deg F (82 deg C).
 - b. Low Exterior Ambient-Air Temperature: 0 deg F (minus 18 deg C).
 - c. Interior Ambient-Air Temperature: 75 deg F (24 deg C).
- L. Structural-Sealant Joints:
1. Designed to carry gravity loads of glazing.
- M. Structural Sealant: ASTM C 1184. Capable of withstanding tensile and shear stresses imposed by structural-sealant-glazed, aluminum-framed entrances and storefronts without failing adhesively or cohesively. When tested for preconstruction adhesion and compatibility, cohesive failure of sealant shall occur before adhesive failure.
1. Adhesive failure occurs when sealant pulls away from substrate cleanly, leaving no sealant material behind.
 2. Cohesive failure occurs when sealant breaks or tears within itself but does not separate from each substrate, because sealant-to-substrate bond strength exceeds sealant's internal strength.
- ## 2.3 STOREFRONT SYSTEMS
- A. Basis-of-Design Product, Exterior Frames: The design for aluminum-framed systems is based on the Kawneer Trifab Versaglaze 451T framing systems as indicated in the Drawings.
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Arcadia, Inc.
 2. EFCO Corporation.
 3. Kawneer North America; an Alcoa company.
 4. Oldcastle BuildingEnvelope™.
 5. Tubelite Inc.
 6. U.S. Aluminum; a brand of C.R. Laurence.
- C. Framing Members: Manufacturer's extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.

1. Exterior Framing Construction: Thermally broken.
 2. Interior Vestibule Framing Construction: Nonthermal.
 3. Glazing System: Retained mechanically with gaskets on four sides.
 4. Glazing Plane: Center.
 5. Finish: Clear anodic finish.
 6. Fabrication Method: Field-fabricated stick system.
 7. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
 8. Steel Reinforcement: As required by manufacturer.
- D. Backer Plates: Manufacturer's standard, continuous backer plates for framing members, if not integral, where framing abuts adjacent construction.
- E. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with non-staining, nonferrous shims for aligning system components.

2.4 ENTRANCE DOOR SYSTEMS

- A. Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing or automatic operation.
1. Door Construction: 1-3/4-inch (44.5-mm) overall thickness, with minimum 0.125-inch (3.2-mm-) thick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods.
 2. Door Design: Medium stile; 3-1/2-inch (88.9-mm) nominal width.
 - a. Accessible Doors: Smooth surfaced for width of door in area within 10 inches (255 mm) above floor or ground plane.
 3. Glazing Stops and Gaskets: Beveled, snap-on, extruded-aluminum stops and preformed gaskets.
 - a. Provide nonremovable glazing stops on outside of door.

2.5 ENTRANCE DOOR HARDWARE

- A. Provide entrance door hardware and entrance door hardware sets indicated in door hardware section 087100 and frame schedule for each entrance door, to comply with requirements in this Section.
1. Opening-Force Requirements:
 - a. Egress Doors: Not more than 15 lbf (67 N) to release the latch and not more than 30 lbf (133 N) to set the door in motion and not more than 15 lbf (67 N) to open the door to its minimum required width.
 - b. Accessible Interior Doors: Not more than 5 lbf (22.2 N) to fully open door.

2.6 GLAZING

- A. Glazing: Comply with Section 088000 "Glazing."
- B. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of black, resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.
- C. Glazing Sealants: As recommended by manufacturer.
- D. Weatherseal Sealants: ASTM C 920 for Type S; Grade NS; Class 25; Uses NT, G, A, and O; chemically curing silicone formulation that is compatible with structural sealant and other system components with which it comes in contact; recommended by structural-sealant, weatherseal-sealant, and structural-sealant-glazed storefront manufacturers for this use.
 - 1. Color: Match structural sealant.

2.7 MATERIALS

- A. Sheet and Plate: ASTM B 209 (ASTM B 209M).
- B. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
- C. Extruded Structural Pipe and Tubes: ASTM B 429/B 429M.
- D. Structural Profiles: ASTM B 308/B 308M.
- E. Steel Reinforcement:
 - 1. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
 - 2. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.
 - 3. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M.
 - 4. Primer: Manufacturer's standard zinc-rich, corrosion-resistant primer complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM, and prepare surfaces according to applicable SSPC standard.

2.8 ACCESSORIES

- A. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, non-staining, nonbleeding fasteners and accessories compatible with adjacent materials.
 - 1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
 - 2. Reinforce members as required to receive fastener threads.
 - 3. Use exposed fasteners with countersunk Phillips screw heads, finished to match framing system.
- B. Anchors: Three-way adjustable anchors with minimum adjustment of 1 inch (25.4 mm) that accommodate fabrication and installation tolerances in material and finish compatible with adjoining materials and recommended by manufacturer.

1. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts complying with ASTM A 123/A 123M or ASTM A 153/A 153M requirements.
- C. Concealed Flashing: Manufacturer's standard corrosion-resistant, non-staining, nonbleeding flashing compatible with adjacent materials.
- D. Bituminous Paint: Cold-applied asphalt-mastic paint containing no asbestos, formulated for 30-mil (0.762-mm) thickness per coat.

2.9 FABRICATION

- A. Form or extrude aluminum shapes before finishing.
- B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.
- C. Fabricate components that, when assembled, have the following characteristics:
 1. Profiles that are sharp, straight, and free of defects or deformations.
 2. Accurately fitted joints with ends coped or mitered.
 3. Physical and thermal isolation of glazing from framing members.
 4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
 5. Provisions for field replacement of glazing from exterior.
 6. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.
- D. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.
- E. Storefront Framing: Fabricate components for assembly using screw-spline system.
- F. Entrance Door Frames: Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.
 1. At interior and exterior doors, provide compression weather stripping at fixed stops.
- G. Entrance Doors: Reinforce doors as required for installing entrance door hardware.
 1. At pairs of exterior doors, provide sliding-type weather stripping retained in adjustable strip and mortised into door edge.
 2. At exterior doors, provide weather sweeps applied to door bottoms.
- H. Entrance Door Hardware Installation: Factory install entrance door hardware to the greatest extent possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes.
- I. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.10 ALUMINUM FINISHES

- A. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils (0.04 mm). Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.
 - 1. Color and Gloss: Match to existing adjacent frame section color.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare surfaces that are in contact with structural sealant according to sealant manufacturer's written instructions, to ensure compatibility and adhesion. Preparation includes, but is not limited to, cleaning and priming surfaces.

3.3 INSTALLATION

- A. General:
 - 1. Comply with manufacturer's written instructions.
 - 2. Do not install damaged components.
 - 3. Fit joints to produce hairline joints free of burrs and distortion.
 - 4. Rigidly secure nonmovement joints.
 - 5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
 - 6. Seal perimeter and other joints watertight unless otherwise indicated.
- B. Metal Protection:
 - 1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with materials recommended by manufacturer for this purpose or by installing nonconductive spacers.
 - 2. Where aluminum is in contact with concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
- C. Set continuous sill members and flashing in full sealant bed, as specified in Section 079200 "Joint Sealants," to produce weathertight installation.

- D. Install components plumb and true in alignment with established lines and grades.
- E. Install operable units level and plumb, securely anchored, and without distortion. Adjust weather-stripping contact and hardware movement to produce proper operation.
- F. Install glazing as specified in Section 088000 "Glazing."
- G. Install weatherseal sealant according to Section 079200 "Joint Sealants" and according to sealant manufacturer's written instructions to produce weatherproof joints. Install joint filler behind sealant as recommended by sealant manufacturer.
- H. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.
 - 1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
 - 2. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware according to entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

3.4 ERECTION TOLERANCES

- A. Erection Tolerances: Install aluminum-framed entrances and storefronts to comply with the following maximum tolerances:
 - 1. Plumb: 1/8 inch in 10 feet (3.2 mm in 3 m); 1/4 inch in 40 feet (6.35 mm in 12.2 m).
 - 2. Level: 1/8 inch in 20 feet (3.2 mm in 6 m); 1/4 inch in 40 feet (6.35 mm in 12.2 m).
 - 3. Alignment:
 - a. Where surfaces abut in line, limit offset from true alignment to 1/16 inch (1.6 mm).
 - b. Where surfaces meet at corners, limit offset from true alignment to 1/32 inch (0.8 mm).
 - 4. Location: Limit variation from plane to 1/8 inch in 12 feet (3.2 mm in 3.6 m); 1/4 inch (6.3 mm) over total length.

END OF SECTION 08 41 13

SECTION 08 71 00.1 - DOOR HARDWARE – 9TH & FRONT GARAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Commercial door hardware for the following:
 - a. Swinging doors.
- B. Related Sections include the following:
 - 1. Division 08 Section "Hollow Metal Doors and Frames"
 - 2. Division 08 Section "Aluminum-Framed Entrances and Storefronts"
- C. Products furnished, but not installed, under this Section include the following. Coordinating, purchasing, delivering, and scheduling remain requirements of this Section.

1.3 REFERENCED STANDARDS

- A. Provide hardware in accordance with the following standards in addition to those specified in Division 01 Section "References".
 - 1. American National Standards Institute (ANSI), A117.1: Accessible and Usable Buildings and Facilities, edition as adopted by local Authority Having Jurisdiction (AHJ).
 - 2. Builders Hardware Manufacturer's Association (BHMA)
 - a. ANSI/BHMA A156.2: Bored and Preamsembled Locks and Latches, 2011 edition
 - b. ANSI/BHMA A156.13: Mortise Locks and Latches, 2012 edition
 - c. ANSI/BHMA A156.3: Exit Devices, 2008 edition
 - d. ANSI/BHMA A156.4: Door Controls - Closers, 2008 edition
 - e. ANSI/BHMA A156.18: Materials and Finishes, 2006 edition
 - 3. Door and Hardware Institute (DHI)
 - a. Recommended Locations for Architectural Hardware for Flush Wood Doors, 1993 edition
 - b. Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames, 2004 edition
 - c. Installation Guide for Doors and Hardware, 1994 edition

- d. Keying Systems and Nomenclature, 2003 edition
- e. Sequence and Format for the Hardware Schedule, 2001 edition

1.4 SUBMITTALS

- A. Product Data: Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Samples for Verification: For exposed door hardware of each type, in specified finish, full size. Tag with full description for coordination with the door hardware sets. Submit Samples before, or concurrent with, submission of the final door hardware sets, if requested.
 - 1. Samples will be returned to Contractor. Units that are acceptable and remain undamaged through submittal, review, and field comparison process may, after final check of operation, be incorporated into the Work, within limitations of keying requirements.
- C. Qualification Data: For Installer
- D. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for locks, latches, and closers as requested.
- E. Maintenance Data: For each type of door hardware to include in maintenance manuals. Include final hardware and keying schedule.
- F. Warranty: Special warranty specified in this Section.
- G. Door Hardware Sets: Prepared by or under the supervision of Architectural Hardware Consultant, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final door hardware sets with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
 - 2. Content: Include the following information:
 - a. Identification number, location, hand, fire rating, and material of each door and frame.
 - b. Type, style, function, size, quantity, and finish of each door hardware item.
 - c. Complete designations of every item required for each door or opening including name and manufacturer.
 - d. Fastenings and other pertinent information.
 - e. Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - f. Explanation of abbreviations, symbols, and codes contained in schedule.
 - g. Mounting locations for door hardware.
 - h. Door and frame sizes and materials.
 - i. List of related door devices specified in other Sections for each door and frame.
 - 3. Submittal Sequence: Submit the final door hardware sets at earliest possible date, particularly where approval of the door hardware sets must precede fabrication of other work that is critical in Project construction schedule. Include Product Data, Samples,

Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the door hardware sets.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by lock manufacturer.
 - 1. Installer's responsibilities include supplying and installing door hardware and providing a qualified on staff Architectural Hardware Consultant available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.
 - 2. Installer shall have warehousing facilities in Project's vicinity.
 - 3. Scheduling Responsibility: Preparation of door hardware and keying schedules.
- B. Architectural Hardware Consultant Qualifications: A person who is currently certified by DHI as an Architectural Hardware Consultant and who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and who is an employee of the hardware supplier.
- C. Source Limitations: Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Tag each item or package separately with identification related to the final door hardware sets, and include basic installation instructions, templates, and necessary fasteners with each item or package.
- C. Deliver keys to Owner's Representative by registered mail or overnight package service.

1.7 COORDINATION

- A. Coordinate layout and installation of recessed hardware with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 03.
- B. Templates: Distribute door hardware templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- C. Coordinate with aluminum entrance door supplier for door hardware installation.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

- 1. Failures include, but are not limited to, the following:

- a. Structural failures including excessive deflection, cracking, or breakage.
- b. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.

- 2. Warranty Period: Three (3) years from date of Substantial Completion, except as follows:

- a. Grade 1 Cylindrical Locks: Ten (10) years from date of Substantial Completion.
- b. Mortise Locks: Five (5) years from date of Substantial Completion.
- c. Manual Closers: Thirty (30) years from date of Substantial Completion.
- d. Exit Devices: Three (3) years from date of Substantial Completion.

1.9 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.
- B. Maintenance Service: Beginning at Substantial Completion, provide six (6) months' full maintenance by skilled employees of door hardware Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door hardware operation. Provide parts and supplies same as those used in the manufacture and installation of original products.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- | | |
|---------------------------------|---|
| 1. Hinges: | Ives, McKinney |
| 2. Locks and Latches: | Schlage, Owner's Standard |
| 3. Cylinders and Cores: | Primus/Everest T FSIC, Owner's Standard |
| 4. Mechanical Door Closers: | LCN, Owner's Standard |
| 5. Exit Devices: | Von Duprin, Owner's Standard |
| 6. Accessories and Trim: | Ives, Rockwood, Trimco |
| 7. Saddle and Panic Thresholds: | Zero, National Guard, Pemko |
| 8. Weather Strip and Gasket: | Zero, National Guard, Pemko |
| 9. Miscellaneous Hardware: | Ives, Rockwood, Trimco |

2.2 SCHEDULED HARDWARE

- A. Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of finish hardware are indicated in the "Hardware Schedule" at the end of this Section. Products are identified by using hardware designation numbers of the following:
1. Manufacturer's Product Designations: The product designation and name of one manufacturer are listed for each hardware type required for the purpose of establishing minimum requirements. Provide either the product designated or, where more than one manufacturer is specified under the Article "Manufacturers" in Part 2 for each hardware type, the comparable product of one of the other manufacturers that complies with requirements.

2.3 MATERIALS AND FABRICATION

A. General

1. Manufacturer's Name Plate: Do not use manufacturers' products that have manufacturer's name or trade name displayed in a visible location (omit removable nameplates) except in conjunction with required fire-rated labels and as otherwise acceptable to Architect.
 - a. Manufacturer's identification will be permitted on rim of lock cylinders only.
2. Base Metals: Produce hardware units of basic metal and forming method indicated using manufacturer's standard metal alloy, composition, temper, and hardness, but in no case of lesser (commercially recognized) quality than specified for applicable hardware units for finish designations indicated.
3. Provide hardware manufactured to conform to published templates generally prepared for machine screw installation. Do not provide hardware that has been prepared for self-tapping sheet metal screws, except as specifically indicated.

B. Fasteners

1. Furnish screws for installation with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Furnish stainless steel (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including "prepared for paint" surfaces to receive painted finish.
2. Provide concealed fasteners for hardware units that are exposed when door is closed except to the extent no standard units of type specified are available with concealed fasteners. Use through bolts only as indicated in this section unless their use is the only means of reinforcing the work adequately to fasten the hardware securely. Where thru-bolts are used as a means of reinforcing the work, provide sleeves for each thru-bolt or use sex screw fasteners.

2.4 HINGES

A. Acceptable Products:

1. Ives: 5BB1
2. Hager: BB1279
3. Stanley: FBB179
4. McKinney: TB2714
5. Bommer: BB5000

B. Requirements:

1. Quantity: Provide the following, unless otherwise indicated:
 - a. Two Hinges: For doors with heights up to 60 inches.
 - b. Three Hinges: For doors with heights 61 to 90 inches.
2. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
3. Hinge Weight: As indicated in hardware sets.
4. Hinge Base Metal: Unless otherwise indicated, provide the following:
 - a. Exterior Hinges: Stainless steel with stainless-steel pin.
 - b. Interior Hinges: Steel with steel pin.
 - c. Hinges for Fire-Rated Assemblies: Steel with steel pin.
5. Hinge Options: Where indicated in door hardware sets or on Drawings:
 - a. Safety Stud: Designed for stud in one leaf to engage hole in opposing leaf.
 - b. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for out-swinging doors.
 - c. Corners: Square.
6. Fasteners: Comply with the following:
 - a. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.
 - b. Wood Screws: For wood doors and frames.
 - c. Threaded-to-the-Head Wood Screws: For fire-rated wood doors.

2.5 CONTINUOUS HINGES

A. Acceptable Products:

1. Ives: 700
2. Select: SL300

B. Requirements:

1. Pin and Barrel Continuous Hinges: Shall be a twin self-lubricated nylon bearing type with stainless steel pin. The door leaf and jamb leaf shall be fully mortised. Vertical door loads shall be carried on minimum 3/4" bearings through a full 180 degrees. The door leaf and jamb leaf shall have template screw hole locations for future replacement needs.

2.6 LOCKS AND LATCHES

A. General:

1. Lock Chassis: Shall be made from steel, with locking spindles of stainless steel.

2. Latch Bolt: Shall be constructed of stainless steel with 3/4 inch throw on mortise locks and 1/2 inch throw otherwise. Latch to be deadlocking on keyed functions.
3. Lever Trim: Shall be pressure cast brass, bronze, zinc, or steel with wrought rose design. Levers are to be solid with no voids or plastic inserts.
4. Fire Rating: Lock shall be listed for up to 3 hours.
5. Strike Plates: Provide ANSI 4-7/8 inch strike plates. At pairs of doors, provide strike with 7/8 inch flat lip. At single doors, provide round-lipped strike with lip length as required to minimally clear jamb and trim. Provide dust box at each strike location.

B. Grade 1 Bored Locks

1. Acceptable Products:
 - a. Schlage: ND Series, Rhodes Lever
 - b. Match existing facility standard
2. Provide cylindrical locks exceeding the ANSI/BHMA A156.2 Grade 1 performance standards for strength, security & durability in the categories below:
 - a. Abusive locked lever torque – minimum 3,100 inch-pounds without gaining access
 - b. Offset lever pull - minimum 1,600 foot pounds without gaining access Simulates pry-bar attacks
 - c. Vertical lever impact - minimum 100 impacts without gaining access Simulates sledgehammer-blows to trim, very aggressive abuse
 - d. Cycle life - minimum 16 million cycles Cycle life speaks to robustness of lock, ensuring operation after 10M cycles (BHMA requirement is 1M).
 - 1) With no visible lever sag Working after 15M cycles is not the same as working well. No droop and wobble means the lock still works like new after the test.
 - 2) Without the use of performance aids (i.e. set screws, spacers, etc.) Set screws and spacers are a poor fix for droop and wobble. Both add to installation complexity, and set screws can be tamper targets.
 - e. Door Prep: Provide lockset to install using a standard ANSI 161 door preparation.
 - f. Anti-Rotation Plate: Provide lockset with a mechanically interlocked anti-rotation plate. Anti-Rotation teeth or “bite tabs” are not acceptable. Locks without any rotation prevention devices are not acceptable.
 - g. Lever Return Springs: Provide each lever with two compression type return springs that are easily accessible without dismantling the lock chassis. Locks utilizing tension or torsion lever return springs are unacceptable. Locks with internal springs that require dismantling the lock chassis are unacceptable.
 - h. Lever Spindles: Provide lock with either milled or 1-piece deep drawn spindles. 2-piece interlocking stamped spindles are not acceptable.
 - i. Multi-Functionality: Provide modular lockset with capability to convert to a new lock function by changing key cams.
 - j. Vandal Resistant Lever: Where scheduled, provide lockset with lever that freely rotates even when locked to resist vandalism and abuse.

C. Mortise Locks

1. Acceptable Products:
 - a. Schlage: L Series, 06A Trim Design

- b. Match existing facility standard
2. Requirements:
- a. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1 Operational, Grade 1 Security, and manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance. Provide lock case that is multi-function and field reversible for handing without opening case.
 - b. Where specified, provide indicator window measuring a minimum 2 inch x 1/2 inch with 180 degree visibility. Provide messages color-coded with full text and/or symbols, as scheduled, for easy visibility.
 - 1) Occupied Indicator: Provide indicator above cylinder for visibility while operating the lock that identifies the trim as occupied/unoccupied status of the door. Indicator in unoccupied state has a white background with black text and icon. Indicator in the occupied state has a red background with white text and icon.
 - c. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1 inch (25 mm) throw, constructed of stainless steel.
 - d. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
3. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
- a. Deadbolt: Shall be constructed of stainless steel and include security roller pins. Shall have a minimum 1 inch throw.
 - b. Spring Cages: Lock shall have individual external spring cages for each lever.
 - c. Lever Spindles: Provide lockset with independent, breakaway type lever spindles. Spindles that are continuous through the lock case are not acceptable.
 - d. Hub Blocking: Provide lockset with a hub blocking plate to resist unauthorized entry.
 - e. Vandal Resistant Lever: Where scheduled, provide lockset with lever that freely rotates even when locked to resist vandalism and abuse.
 - f. Thumbturns: Provide thumbturns as enlarged, ADA designated style thumbturns.
 - g. Visual Indicator: Where scheduled, provide visual indicator showing “Vacant” or “Occupied”.

2.7 CYLINDERS AND CORES

A. Acceptable Products:

- 1. Primus/Everst T
- 2. New facility standard

B. Requirements:

1. Full Size Interchangeable Cylinders: Provide cylinders of quantity and type and with the appropriate cam/tailpiece to be compatible with the locking hardware provided. Provide cylinder housings ready to accept 6-pin, Full-Size Interchangeable Cores (FSIC).
 - a. Temporary Construction Keying: Provide each cylinder housing and/or lock lever with keyed construction core during the construction period. Cores will remain property of the contractor and will be returned upon installation of owner’s permanent key system.
 - b. Permanent Cores: Provide 1 bitted cores that are utility patented until at least 2029. Ship cores directly to owner’s representative. At substantial completion, accompany the owner’s representative while replacing temporary construction cores with the owner’s permanent key system.

2. Keys: Provide cylinder manufacturer’s standard keys. Keys shall be shipped separate from cores directly to owner’s representative. For estimating purposes, provide keys in the following quantities:

a.	Construction Control Keys:	2	each
b.	Construction Change Keys:	12	each
c.	Permanent Control Keys:	2	each
d.	Split Key Voiding Keys:	2	each
e.	Permanent Master Keys:	2	each
f.	Permanent Change Keys:	4	per core

2.8 MECHANICAL DOOR CLOSERS

A. General:

1. Valves: Closers shall have separate valves for latch speed, main speed, and back check. Valves shall be staked to prevent accidental removal. Provide the appropriate closer body, handing, and brackets to mount closer inside the building on the least-public side of the door.
 - a. Where closers are to be mounted parallel arm, provide with heavy duty, fully forged arms.
 - b. Where closers are to be mounted regular arm and the opening can otherwise be opened to 180 degrees, provide closer with the appropriate special templating to allow 180 degree door swing. Where a special template is not available for 180 degree swing, provide closer arm with integrated stop.

2. Integrated Stop Closer Arms: Where a closer with integrated stop is required, provide the appropriate closer and arm as follows:
 - a. Parallel arm with spring-cushioned stop arm: Provide where door is otherwise able to open to 95 degrees and requires a parallel arm mount closer.
 - b. Parallel arm with dead stop arm: Provide where door is obstructed from opening to 95 degrees and requires a parallel arm mount closer.
 - c. Regular arm with push side surface-mounted overhead stop: Provide where door closer should mount on pull side of door.

3. Hold Open Arms: Provide closer arms with mechanical hold-opens as scheduled.

4. Provide closers with any special templates, brackets, plates, or other accessories required for interface with header, door, wall, and other hardware. Provide closers with screw packs containing thru-bolts, machine screws, and wood screws.
5. Closers shall be provided with all-weather fluid and shall not require readjustment from 120 degrees F to -30 degrees F. Fluid shall be non-flaming and shall not fuel door or floor covering fires. Upon request, provide data indicating thermal properties of fluid.
6. Closers shall close and latch door when adjusted to meet accessibility requirements for door opening force: 8.5 lbs at exterior doors, 5 lbs at interior doors, and 15 lbs at labeled fire doors.

B. Heavy Duty Door Closers:

1. Acceptable Products:

- a. LCN: 4040XP 4111/4050
- b. Match existing facility standard

2. Requirements:

- a. ANSI Grade: BHMA/ANSI A156.4, Grade 1.
- b. Closer Construction: Closer shall have cast iron or aluminum alloy body with 1-1/2 inch steel piston, double heat treated pinion, 5/8 inch bearing journals, and full complement needle or caged ball bearings. Closer shall be adjustable from sizes 1 through 6.
- c. Provide closers with spring size adjustment dial for ease of adjusting.

2.9 EXIT DEVICES

A. Acceptable Products:

1. Von Duprin: 98 Series
2. Match existing facility standard

B. Requirements:

1. ANSI Grade: BHMA/ANSI A156.3, Grade 1.
2. Device Construction:
 - a. Exit device(s) shall have a mechanism case constructed of extruded aluminum. Base plates constructed of cast steel. Push pad of extruded aluminum with stainless steel covering. End caps with flush mounted, sloped design. At full-glass doors, provide exit devices with no exposed fasteners or rivets visible through glass. Where required by stile width, provide narrow-stile type device.
 - b. Latchbolt: Provide Pullman-type deadlocking latch bolts constructed of stainless steel. Where specified provide high security Pullman-type latchbolt that collapses to be square faced under high pull forces. Latch return springs shall be compression type. Tension and Torsion latch return springs are not acceptable.
 - c. Dogging Mechanism: where dogging or latch-retraction options are not specifically scheduled for non-fire rated doors, provide device with a hex-key activated hook-type dogging mechanism constructed of steel.

- d. Plastic or nylon used for the push pad, or parts in the dogging mechanism or latchbolt mechanism are unacceptable.
 - e. Sound Dampening: Device shall be provided with factory-installed sound dampening materials.
 - f. Provide device type, function, and trim style as indicated in hardware schedules.
3. Where exit device(s) are provided for fire rated door, provide with fire listing and label indicating “Fire Exit Hardware”. If device is mounted on wood doors, provide sex nuts and bolts.
 4. Provide shim kits, filler plates, and other accessories as required for each opening.
 5. Unless otherwise indicated in the sets, provide device with roller-type strike.
 6. Where scheduled, provide removable mullions by same manufacturer as provided exit devices. Provide mullion stabilizers, key removable option, strike preps, and fire rating as indicated in sets.

2.10 ARCHITECTURAL DOOR TRIM

A. Protection Plates and Edge Guards

1. Acceptable Products:
 - a. Ives: 8400 Series
 - b. Rockwood: K1050
 - c. Hager: 194S
 - d. Trimco: K Series
2. Requirements:
 - a. Provide .050 inch thick stainless steel protection plates with height as scheduled. Plate shall have four beveled edges and countersunk screws. Provide plate with width as follows:
 - 1) Single Doors: Provide plate to be 2 inches less door width on push side, pull side mounted plates to be 1 inch less door width.

B. Door Stops and Holders

1. Acceptable Products:
 - a. Ives: FS18S
 - b. Rockwood: 466
 - c. Hager: 269F
 - d. Trimco: 1209
2. Requirements:
 - a. Provide stops and holders as indicated in the hardware sets.
 - b. Where wall bumpers are scheduled for exterior doors, provide FS18S floor stop(s) to be mounted on wall.

2.11 OVERHEAD STOPS AND HOLDERS

A. Acceptable Products:

- | | | | |
|----|------------------|-------------|-------------|
| 1. | Glynn Johnson: | 100 Series | 90 Series |
| 2. | Rixson-Firemark: | 6 Series | 9 Series |
| 3. | ABH: | 1000 Series | 9000 Series |

B. Requirements:

1. Provide overhead stops and holders as scheduled, sized per manufacturer’s recommendations based on door width.
2. Provide concealed overhead stops with adjustable jamb bracket.
3. Where possible without conflicting with other hardware, mount surface overhead stops on least public side of door.
4. Provide stops with any special templates, brackets, plates, or other accessories required for interface with header, door, wall, and other hardware.

2.12 SADDLE AND PANIC THRESHOLDS

A. Acceptable Products:

- | | | |
|----|---------------------|-------|
| 1. | Zero International: | 655A |
| 2. | National Guard: | 425HD |
| 3. | Pemko: | 1715A |

B. Requirements:

1. Saddle thresholds: Provide with length equal to the width of the opening.
2. Provide stainless steel machine screws and lead anchors for each threshold.

2.13 WEATHERSTRIP AND GASKET

A. General:

1. Provide weather strip and gasketing as scheduled.
2. Size weather strip and gasket to provide a continuous seal around opening and at meeting stiles.

B. Perimeter Seals

1. Acceptable Products:

- | | | | |
|----|-----------------|--------|---------|
| a. | Zero: | 429A | 488S-BK |
| b. | National Guard: | 700SA | 2525B |
| c. | Pemko: | 2891AS | PK33D |

C. Door Bottoms

1. Acceptable Products:

- | | | |
|----|-----------------|-------|
| a. | Zero: | 39A |
| b. | National Guard: | C627A |

- c. Pemko: 3452CNB

2.14 MISCELLANEOUS HARDWARE

A. Silencers

1. Acceptable Products:

- | | | |
|----|-----------|-------|
| a. | Ives: | SR64 |
| b. | Rockwood: | 608 |
| c. | Trimco: | 1229A |

2. Requirements:

- a. Where indicated on single openings, provide 3 each rubber silencers on lock jamb.

2.15 HIGH SECURITY EMERGENCY KEY BOX

A. Acceptable Products:

1. Knox, Inc. 3200 Series x RMK

B. Requirements:

1. Provide recess-mounted emergency key box as approved by the local fire jurisdiction. Key box to be master-keyed as dictated by local fire jurisdiction.

2.16 KEY CONTROL CABINET

A. Acceptable Products:

1. Lund, Inc. 1200 Series

B. Requirements:

1. Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet.
2. Provide complete cross-index system set up by Owner, and place keys on markers and hooks in the cabinet as determined by the final key schedule.
3. Provide hinged-panel type cabinet for wall mounting with capacity for 250 unique keys.

2.17 FINISHES

- A. Match items to the manufacturer's standard color and texture finish for the latch and locksets (or push-pull units if no latch or locksets).
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.

- C. The designations used in schedules and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18, "Materials and Finishes," including coordination with the traditional U.S. finishes shown by certain manufacturers for their products.
- D. The designations used in schedules and elsewhere to indicate hardware finishes are the industry-recognized standard commercial finishes, except as otherwise noted.
 - 1. Brushed Chrome and/or Stainless Steel Appearance
 - a. Brushed Stainless Steel, no coating: ANSI 630.
 - b. Satin Chrome, Clear Coated: ANSI 626, ANSI 652.
 - c. Powder Coated Aluminum finish: ANSI 689.
 - d. Saddle and Panic Thresholds: Mill Aluminum finish.
 - e. Weatherstrip and Gasket: Clear Anodized Aluminum finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: Comply with DHI A115 Series.
 - 1. Surface-Applied Door Hardware: Drill and tap doors and frames according to ANSI A250.6.
- B. Wood Doors: Comply with DHI A115-W Series.

3.3 INSTALLATION

- A. Pre-installation conference shall be conducted prior to installation of hardware at Project site. Meet with the, Owner, Contractor, installer, and manufacturer's representatives. A separate pre-installation conference shall be conducted prior to the installation of electronic security hardware with the electrical contractor Review catalogs, brochures, templates, installation instructions, and the approved hardware schedule. Survey installation procedures and workmanship, with special emphasis on unusual conditions, as to ensure correct technique of installation, and coordination with other work. Notify participants at least ten, 10 working days before conference.

- B. Hardware Installers must have a minimum of five (5) years' experience in installation of hardware. Provide verification of installer's qualification to Consultant for approval. All installers to attend review meetings with the hardware distributor.
- C. Install hardware using only manufacturer supplied and approved fasteners in strict adherence with manufacturers published installation instructions.
- D. Install head seal prior to installation of "PA"-parallel arm mounted door closers and push side mounted door stops/holders. Trim, cut and notch thresholds and saddles neatly to minimally fit the profile of the door frame. Install thresholds and saddles in a bed of caulking completely sealing the underside from water and air penetration.
- E. Counter sink through bolt of door pull under push plate during installation.
- F. Mounting Heights: Mount door hardware units at heights indicated, as follows, unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 - 2. Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."
 - 3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- G. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
 - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- H. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

3.4 FIELD QUALITY CONTROL

- A. Architectural Hardware Consultant: Architect shall engage a qualified Architectural Hardware Consultant to perform inspections and to prepare inspection reports.
- B. Architectural Hardware Consultant shall inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 - 1. Door Closers: Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.
- B. Occupancy Adjustment: Approximately six months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust, including adjusting operating forces, each item of door hardware as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.6 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.7 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Division 01 Section "Demonstration and Training."

3.8 DOOR HARDWARE SETS

- A. The following schedule of hardware sets shall be considered a guide and the supplier is cautioned to refer to general conditions, special conditions, and the full requirements of this section. It shall be the hardware supplier's responsibility to furnish all required hardware.
- B. Where items of hardware are not definitely or correctly specified and are required for completion of the Work, a written statement of such omission, error, conflict, or other discrepancy shall be sent to the Architect, prior to date specified for receipt of bids, for clarification by addendum.
- C. Adjustments to the Contract Sum will not be allowed for omissions or items of hardware not clarified prior to bid opening.

HW SET: 01

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

101A

1	EA	CONT. HINGE	700	630	IVE
1	EA	FIRE EXIT HARDWARE	98-L-F-06	626	VON
1	EA	PRIMUS RIM CYLINDER	20-757 EV29 T	626	SCH
1	EA	SURFACE CLOSER	4111 AVB SCUSH MC SRI TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A-223	A	ZER

HW SET: 02

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

201A	201B	301A	301B	401A	401B
501A	501B	601A	601B	701A	701B

1	EA	CONT. HINGE	700	630	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	SURFACE CLOSER	4050 SCUSH MC TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	429AA-S	AA	ZER

HW SET: 03

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

108

1	EA	CONT. HINGE	700	630	IVE
1	EA	VANDL STOREROOM LOCK	ND96RD RHO EV T	626	SCH
1	EA	OH STOP	90S J	630	GLY
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A-223	A	ZER

HW SET: 04

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

109

1	EA	HINGE	5BB1 4.5 X 4.5	630	IVE
1	EA	PRIVACY LOCK	ND40S RHO	626	SCH
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	COAT AND HAT HOOK	507	626	IVE

SECTION 08 71 00.2 - DOOR HARDWARE – 9TH & MAIN GARAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Commercial door hardware for the following:
 - a. Swinging doors.
- B. Related Sections include the following:
 - 1. Division 08 Section "Hollow Metal Doors and Frames"
 - 2. Division 08 Section "Aluminum-Framed Entrances and Storefronts"
- C. Products furnished, but not installed, under this Section include the following. Coordinating, purchasing, delivering, and scheduling remain requirements of this Section.

1.3 REFERENCED STANDARDS

- A. Provide hardware in accordance with the following standards in addition to those specified in Division 01 Section "References".
 - 1. American National Standards Institute (ANSI), A117.1: Accessible and Usable Buildings and Facilities, edition as adopted by local Authority Having Jurisdiction (AHJ).
 - 2. Builders Hardware Manufacturer's Association (BHMA)
 - a. ANSI/BHMA A156.2: Bored and Preamsembled Locks and Latches, 2011 edition
 - b. ANSI/BHMA A156.13: Mortise Locks and Latches, 2012 edition
 - c. ANSI/BHMA A156.3: Exit Devices, 2008 edition
 - d. ANSI/BHMA A156.4: Door Controls - Closers, 2008 edition
 - e. ANSI/BHMA A156.18: Materials and Finishes, 2006 edition
 - 3. Door and Hardware Institute (DHI)
 - a. Recommended Locations for Architectural Hardware for Flush Wood Doors, 1993 edition
 - b. Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames, 2004 edition
 - c. Installation Guide for Doors and Hardware, 1994 edition

- d. Keying Systems and Nomenclature, 2003 edition
- e. Sequence and Format for the Hardware Schedule, 2001 edition

1.4 SUBMITTALS

- A. Product Data: Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Samples for Verification: For exposed door hardware of each type, in specified finish, full size. Tag with full description for coordination with the door hardware sets. Submit Samples before, or concurrent with, submission of the final door hardware sets, if requested.
 - 1. Samples will be returned to Contractor. Units that are acceptable and remain undamaged through submittal, review, and field comparison process may, after final check of operation, be incorporated into the Work, within limitations of keying requirements.
- C. Qualification Data: For Installer
- D. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for locks, latches, and closers as requested.
- E. Maintenance Data: For each type of door hardware to include in maintenance manuals. Include final hardware and keying schedule.
- F. Warranty: Special warranty specified in this Section.
- G. Door Hardware Sets: Prepared by or under the supervision of Architectural Hardware Consultant, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final door hardware sets with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
 - 2. Content: Include the following information:
 - a. Identification number, location, hand, fire rating, and material of each door and frame.
 - b. Type, style, function, size, quantity, and finish of each door hardware item.
 - c. Complete designations of every item required for each door or opening including name and manufacturer.
 - d. Fastenings and other pertinent information.
 - e. Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - f. Explanation of abbreviations, symbols, and codes contained in schedule.
 - g. Mounting locations for door hardware.
 - h. Door and frame sizes and materials.
 - i. List of related door devices specified in other Sections for each door and frame.
 - 3. Submittal Sequence: Submit the final door hardware sets at earliest possible date, particularly where approval of the door hardware sets must precede fabrication of other work that is critical in Project construction schedule. Include Product Data, Samples,

Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the door hardware sets.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by lock manufacturer.
 - 1. Installer's responsibilities include supplying and installing door hardware and providing a qualified on staff Architectural Hardware Consultant available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.
 - 2. Installer shall have warehousing facilities in Project's vicinity.
 - 3. Scheduling Responsibility: Preparation of door hardware and keying schedules.
- B. Architectural Hardware Consultant Qualifications: A person who is currently certified by DHI as an Architectural Hardware Consultant and who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and who is an employee of the hardware supplier.
- C. Source Limitations: Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Tag each item or package separately with identification related to the final door hardware sets, and include basic installation instructions, templates, and necessary fasteners with each item or package.
- C. Deliver keys to Owner's Representative by registered mail or overnight package service.

1.7 COORDINATION

- A. Coordinate layout and installation of recessed hardware with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 03.
- B. Templates: Distribute door hardware templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- C. Coordinate with aluminum entrance door supplier for door hardware installation.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

- 1. Failures include, but are not limited to, the following:

- a. Structural failures including excessive deflection, cracking, or breakage.
- b. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.

- 2. Warranty Period: Three (3) years from date of Substantial Completion, except as follows:

- a. Grade 1 Cylindrical Locks: Ten (10) years from date of Substantial Completion.
- b. Mortise Locks: Five (5) years from date of Substantial Completion.
- c. Manual Closers: Thirty (30) years from date of Substantial Completion.
- d. Exit Devices: Three (3) years from date of Substantial Completion.

1.9 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.
- B. Maintenance Service: Beginning at Substantial Completion, provide six (6) months' full maintenance by skilled employees of door hardware Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door hardware operation. Provide parts and supplies same as those used in the manufacture and installation of original products.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- | | |
|---------------------------------|---|
| 1. Hinges: | Ives, McKinney |
| 2. Locks and Latches: | Schlage, Owner's Standard |
| 3. Cylinders and Cores: | Primus/Everest T FSIC, Owner's Standard |
| 4. Mechanical Door Closers: | LCN, Owner's Standard |
| 5. Exit Devices: | Von Duprin, Owner's Standard |
| 6. Accessories and Trim: | Ives, Rockwood, Trimco |
| 7. Saddle and Panic Thresholds: | Zero, National Guard, Pemko |
| 8. Weather Strip and Gasket: | Zero, National Guard, Pemko |
| 9. Miscellaneous Hardware: | Ives, Rockwood, Trimco |

2.2 SCHEDULED HARDWARE

- A. Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of finish hardware are indicated in the "Hardware Schedule" at the end of this Section. Products are identified by using hardware designation numbers of the following:
1. Manufacturer's Product Designations: The product designation and name of one manufacturer are listed for each hardware type required for the purpose of establishing minimum requirements. Provide either the product designated or, where more than one manufacturer is specified under the Article "Manufacturers" in Part 2 for each hardware type, the comparable product of one of the other manufacturers that complies with requirements.

2.3 MATERIALS AND FABRICATION

A. General

1. Manufacturer's Name Plate: Do not use manufacturers' products that have manufacturer's name or trade name displayed in a visible location (omit removable nameplates) except in conjunction with required fire-rated labels and as otherwise acceptable to Architect.
 - a. Manufacturer's identification will be permitted on rim of lock cylinders only.
2. Base Metals: Produce hardware units of basic metal and forming method indicated using manufacturer's standard metal alloy, composition, temper, and hardness, but in no case of lesser (commercially recognized) quality than specified for applicable hardware units for finish designations indicated.
3. Provide hardware manufactured to conform to published templates generally prepared for machine screw installation. Do not provide hardware that has been prepared for self-tapping sheet metal screws, except as specifically indicated.

B. Fasteners

1. Furnish screws for installation with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Furnish stainless steel (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including "prepared for paint" surfaces to receive painted finish.
2. Provide concealed fasteners for hardware units that are exposed when door is closed except to the extent no standard units of type specified are available with concealed fasteners. Use through bolts only as indicated in this section unless their use is the only means of reinforcing the work adequately to fasten the hardware securely. Where thru-bolts are used as a means of reinforcing the work, provide sleeves for each thru-bolt or use sex screw fasteners.

2.4 HINGES

A. Acceptable Products:

1. Ives: 5BB1
2. Hager: BB1279
3. Stanley: FBB179
4. McKinney: TB2714
5. Bommer: BB5000

B. Requirements:

1. Quantity: Provide the following, unless otherwise indicated:
 - a. Two Hinges: For doors with heights up to 60 inches.
 - b. Three Hinges: For doors with heights 61 to 90 inches.
2. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
3. Hinge Weight: As indicated in hardware sets.
4. Hinge Base Metal: Unless otherwise indicated, provide the following:
 - a. Exterior Hinges: Stainless steel with stainless-steel pin.
 - b. Interior Hinges: Steel with steel pin.
 - c. Hinges for Fire-Rated Assemblies: Steel with steel pin.
5. Hinge Options: Where indicated in door hardware sets or on Drawings:
 - a. Safety Stud: Designed for stud in one leaf to engage hole in opposing leaf.
 - b. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for out-swinging doors.
 - c. Corners: Square.
6. Fasteners: Comply with the following:
 - a. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.
 - b. Wood Screws: For wood doors and frames.
 - c. Threaded-to-the-Head Wood Screws: For fire-rated wood doors.

2.5 CONTINUOUS HINGES

A. Acceptable Products:

1. Ives: 700
2. Select: SL300

B. Requirements:

1. Pin and Barrel Continuous Hinges: Shall be a twin self-lubricated nylon bearing type with stainless steel pin. The door leaf and jamb leaf shall be fully mortised. Vertical door loads shall be carried on minimum 3/4" bearings through a full 180 degrees. The door leaf and jamb leaf shall have template screw hole locations for future replacement needs.

2.6 LOCKS AND LATCHES

A. General:

1. Lock Chassis: Shall be made from steel, with locking spindles of stainless steel.

2. Latch Bolt: Shall be constructed of stainless steel with 3/4 inch throw on mortise locks and 1/2 inch throw otherwise. Latch to be deadlocking on keyed functions.
3. Lever Trim: Shall be pressure cast brass, bronze, zinc, or steel with wrought rose design. Levers are to be solid with no voids or plastic inserts.
4. Fire Rating: Lock shall be listed for up to 3 hours.
5. Strike Plates: Provide ANSI 4-7/8 inch strike plates. At pairs of doors, provide strike with 7/8 inch flat lip. At single doors, provide round-lipped strike with lip length as required to minimally clear jamb and trim. Provide dust box at each strike location.

B. Grade 1 Bored Locks

1. Acceptable Products:
 - a. Schlage: ND Series, Rhodes Lever
 - b. Match existing facility standard
2. Provide cylindrical locks exceeding the ANSI/BHMA A156.2 Grade 1 performance standards for strength, security & durability in the categories below:
 - a. Abusive locked lever torque – minimum 3,100 inch-pounds without gaining access
 - b. Offset lever pull - minimum 1,600 foot pounds without gaining access Simulates pry-bar attacks
 - c. Vertical lever impact - minimum 100 impacts without gaining access Simulates sledgehammer-blows to trim, very aggressive abuse
 - d. Cycle life - minimum 16 million cycles Cycle life speaks to robustness of lock, ensuring operation after 10M cycles (BHMA requirement is 1M).
 - 1) With no visible lever sag Working after 15M cycles is not the same as working well. No droop and wobble means the lock still works like new after the test.
 - 2) Without the use of performance aids (i.e. set screws, spacers, etc.) Set screws and spacers are a poor fix for droop and wobble. Both add to installation complexity, and set screws can be tamper targets.
 - e. Door Prep: Provide lockset to install using a standard ANSI 161 door preparation.
 - f. Anti-Rotation Plate: Provide lockset with a mechanically interlocked anti-rotation plate. Anti-Rotation teeth or “bite tabs” are not acceptable. Locks without any rotation prevention devices are not acceptable.
 - g. Lever Return Springs: Provide each lever with two compression type return springs that are easily accessible without dismantling the lock chassis. Locks utilizing tension or torsion lever return springs are unacceptable. Locks with internal springs that require dismantling the lock chassis are unacceptable.
 - h. Lever Spindles: Provide lock with either milled or 1-piece deep drawn spindles. 2-piece interlocking stamped spindles are not acceptable.
 - i. Multi-Functionality: Provide modular lockset with capability to convert to a new lock function by changing key cams.
 - j. Vandal Resistant Lever: Where scheduled, provide lockset with lever that freely rotates even when locked to resist vandalism and abuse.

C. Mortise Locks

1. Acceptable Products:
 - a. Schlage: L Series, 06A Trim Design

- b. Match existing facility standard
2. Requirements:
- a. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1 Operational, Grade 1 Security, and manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance. Provide lock case that is multi-function and field reversible for handing without opening case.
 - b. Where specified, provide indicator window measuring a minimum 2 inch x 1/2 inch with 180 degree visibility. Provide messages color-coded with full text and/or symbols, as scheduled, for easy visibility.
 - 1) Occupied Indicator: Provide indicator above cylinder for visibility while operating the lock that identifies the trim as occupied/unoccupied status of the door. Indicator in unoccupied state has a white background with black text and icon. Indicator in the occupied state has a red background with white text and icon.
 - c. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1 inch (25 mm) throw, constructed of stainless steel.
 - d. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
3. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
- a. Deadbolt: Shall be constructed of stainless steel and include security roller pins. Shall have a minimum 1 inch throw.
 - b. Spring Cages: Lock shall have individual external spring cages for each lever.
 - c. Lever Spindles: Provide lockset with independent, breakaway type lever spindles. Spindles that are continuous through the lock case are not acceptable.
 - d. Hub Blocking: Provide lockset with a hub blocking plate to resist unauthorized entry.
 - e. Vandal Resistant Lever: Where scheduled, provide lockset with lever that freely rotates even when locked to resist vandalism and abuse.
 - f. Thumbturns: Provide thumbturns as enlarged, ADA designated style thumbturns.
 - g. Visual Indicator: Where scheduled, provide visual indicator showing “Vacant” or “Occupied”.

2.7 CYLINDERS AND CORES

A. Acceptable Products:

- 1. Primus/Everst T
- 2. New facility standard

B. Requirements:

1. Full Size Interchangeable Cylinders: Provide cylinders of quantity and type and with the appropriate cam/tailpiece to be compatible with the locking hardware provided. Provide cylinder housings ready to accept 6-pin, Full-Size Interchangeable Cores (FSIC).
 - a. Temporary Construction Keying: Provide each cylinder housing and/or lock lever with keyed construction core during the construction period. Cores will remain property of the contractor and will be returned upon installation of owner’s permanent key system.
 - b. Permanent Cores: Provide 1 bitted cores that are utility patented until at least 2029. Ship cores directly to owner’s representative. At substantial completion, accompany the owner’s representative while replacing temporary construction cores with the owner’s permanent key system.

2. Keys: Provide cylinder manufacturer’s standard keys. Keys shall be shipped separate from cores directly to owner’s representative. For estimating purposes, provide keys in the following quantities:

a.	Construction Control Keys:	2	each
b.	Construction Change Keys:	12	each
c.	Permanent Control Keys:	2	each
d.	Split Key Voiding Keys:	2	each
e.	Permanent Master Keys:	2	each
f.	Permanent Change Keys:	4	per core

2.8 MECHANICAL DOOR CLOSERS

A. General:

1. Valves: Closers shall have separate valves for latch speed, main speed, and back check. Valves shall be staked to prevent accidental removal. Provide the appropriate closer body, handing, and brackets to mount closer inside the building on the least-public side of the door.
 - a. Where closers are to be mounted parallel arm, provide with heavy duty, fully forged arms.
 - b. Where closers are to be mounted regular arm and the opening can otherwise be opened to 180 degrees, provide closer with the appropriate special templating to allow 180 degree door swing. Where a special template is not available for 180 degree swing, provide closer arm with integrated stop.

2. Integrated Stop Closer Arms: Where a closer with integrated stop is required, provide the appropriate closer and arm as follows:
 - a. Parallel arm with spring-cushioned stop arm: Provide where door is otherwise able to open to 95 degrees and requires a parallel arm mount closer.
 - b. Parallel arm with dead stop arm: Provide where door is obstructed from opening to 95 degrees and requires a parallel arm mount closer.
 - c. Regular arm with push side surface-mounted overhead stop: Provide where door closer should mount on pull side of door.

3. Hold Open Arms: Provide closer arms with mechanical hold-opens as scheduled.

4. Provide closers with any special templates, brackets, plates, or other accessories required for interface with header, door, wall, and other hardware. Provide closers with screw packs containing thru-bolts, machine screws, and wood screws.
5. Closers shall be provided with all-weather fluid and shall not require readjustment from 120 degrees F to -30 degrees F. Fluid shall be non-flaming and shall not fuel door or floor covering fires. Upon request, provide data indicating thermal properties of fluid.
6. Closers shall close and latch door when adjusted to meet accessibility requirements for door opening force: 8.5 lbs at exterior doors, 5 lbs at interior doors, and 15 lbs at labeled fire doors.

B. Heavy Duty Door Closers:

1. Acceptable Products:

- a. LCN: 4040XP 4111/4050
- b. Match existing facility standard

2. Requirements:

- a. ANSI Grade: BHMA/ANSI A156.4, Grade 1.
- b. Closer Construction: Closer shall have cast iron or aluminum alloy body with 1-1/2 inch steel piston, double heat treated pinion, 5/8 inch bearing journals, and full complement needle or caged ball bearings. Closer shall be adjustable from sizes 1 through 6.
- c. Provide closers with spring size adjustment dial for ease of adjusting.

2.9 EXIT DEVICES

A. Acceptable Products:

1. Von Duprin: 98 Series
2. Match existing facility standard

B. Requirements:

1. ANSI Grade: BHMA/ANSI A156.3, Grade 1.
2. Device Construction:
 - a. Exit device(s) shall have a mechanism case constructed of extruded aluminum. Base plates constructed of cast steel. Push pad of extruded aluminum with stainless steel covering. End caps with flush mounted, sloped design. At full-glass doors, provide exit devices with no exposed fasteners or rivets visible through glass. Where required by stile width, provide narrow-stile type device.
 - b. Latchbolt: Provide Pullman-type deadlocking latch bolts constructed of stainless steel. Where specified provide high security Pullman-type latchbolt that collapses to be square faced under high pull forces. Latch return springs shall be compression type. Tension and Torsion latch return springs are not acceptable.
 - c. Dogging Mechanism: where dogging or latch-retraction options are not specifically scheduled for non-fire rated doors, provide device with a hex-key activated hook-type dogging mechanism constructed of steel.

- d. Plastic or nylon used for the push pad, or parts in the dogging mechanism or latchbolt mechanism are unacceptable.
 - e. Sound Dampening: Device shall be provided with factory-installed sound dampening materials.
 - f. Provide device type, function, and trim style as indicated in hardware schedules.
3. Where exit device(s) are provided for fire rated door, provide with fire listing and label indicating “Fire Exit Hardware”. If device is mounted on wood doors, provide sex nuts and bolts.
 4. Provide shim kits, filler plates, and other accessories as required for each opening.
 5. Unless otherwise indicated in the sets, provide device with roller-type strike.
 6. Where scheduled, provide removable mullions by same manufacturer as provided exit devices. Provide mullion stabilizers, key removable option, strike preps, and fire rating as indicated in sets.

2.10 ARCHITECTURAL DOOR TRIM

A. Protection Plates and Edge Guards

1. Acceptable Products:

- a. Ives: 8400 Series
- b. Rockwood: K1050
- c. Hager: 194S
- d. Trimco: K Series

2. Requirements:

- a. Provide .050 inch thick stainless steel protection plates with height as scheduled. Plate shall have four beveled edges and countersunk screws. Provide plate with width as follows:
 - 1) Single Doors: Provide plate to be 2 inches less door width on push side, pull side mounted plates to be 1 inch less door width.

B. Door Stops and Holders

1. Acceptable Products:

- a. Ives: FS18S
- b. Rockwood: 466
- c. Hager: 269F
- d. Trimco: 1209

2. Requirements:

- a. Provide stops and holders as indicated in the hardware sets.
- b. Where wall bumpers are scheduled for exterior doors, provide FS18S floor stop(s) to be mounted on wall.

2.11 OVERHEAD STOPS AND HOLDERS

A. Acceptable Products:

- | | | | |
|----|------------------|-------------|-------------|
| 1. | Glynn Johnson: | 100 Series | 90 Series |
| 2. | Rixson-Firemark: | 6 Series | 9 Series |
| 3. | ABH: | 1000 Series | 9000 Series |

B. Requirements:

1. Provide overhead stops and holders as scheduled, sized per manufacturer’s recommendations based on door width.
2. Provide concealed overhead stops with adjustable jamb bracket.
3. Where possible without conflicting with other hardware, mount surface overhead stops on least public side of door.
4. Provide stops with any special templates, brackets, plates, or other accessories required for interface with header, door, wall, and other hardware.

2.12 SADDLE AND PANIC THRESHOLDS

A. Acceptable Products:

- | | | |
|----|---------------------|-------|
| 1. | Zero International: | 655A |
| 2. | National Guard: | 425HD |
| 3. | Pemko: | 1715A |

B. Requirements:

1. Saddle thresholds: Provide with length equal to the width of the opening.
2. Provide stainless steel machine screws and lead anchors for each threshold.

2.13 WEATHERSTRIP AND GASKET

A. General:

1. Provide weather strip and gasketing as scheduled.
2. Size weather strip and gasket to provide a continuous seal around opening and at meeting stiles.

B. Perimeter Seals

1. Acceptable Products:

- | | | | |
|----|-----------------|--------|---------|
| a. | Zero: | 429A | 488S-BK |
| b. | National Guard: | 700SA | 2525B |
| c. | Pemko: | 2891AS | PK33D |

C. Door Bottoms

1. Acceptable Products:

- | | | |
|----|-----------------|-------|
| a. | Zero: | 39A |
| b. | National Guard: | C627A |

- c. Pemko: 3452CNB

2.14 MISCELLANEOUS HARDWARE

A. Silencers

1. Acceptable Products:

- a. Ives: SR64
- b. Rockwood: 608
- c. Trimco: 1229A

2. Requirements:

- a. Where indicated on single openings, provide 3 each rubber silencers on lock jamb.

2.15 HIGH SECURITY EMERGENCY KEY BOX

A. Acceptable Products:

- 1. Knox, Inc. 3200 Series x RMK

B. Requirements:

- 1. Provide recess-mounted emergency key box as approved by the local fire jurisdiction. Key box to be master-keyed as dictated by local fire jurisdiction.

2.16 KEY CONTROL CABINET

A. Acceptable Products:

- 1. Lund, Inc. 1200 Series

B. Requirements:

- 1. Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet.
- 2. Provide complete cross-index system set up by Owner, and place keys on markers and hooks in the cabinet as determined by the final key schedule.
- 3. Provide hinged-panel type cabinet for wall mounting with capacity for 250 unique keys.

2.17 FINISHES

- A. Match items to the manufacturer's standard color and texture finish for the latch and locksets (or push-pull units if no latch or locksets).
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.

- C. The designations used in schedules and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18, "Materials and Finishes," including coordination with the traditional U.S. finishes shown by certain manufacturers for their products.
- D. The designations used in schedules and elsewhere to indicate hardware finishes are the industry-recognized standard commercial finishes, except as otherwise noted.
 - 1. Brushed Chrome and/or Stainless Steel Appearance
 - a. Brushed Stainless Steel, no coating: ANSI 630.
 - b. Satin Chrome, Clear Coated: ANSI 626, ANSI 652.
 - c. Powder Coated Aluminum finish: ANSI 689.
 - d. Saddle and Panic Thresholds: Mill Aluminum finish.
 - e. Weatherstrip and Gasket: Clear Anodized Aluminum finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: Comply with DHI A115 Series.
 - 1. Surface-Applied Door Hardware: Drill and tap doors and frames according to ANSI A250.6.
- B. Wood Doors: Comply with DHI A115-W Series.

3.3 INSTALLATION

- A. Pre-installation conference shall be conducted prior to installation of hardware at Project site. Meet with the, Owner, Contractor, installer, and manufacturer's representatives. A separate pre-installation conference shall be conducted prior to the installation of electronic security hardware with the electrical contractor Review catalogs, brochures, templates, installation instructions, and the approved hardware schedule. Survey installation procedures and workmanship, with special emphasis on unusual conditions, as to ensure correct technique of installation, and coordination with other work. Notify participants at least ten, 10 working days before conference.

- B. Hardware Installers must have a minimum of five (5) years' experience in installation of hardware. Provide verification of installer's qualification to Consultant for approval. All installers to attend review meetings with the hardware distributor.
- C. Install hardware using only manufacturer supplied and approved fasteners in strict adherence with manufacturers published installation instructions.
- D. Install head seal prior to installation of "PA"-parallel arm mounted door closers and push side mounted door stops/holders. Trim, cut and notch thresholds and saddles neatly to minimally fit the profile of the door frame. Install thresholds and saddles in a bed of caulking completely sealing the underside from water and air penetration.
- E. Counter sink through bolt of door pull under push plate during installation.
- F. Mounting Heights: Mount door hardware units at heights indicated, as follows, unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 - 2. Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."
 - 3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- G. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
 - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- H. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

3.4 FIELD QUALITY CONTROL

- A. Architectural Hardware Consultant: Architect shall engage a qualified Architectural Hardware Consultant to perform inspections and to prepare inspection reports.
- B. Architectural Hardware Consultant shall inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 - 1. Door Closers: Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.
- B. Occupancy Adjustment: Approximately six months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust, including adjusting operating forces, each item of door hardware as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.6 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.7 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Division 01 Section "Demonstration and Training."

3.8 DOOR HARDWARE SETS

- A. The following schedule of hardware sets shall be considered a guide and the supplier is cautioned to refer to general conditions, special conditions, and the full requirements of this section. It shall be the hardware supplier's responsibility to furnish all required hardware.
- B. Where items of hardware are not definitely or correctly specified and are required for completion of the Work, a written statement of such omission, error, conflict, or other discrepancy shall be sent to the Architect, prior to date specified for receipt of bids, for clarification by addendum.
- C. Adjustments to the Contract Sum will not be allowed for omissions or items of hardware not clarified prior to bid opening.

HW SET: 01

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

200	203	300	303	400	403
500	503				
1	EA	CONT. HINGE	700	630	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	SURFACE CLOSER	4050 SCUSH MC TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK	IVE
1	EA	GASKETING	429AA-S	AA	ZER

HW SET: 02

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

201	202	301	302	401	402
501	502				
1	EA	CONT. HINGE	700	630	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	SURFACE CLOSER	4050 CUSH MC TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK	IVE
1	EA	GASKETING	429AA-S	AA	ZER

HW SET: 03

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

102	109	110			
1	EA	CONT. HINGE	700	630	IVE
1	EA	VANDL STOREROOM LOCK	ND96RD RHO EV T	626	SCH
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK	IVE
3	EA	SILENCER	SR64	GRY	IVE

HW SET: 04

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

107					
1	EA	CONT. HINGE	700	630	IVE
1	EA	VANDL STOREROOM LOCK	ND96RD RHO EV T	626	SCH
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK	IVE
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A-223	A	ZER

HW SET: 05

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

106

1	EA	CONT. HINGE	700	630	IVE
1	EA	L9486R 06A L583-363 L583-375 EV T	L9486R 06A L583-363 L583-375	626	SCH
1	EA	SURFACE CLOSER	4050 RW/PA MC TBWMS	689	LCN
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK	IVE
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A-223	A	ZER
1	EA	COAT AND HAT HOOK	507	626	IVE

HW SET: A1

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

100 101 111 112

1	EA	CONT. HINGE	700	630	IVE
1	EA	PANIC HARDWARE	CD-98-NL	626	VON
1	EA	PRIMUS RIM CYLINDER	20-757 EV29 T	626	SCH
1	EA	PRIMUS MORT. CYL.	20-763 X B502-191 XB11-475 EV29 T 36-083 (DOGGING)	626	SCH
1	EA	OH STOP	100S ADJ	630	GLY
1	EA	SURFACE CLOSER	4040XP EDAW/62G MC SRI	689	LCN
1	EA	PA MOUNTING PLATE	4040XP-18PA SRI	689	LCN
1	EA	5TH SCREW SUPPORT	4040XP-30 SRI	689	LCN
1	SET	PERIMETER SEALS	DOOR MFG STD	AL	B/O
1	EA	THRESHOLD	DOOR MFG STD	AL	B/O

SECTION 08 71 00.3 - DOOR HARDWARE – CAPITOL & MYRTLE GARAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Commercial door hardware for the following:
 - a. Swinging doors.
- B. Related Sections include the following:
 - 1. Division 08 Section "Hollow Metal Doors and Frames"
 - 2. Division 08 Section "Aluminum-Framed Entrances and Storefronts"
- C. Products furnished, but not installed, under this Section include the following. Coordinating, purchasing, delivering, and scheduling remain requirements of this Section.

1.3 REFERENCED STANDARDS

- A. Provide hardware in accordance with the following standards in addition to those specified in Division 01 Section "References".
 - 1. American National Standards Institute (ANSI), A117.1: Accessible and Usable Buildings and Facilities, edition as adopted by local Authority Having Jurisdiction (AHJ).
 - 2. Builders Hardware Manufacturer's Association (BHMA)
 - a. ANSI/BHMA A156.2: Bored and Preamsembled Locks and Latches, 2011 edition
 - b. ANSI/BHMA A156.13: Mortise Locks and Latches, 2012 edition
 - c. ANSI/BHMA A156.3: Exit Devices, 2008 edition
 - d. ANSI/BHMA A156.4: Door Controls - Closers, 2008 edition
 - e. ANSI/BHMA A156.18: Materials and Finishes, 2006 edition
 - 3. Door and Hardware Institute (DHI)
 - a. Recommended Locations for Architectural Hardware for Flush Wood Doors, 1993 edition
 - b. Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames, 2004 edition
 - c. Installation Guide for Doors and Hardware, 1994 edition

- d. Keying Systems and Nomenclature, 2003 edition
- e. Sequence and Format for the Hardware Schedule, 2001 edition

1.4 SUBMITTALS

- A. Product Data: Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Samples for Verification: For exposed door hardware of each type, in specified finish, full size. Tag with full description for coordination with the door hardware sets. Submit Samples before, or concurrent with, submission of the final door hardware sets, if requested.
 - 1. Samples will be returned to Contractor. Units that are acceptable and remain undamaged through submittal, review, and field comparison process may, after final check of operation, be incorporated into the Work, within limitations of keying requirements.
- C. Qualification Data: For Installer
- D. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for locks, latches, and closers as requested.
- E. Maintenance Data: For each type of door hardware to include in maintenance manuals. Include final hardware and keying schedule.
- F. Warranty: Special warranty specified in this Section.
- G. Door Hardware Sets: Prepared by or under the supervision of Architectural Hardware Consultant, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final door hardware sets with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
 - 2. Content: Include the following information:
 - a. Identification number, location, hand, fire rating, and material of each door and frame.
 - b. Type, style, function, size, quantity, and finish of each door hardware item.
 - c. Complete designations of every item required for each door or opening including name and manufacturer.
 - d. Fastenings and other pertinent information.
 - e. Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - f. Explanation of abbreviations, symbols, and codes contained in schedule.
 - g. Mounting locations for door hardware.
 - h. Door and frame sizes and materials.
 - i. List of related door devices specified in other Sections for each door and frame.
 - 3. Submittal Sequence: Submit the final door hardware sets at earliest possible date, particularly where approval of the door hardware sets must precede fabrication of other work that is critical in Project construction schedule. Include Product Data, Samples,

Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the door hardware sets.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by lock manufacturer.
 - 1. Installer's responsibilities include supplying and installing door hardware and providing a qualified on staff Architectural Hardware Consultant available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.
 - 2. Installer shall have warehousing facilities in Project's vicinity.
 - 3. Scheduling Responsibility: Preparation of door hardware and keying schedules.
- B. Architectural Hardware Consultant Qualifications: A person who is currently certified by DHI as an Architectural Hardware Consultant and who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and who is an employee of the hardware supplier.
- C. Source Limitations: Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Tag each item or package separately with identification related to the final door hardware sets, and include basic installation instructions, templates, and necessary fasteners with each item or package.
- C. Deliver keys to Owner's Representative by registered mail or overnight package service.

1.7 COORDINATION

- A. Coordinate layout and installation of recessed hardware with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 03.
- B. Templates: Distribute door hardware templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- C. Coordinate with aluminum entrance door supplier for door hardware installation.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

- 1. Failures include, but are not limited to, the following:

- a. Structural failures including excessive deflection, cracking, or breakage.
- b. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.

- 2. Warranty Period: Three (3) years from date of Substantial Completion, except as follows:

- a. Grade 1 Cylindrical Locks: Ten (10) years from date of Substantial Completion.
- b. Mortise Locks: Five (5) years from date of Substantial Completion.
- c. Manual Closers: Thirty (30) years from date of Substantial Completion.
- d. Exit Devices: Three (3) years from date of Substantial Completion.

1.9 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.
- B. Maintenance Service: Beginning at Substantial Completion, provide six (6) months' full maintenance by skilled employees of door hardware Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door hardware operation. Provide parts and supplies same as those used in the manufacture and installation of original products.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- | | |
|---------------------------------|---|
| 1. Hinges: | Ives, McKinney |
| 2. Locks and Latches: | Schlage, Owner's Standard |
| 3. Cylinders and Cores: | Primus/Everest T FSIC, Owner's Standard |
| 4. Mechanical Door Closers: | LCN, Owner's Standard |
| 5. Exit Devices: | Von Duprin, Owner's Standard |
| 6. Accessories and Trim: | Ives, Rockwood, Trimco |
| 7. Saddle and Panic Thresholds: | Zero, National Guard, Pemko |
| 8. Weather Strip and Gasket: | Zero, National Guard, Pemko |
| 9. Miscellaneous Hardware: | Ives, Rockwood, Trimco |

2.2 SCHEDULED HARDWARE

- A. Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of finish hardware are indicated in the "Hardware Schedule" at the end of this Section. Products are identified by using hardware designation numbers of the following:

1. Manufacturer's Product Designations: The product designation and name of one manufacturer are listed for each hardware type required for the purpose of establishing minimum requirements. Provide either the product designated or, where more than one manufacturer is specified under the Article "Manufacturers" in Part 2 for each hardware type, the comparable product of one of the other manufacturers that complies with requirements.

2.3 MATERIALS AND FABRICATION

A. General

1. Manufacturer's Name Plate: Do not use manufacturers' products that have manufacturer's name or trade name displayed in a visible location (omit removable nameplates) except in conjunction with required fire-rated labels and as otherwise acceptable to Architect.
 - a. Manufacturer's identification will be permitted on rim of lock cylinders only.
2. Base Metals: Produce hardware units of basic metal and forming method indicated using manufacturer's standard metal alloy, composition, temper, and hardness, but in no case of lesser (commercially recognized) quality than specified for applicable hardware units for finish designations indicated.
3. Provide hardware manufactured to conform to published templates generally prepared for machine screw installation. Do not provide hardware that has been prepared for self-tapping sheet metal screws, except as specifically indicated.

B. Fasteners

1. Furnish screws for installation with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Furnish stainless steel (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including "prepared for paint" surfaces to receive painted finish.
2. Provide concealed fasteners for hardware units that are exposed when door is closed except to the extent no standard units of type specified are available with concealed fasteners. Use through bolts only as indicated in this section unless their use is the only means of reinforcing the work adequately to fasten the hardware securely. Where thru-bolts are used as a means of reinforcing the work, provide sleeves for each thru-bolt or use sex screw fasteners.

2.4 HINGES

A. Acceptable Products:

1. Ives: 5BB1
2. Hager: BB1279
3. Stanley: FBB179
4. McKinney: TB2714
5. Bommer: BB5000

B. Requirements:

1. Quantity: Provide the following, unless otherwise indicated:
 - a. Two Hinges: For doors with heights up to 60 inches.
 - b. Three Hinges: For doors with heights 61 to 90 inches.
2. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
3. Hinge Weight: As indicated in hardware sets.
4. Hinge Base Metal: Unless otherwise indicated, provide the following:
 - a. Exterior Hinges: Stainless steel with stainless-steel pin.
 - b. Interior Hinges: Steel with steel pin.
 - c. Hinges for Fire-Rated Assemblies: Steel with steel pin.
5. Hinge Options: Where indicated in door hardware sets or on Drawings:
 - a. Safety Stud: Designed for stud in one leaf to engage hole in opposing leaf.
 - b. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for out-swinging doors.
 - c. Corners: Square.
6. Fasteners: Comply with the following:
 - a. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.
 - b. Wood Screws: For wood doors and frames.
 - c. Threaded-to-the-Head Wood Screws: For fire-rated wood doors.

2.5 CONTINUOUS HINGES

A. Acceptable Products:

1. Ives: 700
2. Select: SL300

B. Requirements:

1. Pin and Barrel Continuous Hinges: Shall be a twin self-lubricated nylon bearing type with stainless steel pin. The door leaf and jamb leaf shall be fully mortised. Vertical door loads shall be carried on minimum 3/4" bearings through a full 180 degrees. The door leaf and jamb leaf shall have template screw hole locations for future replacement needs.

2.6 LOCKS AND LATCHES

A. General:

1. Lock Chassis: Shall be made from steel, with locking spindles of stainless steel.

2. Latch Bolt: Shall be constructed of stainless steel with 3/4 inch throw on mortise locks and 1/2 inch throw otherwise. Latch to be deadlocking on keyed functions.
3. Lever Trim: Shall be pressure cast brass, bronze, zinc, or steel with wrought rose design. Levers are to be solid with no voids or plastic inserts.
4. Fire Rating: Lock shall be listed for up to 3 hours.
5. Strike Plates: Provide ANSI 4-7/8 inch strike plates. At pairs of doors, provide strike with 7/8 inch flat lip. At single doors, provide round-lipped strike with lip length as required to minimally clear jamb and trim. Provide dust box at each strike location.

B. Grade 1 Bored Locks

1. Acceptable Products:
 - a. Schlage: ND Series, Rhodes Lever
 - b. Match existing facility standard
2. Provide cylindrical locks exceeding the ANSI/BHMA A156.2 Grade 1 performance standards for strength, security & durability in the categories below:
 - a. Abusive locked lever torque – minimum 3,100 inch-pounds without gaining access
 - b. Offset lever pull - minimum 1,600 foot pounds without gaining access Simulates pry-bar attacks
 - c. Vertical lever impact - minimum 100 impacts without gaining access Simulates sledgehammer-blows to trim, very aggressive abuse
 - d. Cycle life - minimum 16 million cycles Cycle life speaks to robustness of lock, ensuring operation after 10M cycles (BHMA requirement is 1M).
 - 1) With no visible lever sag Working after 15M cycles is not the same as working well. No droop and wobble means the lock still works like new after the test.
 - 2) Without the use of performance aids (i.e. set screws, spacers, etc.) Set screws and spacers are a poor fix for droop and wobble. Both add to installation complexity, and set screws can be tamper targets.
 - e. Door Prep: Provide lockset to install using a standard ANSI 161 door preparation.
 - f. Anti-Rotation Plate: Provide lockset with a mechanically interlocked anti-rotation plate. Anti-Rotation teeth or “bite tabs” are not acceptable. Locks without any rotation prevention devices are not acceptable.
 - g. Lever Return Springs: Provide each lever with two compression type return springs that are easily accessible without dismantling the lock chassis. Locks utilizing tension or torsion lever return springs are unacceptable. Locks with internal springs that require dismantling the lock chassis are unacceptable.
 - h. Lever Spindles: Provide lock with either milled or 1-piece deep drawn spindles. 2-piece interlocking stamped spindles are not acceptable.
 - i. Multi-Functionality: Provide modular lockset with capability to convert to a new lock function by changing key cams.
 - j. Vandal Resistant Lever: Where scheduled, provide lockset with lever that freely rotates even when locked to resist vandalism and abuse.

C. Mortise Locks

1. Acceptable Products:
 - a. Schlage: L Series, 06A Trim Design

- b. Match existing facility standard
2. Requirements:
- a. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1 Operational, Grade 1 Security, and manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance. Provide lock case that is multi-function and field reversible for handing without opening case.
 - b. Where specified, provide indicator window measuring a minimum 2 inch x 1/2 inch with 180 degree visibility. Provide messages color-coded with full text and/or symbols, as scheduled, for easy visibility.
 - 1) Occupied Indicator: Provide indicator above cylinder for visibility while operating the lock that identifies the trim as occupied/unoccupied status of the door. Indicator in unoccupied state has a white background with black text and icon. Indicator in the occupied state has a red background with white text and icon.
 - c. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1 inch (25 mm) throw, constructed of stainless steel.
 - d. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
3. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
- a. Deadbolt: Shall be constructed of stainless steel and include security roller pins. Shall have a minimum 1 inch throw.
 - b. Spring Cages: Lock shall have individual external spring cages for each lever.
 - c. Lever Spindles: Provide lockset with independent, breakaway type lever spindles. Spindles that are continuous through the lock case are not acceptable.
 - d. Hub Blocking: Provide lockset with a hub blocking plate to resist unauthorized entry.
 - e. Vandal Resistant Lever: Where scheduled, provide lockset with lever that freely rotates even when locked to resist vandalism and abuse.
 - f. Thumbturns: Provide thumbturns as enlarged, ADA designated style thumbturns.
 - g. Visual Indicator: Where scheduled, provide visual indicator showing “Vacant” or “Occupied”.

2.7 CYLINDERS AND CORES

A. Acceptable Products:

- 1. Primus/Everst T
- 2. New facility standard

B. Requirements:

1. Full Size Interchangeable Cylinders: Provide cylinders of quantity and type and with the appropriate cam/tailpiece to be compatible with the locking hardware provided. Provide cylinder housings ready to accept 6-pin, Full-Size Interchangeable Cores (FSIC).
 - a. Temporary Construction Keying: Provide each cylinder housing and/or lock lever with keyed construction core during the construction period. Cores will remain property of the contractor and will be returned upon installation of owner’s permanent key system.
 - b. Permanent Cores: Provide 1 bitted cores that are utility patented until at least 2029. Ship cores directly to owner’s representative. At substantial completion, accompany the owner’s representative while replacing temporary construction cores with the owner’s permanent key system.

2. Keys: Provide cylinder manufacturer’s standard keys. Keys shall be shipped separate from cores directly to owner’s representative. For estimating purposes, provide keys in the following quantities:

a. Construction Control Keys:	2	each
b. Construction Change Keys:	12	each
c. Permanent Control Keys:	2	each
d. Split Key Voiding Keys:	2	each
e. Permanent Master Keys:	2	each
f. Permanent Change Keys:	4	per core

2.8 MECHANICAL DOOR CLOSERS

A. General:

1. Valves: Closers shall have separate valves for latch speed, main speed, and back check. Valves shall be staked to prevent accidental removal. Provide the appropriate closer body, handing, and brackets to mount closer inside the building on the least-public side of the door.
 - a. Where closers are to be mounted parallel arm, provide with heavy duty, fully forged arms.
 - b. Where closers are to be mounted regular arm and the opening can otherwise be opened to 180 degrees, provide closer with the appropriate special templating to allow 180 degree door swing. Where a special template is not available for 180 degree swing, provide closer arm with integrated stop.

2. Integrated Stop Closer Arms: Where a closer with integrated stop is required, provide the appropriate closer and arm as follows:
 - a. Parallel arm with spring-cushioned stop arm: Provide where door is otherwise able to open to 95 degrees and requires a parallel arm mount closer.
 - b. Parallel arm with dead stop arm: Provide where door is obstructed from opening to 95 degrees and requires a parallel arm mount closer.
 - c. Regular arm with push side surface-mounted overhead stop: Provide where door closer should mount on pull side of door.

3. Hold Open Arms: Provide closer arms with mechanical hold-opens as scheduled.

4. Provide closers with any special templates, brackets, plates, or other accessories required for interface with header, door, wall, and other hardware. Provide closers with screw packs containing thru-bolts, machine screws, and wood screws.
5. Closers shall be provided with all-weather fluid and shall not require readjustment from 120 degrees F to -30 degrees F. Fluid shall be non-flaming and shall not fuel door or floor covering fires. Upon request, provide data indicating thermal properties of fluid.
6. Closers shall close and latch door when adjusted to meet accessibility requirements for door opening force: 8.5 lbs at exterior doors, 5 lbs at interior doors, and 15 lbs at labeled fire doors.

B. Heavy Duty Door Closers:

1. Acceptable Products:

- a. LCN: 4040XP 4111/4050
- b. Match existing facility standard

2. Requirements:

- a. ANSI Grade: BHMA/ANSI A156.4, Grade 1.
- b. Closer Construction: Closer shall have cast iron or aluminum alloy body with 1-1/2 inch steel piston, double heat treated pinion, 5/8 inch bearing journals, and full complement needle or caged ball bearings. Closer shall be adjustable from sizes 1 through 6.
- c. Provide closers with spring size adjustment dial for ease of adjusting.

2.9 EXIT DEVICES

A. Acceptable Products:

1. Von Duprin: 98 Series
2. Match existing facility standard

B. Requirements:

1. ANSI Grade: BHMA/ANSI A156.3, Grade 1.
2. Device Construction:
 - a. Exit device(s) shall have a mechanism case constructed of extruded aluminum. Base plates constructed of cast steel. Push pad of extruded aluminum with stainless steel covering. End caps with flush mounted, sloped design. At full-glass doors, provide exit devices with no exposed fasteners or rivets visible through glass. Where required by stile width, provide narrow-stile type device.
 - b. Latchbolt: Provide Pullman-type deadlocking latch bolts constructed of stainless steel. Where specified provide high security Pullman-type latchbolt that collapses to be square faced under high pull forces. Latch return springs shall be compression type. Tension and Torsion latch return springs are not acceptable.
 - c. Dogging Mechanism: where dogging or latch-retraction options are not specifically scheduled for non-fire rated doors, provide device with a hex-key activated hook-type dogging mechanism constructed of steel.

- d. Plastic or nylon used for the push pad, or parts in the dogging mechanism or latchbolt mechanism are unacceptable.
 - e. Sound Dampening: Device shall be provided with factory-installed sound dampening materials.
 - f. Provide device type, function, and trim style as indicated in hardware schedules.
3. Where exit device(s) are provided for fire rated door, provide with fire listing and label indicating “Fire Exit Hardware”. If device is mounted on wood doors, provide sex nuts and bolts.
 4. Provide shim kits, filler plates, and other accessories as required for each opening.
 5. Unless otherwise indicated in the sets, provide device with roller-type strike.
 6. Where scheduled, provide removable mullions by same manufacturer as provided exit devices. Provide mullion stabilizers, key removable option, strike preps, and fire rating as indicated in sets.

2.10 ARCHITECTURAL DOOR TRIM

A. Protection Plates and Edge Guards

1. Acceptable Products:
 - a. Ives: 8400 Series
 - b. Rockwood: K1050
 - c. Hager: 194S
 - d. Trimco: K Series
2. Requirements:
 - a. Provide .050 inch thick stainless steel protection plates with height as scheduled. Plate shall have four beveled edges and countersunk screws. Provide plate with width as follows:
 - 1) Single Doors: Provide plate to be 2 inches less door width on push side, pull side mounted plates to be 1 inch less door width.

B. Door Stops and Holders

1. Acceptable Products:
 - a. Ives: FS18S
 - b. Rockwood: 466
 - c. Hager: 269F
 - d. Trimco: 1209
2. Requirements:
 - a. Provide stops and holders as indicated in the hardware sets.
 - b. Where wall bumpers are scheduled for exterior doors, provide FS18S floor stop(s) to be mounted on wall.

2.11 OVERHEAD STOPS AND HOLDERS

A. Acceptable Products:

- | | | | |
|----|------------------|-------------|-------------|
| 1. | Glynn Johnson: | 100 Series | 90 Series |
| 2. | Rixson-Firemark: | 6 Series | 9 Series |
| 3. | ABH: | 1000 Series | 9000 Series |

B. Requirements:

1. Provide overhead stops and holders as scheduled, sized per manufacturer’s recommendations based on door width.
2. Provide concealed overhead stops with adjustable jamb bracket.
3. Where possible without conflicting with other hardware, mount surface overhead stops on least public side of door.
4. Provide stops with any special templates, brackets, plates, or other accessories required for interface with header, door, wall, and other hardware.

2.12 SADDLE AND PANIC THRESHOLDS

A. Acceptable Products:

- | | | |
|----|---------------------|-------|
| 1. | Zero International: | 655A |
| 2. | National Guard: | 425HD |
| 3. | Pemko: | 1715A |

B. Requirements:

1. Saddle thresholds: Provide with length equal to the width of the opening.
2. Provide stainless steel machine screws and lead anchors for each threshold.

2.13 WEATHERSTRIP AND GASKET

A. General:

1. Provide weather strip and gasketing as scheduled.
2. Size weather strip and gasket to provide a continuous seal around opening and at meeting stiles.

B. Perimeter Seals

1. Acceptable Products:

- | | | | |
|----|-----------------|--------|---------|
| a. | Zero: | 429A | 488S-BK |
| b. | National Guard: | 700SA | 2525B |
| c. | Pemko: | 2891AS | PK33D |

C. Door Bottoms

1. Acceptable Products:

- | | | |
|----|-----------------|-------|
| a. | Zero: | 39A |
| b. | National Guard: | C627A |

- c. Pemko: 3452CNB

2.14 MISCELLANEOUS HARDWARE

A. Silencers

1. Acceptable Products:

- a. Ives: SR64
- b. Rockwood: 608
- c. Trimco: 1229A

2. Requirements:

- a. Where indicated on single openings, provide 3 each rubber silencers on lock jamb.

2.15 HIGH SECURITY EMERGENCY KEY BOX

A. Acceptable Products:

- 1. Knox, Inc. 3200 Series x RMK

B. Requirements:

- 1. Provide recess-mounted emergency key box as approved by the local fire jurisdiction. Key box to be master-keyed as dictated by local fire jurisdiction.

2.16 KEY CONTROL CABINET

A. Acceptable Products:

- 1. Lund, Inc. 1200 Series

B. Requirements:

- 1. Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet.
- 2. Provide complete cross-index system set up by Owner, and place keys on markers and hooks in the cabinet as determined by the final key schedule.
- 3. Provide hinged-panel type cabinet for wall mounting with capacity for 250 unique keys.

2.17 FINISHES

- A. Match items to the manufacturer's standard color and texture finish for the latch and locksets (or push-pull units if no latch or locksets).
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.

- C. The designations used in schedules and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18, "Materials and Finishes," including coordination with the traditional U.S. finishes shown by certain manufacturers for their products.
- D. The designations used in schedules and elsewhere to indicate hardware finishes are the industry-recognized standard commercial finishes, except as otherwise noted.
 - 1. Brushed Chrome and/or Stainless Steel Appearance
 - a. Brushed Stainless Steel, no coating: ANSI 630.
 - b. Satin Chrome, Clear Coated: ANSI 626, ANSI 652.
 - c. Powder Coated Aluminum finish: ANSI 689.
 - d. Saddle and Panic Thresholds: Mill Aluminum finish.
 - e. Weatherstrip and Gasket: Clear Anodized Aluminum finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: Comply with DHI A115 Series.
 - 1. Surface-Applied Door Hardware: Drill and tap doors and frames according to ANSI A250.6.
- B. Wood Doors: Comply with DHI A115-W Series.

3.3 INSTALLATION

- A. Pre-installation conference shall be conducted prior to installation of hardware at Project site. Meet with the, Owner, Contractor, installer, and manufacturer's representatives. A separate pre-installation conference shall be conducted prior to the installation of electronic security hardware with the electrical contractor Review catalogs, brochures, templates, installation instructions, and the approved hardware schedule. Survey installation procedures and workmanship, with special emphasis on unusual conditions, as to ensure correct technique of installation, and coordination with other work. Notify participants at least ten, 10 working days before conference.

- B. Hardware Installers must have a minimum of five (5) years' experience in installation of hardware. Provide verification of installer's qualification to Consultant for approval. All installers to attend review meetings with the hardware distributor.
- C. Install hardware using only manufacturer supplied and approved fasteners in strict adherence with manufacturers published installation instructions.
- D. Install head seal prior to installation of "PA"-parallel arm mounted door closers and push side mounted door stops/holders. Trim, cut and notch thresholds and saddles neatly to minimally fit the profile of the door frame. Install thresholds and saddles in a bed of caulking completely sealing the underside from water and air penetration.
- E. Counter sink through bolt of door pull under push plate during installation.
- F. Mounting Heights: Mount door hardware units at heights indicated, as follows, unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 - 2. Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."
 - 3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- G. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
 - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- H. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

3.4 FIELD QUALITY CONTROL

- A. Architectural Hardware Consultant: Architect shall engage a qualified Architectural Hardware Consultant to perform inspections and to prepare inspection reports.
- B. Architectural Hardware Consultant shall inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 - 1. Door Closers: Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.
- B. Occupancy Adjustment: Approximately six months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust, including adjusting operating forces, each item of door hardware as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.6 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.7 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Division 01 Section "Demonstration and Training."

3.8 DOOR HARDWARE SETS

- A. The following schedule of hardware sets shall be considered a guide and the supplier is cautioned to refer to general conditions, special conditions, and the full requirements of this section. It shall be the hardware supplier's responsibility to furnish all required hardware.
- B. Where items of hardware are not definitely or correctly specified and are required for completion of the Work, a written statement of such omission, error, conflict, or other discrepancy shall be sent to the Architect, prior to date specified for receipt of bids, for clarification by addendum.
- C. Adjustments to the Contract Sum will not be allowed for omissions or items of hardware not clarified prior to bid opening.

HW SET: 01

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

103

1	EA	CONT. HINGE	700	630	IVE
1	EA	PANIC HARDWARE	CD-98-NL	626	VON
1	EA	PRIMUS RIM CYLINDER	20-757 EV29 T	626	SCH
1	EA	PRIMUS MORT. CYL.	20-763 X B502-191 XB11-475 EV29 T 36-083 (DOGGING)	626	SCH
1	EA	SURFACE CLOSER	4111 AVB SCUSH MC SRI TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A-223	A	ZER

HW SET: 02

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

104A

1	EA	CONT. HINGE	700	630	IVE
1	EA	FIRE EXIT HARDWARE	98-L-F-06	626	VON
1	EA	PRIMUS RIM CYLINDER	20-757 EV29 T	626	SCH
1	EA	SURFACE CLOSER	4111 AVB SCUSH MC SRI TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A-223	A	ZER

HW SET: 03

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

204 304 404

1	EA	CONT. HINGE	700	630	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	SURFACE CLOSER	4050 CUSH MC TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK	IVE
1	EA	GASKETING	429AA-S	AA	ZER

HW SET: 04

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

203 303 403

1	EA	CONT. HINGE	700	630	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	SURFACE CLOSER	4050 CUSH MC TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK	IVE
3	EA	SILENCER	SR64	GRY	IVE

HW SET: 05

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

100

1	EA	CONT. HINGE	700	630	IVE
1	EA	L9486R 06A L583-363 L583-375 EV T	L9486R 06A L583-363 L583-375	626	SCH
1	EA	SURFACE CLOSER	4050 RW/PA MC TBWMS	689	LCN
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK	IVE
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A-223	A	ZER
1	EA	COAT AND HAT HOOK	507	626	IVE

HW SET: A1

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

104B

1	EA	CONT. HINGE	700	630	IVE
1	EA	PANIC HARDWARE	CD-98-NL	626	VON
1	EA	PRIMUS RIM CYLINDER	20-757 EV29 T	626	SCH
1	EA	PRIMUS MORT. CYL.	20-763 X B502-191 XB11-475 EV29 T 36-083 (DOGGING)	626	SCH
1	EA	OH STOP	100S ADJ	630	GLY
1	EA	SURFACE CLOSER	4040XP EDAW/62G MC SRI	689	LCN
1	EA	PA MOUNTING PLATE	4040XP-18PA SRI	689	LCN
1	EA	5TH SCREW SUPPORT	4040XP-30 SRI	689	LCN
1	SET	PERIMETER SEALS	DOOR MFG STD	AL	B/O
1	EA	THRESHOLD	DOOR MFG STD	AL	B/O

SECTION 08 71 00.4 - DOOR HARDWARE – CAPITOL & MAIN GARAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Commercial door hardware for the following:
 - a. Swinging doors.
- B. Related Sections include the following:
 - 1. Division 08 Section "Hollow Metal Doors and Frames"
 - 2. Division 08 Section "Flush Doors"
 - 3. Division 08 Section "Aluminum-Framed Entrances and Storefronts"
- C. Products furnished, but not installed, under this Section include the following. Coordinating, purchasing, delivering, and scheduling remain requirements of this Section.

1.3 REFERENCED STANDARDS

- A. Provide hardware in accordance with the following standards in addition to those specified in Division 01 Section "References".
 - 1. American National Standards Institute (ANSI), A117.1: Accessible and Usable Buildings and Facilities, edition as adopted by local Authority Having Jurisdiction (AHJ).
 - 2. Builders Hardware Manufacturer's Association (BHMA)
 - a. ANSI/BHMA A156.2: Bored and Preassembled Locks and Latches, 2011 edition
 - b. ANSI/BHMA A156.13: Mortise Locks and Latches, 2012 edition
 - c. ANSI/BHMA A156.3: Exit Devices, 2008 edition
 - d. ANSI/BHMA A156.4: Door Controls - Closers, 2008 edition
 - e. ANSI/BHMA A156.18: Materials and Finishes, 2006 edition
 - 3. Door and Hardware Institute (DHI)
 - a. Recommended Locations for Architectural Hardware for Flush Wood Doors, 1993 edition
 - b. Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames, 2004 edition

- c. Installation Guide for Doors and Hardware, 1994 edition
- d. Keying Systems and Nomenclature, 2003 edition
- e. Sequence and Format for the Hardware Schedule, 2001 edition

1.4 SUBMITTALS

- A. Product Data: Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Samples for Verification: For exposed door hardware of each type, in specified finish, full size. Tag with full description for coordination with the door hardware sets. Submit Samples before, or concurrent with, submission of the final door hardware sets, if requested.
 1. Samples will be returned to Contractor. Units that are acceptable and remain undamaged through submittal, review, and field comparison process may, after final check of operation, be incorporated into the Work, within limitations of keying requirements.
- C. Qualification Data: For Installer
- D. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for locks, latches, and closers as requested.
- E. Maintenance Data: For each type of door hardware to include in maintenance manuals. Include final hardware and keying schedule.
- F. Warranty: Special warranty specified in this Section.
- G. Door Hardware Sets: Prepared by or under the supervision of Architectural Hardware Consultant, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final door hardware sets with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 1. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
 2. Content: Include the following information:
 - a. Identification number, location, hand, fire rating, and material of each door and frame.
 - b. Type, style, function, size, quantity, and finish of each door hardware item.
 - c. Complete designations of every item required for each door or opening including name and manufacturer.
 - d. Fastenings and other pertinent information.
 - e. Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - f. Explanation of abbreviations, symbols, and codes contained in schedule.
 - g. Mounting locations for door hardware.
 - h. Door and frame sizes and materials.
 - i. List of related door devices specified in other Sections for each door and frame.
 3. Submittal Sequence: Submit the final door hardware sets at earliest possible date, particularly where approval of the door hardware sets must precede fabrication of other

work that is critical in Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the door hardware sets.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by lock manufacturer.
 - 1. Installer's responsibilities include supplying and installing door hardware and providing a qualified on staff Architectural Hardware Consultant available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.
 - 2. Installer shall have warehousing facilities in Project's vicinity.
 - 3. Scheduling Responsibility: Preparation of door hardware and keying schedules.
- B. Architectural Hardware Consultant Qualifications: A person who is currently certified by DHI as an Architectural Hardware Consultant and who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and who is an employee of the hardware supplier.
- C. Source Limitations: Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Tag each item or package separately with identification related to the final door hardware sets, and include basic installation instructions, templates, and necessary fasteners with each item or package.
- C. Deliver keys to Owner's Representative by registered mail or overnight package service.

1.7 COORDINATION

- A. Coordinate layout and installation of recessed hardware with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 03.
- B. Templates: Distribute door hardware templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- C. Coordinate with aluminum entrance door supplier for door hardware installation.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

- 1. Failures include, but are not limited to, the following:

- a. Structural failures including excessive deflection, cracking, or breakage.
- b. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.

- 2. Warranty Period: Three (3) years from date of Substantial Completion, except as follows:

- a. Grade 1 Cylindrical Locks: Ten (10) years from date of Substantial Completion.
- b. Mortise Locks: Five (5) years from date of Substantial Completion.
- c. Manual Closers: Thirty (30) years from date of Substantial Completion.
- d. Exit Devices: Three (3) years from date of Substantial Completion.

1.9 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.
- B. Maintenance Service: Beginning at Substantial Completion, provide six (6) months' full maintenance by skilled employees of door hardware Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door hardware operation. Provide parts and supplies same as those used in the manufacture and installation of original products.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- | | |
|---------------------------------|---|
| 1. Hinges: | Ives, McKinney |
| 2. Locks and Latches: | Schlage, Owner's Standard |
| 3. Cylinders and Cores: | Primus/Everest T FSIC, Owner's Standard |
| 4. Mechanical Door Closers: | LCN, Owner's Standard |
| 5. Exit Devices: | Von Duprin, Owner's Standard |
| 6. Accessories and Trim: | Ives, Rockwood, Trimco |
| 7. Saddle and Panic Thresholds: | Zero, National Guard, Pemko |
| 8. Weather Strip and Gasket: | Zero, National Guard, Pemko |
| 9. Miscellaneous Hardware: | Ives, Rockwood, Trimco |

2.2 SCHEDULED HARDWARE

- A. Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of finish hardware are indicated in the "Hardware Schedule" at the end of this Section. Products are identified by using hardware designation numbers of the following:
1. Manufacturer's Product Designations: The product designation and name of one manufacturer are listed for each hardware type required for the purpose of establishing minimum requirements. Provide either the product designated or, where more than one manufacturer is specified under the Article "Manufacturers" in Part 2 for each hardware type, the comparable product of one of the other manufacturers that complies with requirements.

2.3 MATERIALS AND FABRICATION

A. General

1. Manufacturer's Name Plate: Do not use manufacturers' products that have manufacturer's name or trade name displayed in a visible location (omit removable nameplates) except in conjunction with required fire-rated labels and as otherwise acceptable to Architect.
 - a. Manufacturer's identification will be permitted on rim of lock cylinders only.
2. Base Metals: Produce hardware units of basic metal and forming method indicated using manufacturer's standard metal alloy, composition, temper, and hardness, but in no case of lesser (commercially recognized) quality than specified for applicable hardware units for finish designations indicated.
3. Provide hardware manufactured to conform to published templates generally prepared for machine screw installation. Do not provide hardware that has been prepared for self-tapping sheet metal screws, except as specifically indicated.

B. Fasteners

1. Furnish screws for installation with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Furnish stainless steel (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including "prepared for paint" surfaces to receive painted finish.
2. Provide concealed fasteners for hardware units that are exposed when door is closed except to the extent no standard units of type specified are available with concealed fasteners. Use through bolts only as indicated in this section unless their use is the only means of reinforcing the work adequately to fasten the hardware securely. Where thru-bolts are used as a means of reinforcing the work, provide sleeves for each thru-bolt or use sex screw fasteners.

2.4 HINGES

A. Acceptable Products:

1. Ives: 5BB1
2. Hager: BB1279
3. Stanley: FBB179
4. McKinney: TB2714
5. Bommer: BB5000

B. Requirements:

1. Quantity: Provide the following, unless otherwise indicated:
 - a. Two Hinges: For doors with heights up to 60 inches.
 - b. Three Hinges: For doors with heights 61 to 90 inches.
2. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
3. Hinge Weight: As indicated in hardware sets.
4. Hinge Base Metal: Unless otherwise indicated, provide the following:
 - a. Exterior Hinges: Stainless steel with stainless-steel pin.
 - b. Interior Hinges: Steel with steel pin.
 - c. Hinges for Fire-Rated Assemblies: Steel with steel pin.
5. Hinge Options: Where indicated in door hardware sets or on Drawings:
 - a. Safety Stud: Designed for stud in one leaf to engage hole in opposing leaf.
 - b. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for out-swinging doors.
 - c. Corners: Square.
6. Fasteners: Comply with the following:
 - a. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.
 - b. Wood Screws: For wood doors and frames.
 - c. Threaded-to-the-Head Wood Screws: For fire-rated wood doors.

2.5 CONTINUOUS HINGES**A. Acceptable Products:**

1. Ives: 700
2. Select: SL300

B. Requirements:

1. Pin and Barrel Continuous Hinges: Shall be a twin self-lubricated nylon bearing type with stainless steel pin. The door leaf and jamb leaf shall be fully mortised. Vertical door loads shall be carried on minimum 3/4" bearings through a full 180 degrees. The door leaf and jamb leaf shall have template screw hole locations for future replacement needs.

2.6 LOCKS AND LATCHES**A. General:**

1. Lock Chassis: Shall be made from steel, with locking spindles of stainless steel.

2. Latch Bolt: Shall be constructed of stainless steel with 3/4 inch throw on mortise locks and 1/2 inch throw otherwise. Latch to be deadlocking on keyed functions.
3. Lever Trim: Shall be pressure cast brass, bronze, zinc, or steel with wrought rose design. Levers are to be solid with no voids or plastic inserts.
4. Fire Rating: Lock shall be listed for up to 3 hours.
5. Strike Plates: Provide ANSI 4-7/8 inch strike plates. At pairs of doors, provide strike with 7/8 inch flat lip. At single doors, provide round-lipped strike with lip length as required to minimally clear jamb and trim. Provide dust box at each strike location.

B. Grade 1 Bored Locks

1. Acceptable Products:
 - a. Schlage: ND Series, Rhodes Lever
 - b. Match existing facility standard
2. Provide cylindrical locks exceeding the ANSI/BHMA A156.2 Grade 1 performance standards for strength, security & durability in the categories below:
 - a. Abusive locked lever torque – minimum 3,100 inch-pounds without gaining access
 - b. Offset lever pull - minimum 1,600 foot pounds without gaining access Simulates pry-bar attacks
 - c. Vertical lever impact - minimum 100 impacts without gaining access Simulates sledgehammer-blows to trim, very aggressive abuse
 - d. Cycle life - minimum 16 million cycles Cycle life speaks to robustness of lock, ensuring operation after 10M cycles (BHMA requirement is 1M).
 - 1) With no visible lever sag Working after 15M cycles is not the same as working well. No droop and wobble means the lock still works like new after the test.
 - 2) Without the use of performance aids (i.e. set screws, spacers, etc.) Set screws and spacers are a poor fix for droop and wobble. Both add to installation complexity, and set screws can be tamper targets.
 - e. Door Prep: Provide lockset to install using a standard ANSI 161 door preparation.
 - f. Anti-Rotation Plate: Provide lockset with a mechanically interlocked anti-rotation plate. Anti-Rotation teeth or “bite tabs” are not acceptable. Locks without any rotation prevention devices are not acceptable.
 - g. Lever Return Springs: Provide each lever with two compression type return springs that are easily accessible without dismantling the lock chassis. Locks utilizing tension or torsion lever return springs are unacceptable. Locks with internal springs that require dismantling the lock chassis are unacceptable.
 - h. Lever Spindles: Provide lock with either milled or 1-piece deep drawn spindles. 2-piece interlocking stamped spindles are not acceptable.
 - i. Multi-Functionality: Provide modular lockset with capability to convert to a new lock function by changing key cams.
 - j. Vandal Resistant Lever: Where scheduled, provide lockset with lever that freely rotates even when locked to resist vandalism and abuse.

C. Mortise Locks

1. Acceptable Products:
 - a. Schlage: L Series, 06A Trim Design

- b. Match existing facility standard
2. Requirements:
- a. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1 Operational, Grade 1 Security, and manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance. Provide lock case that is multi-function and field reversible for handing without opening case.
 - b. Where specified, provide indicator window measuring a minimum 2 inch x 1/2 inch with 180 degree visibility. Provide messages color-coded with full text and/or symbols, as scheduled, for easy visibility.
 - 1) Occupied Indicator: Provide indicator above cylinder for visibility while operating the lock that identifies the trim as occupied/unoccupied status of the door. Indicator in unoccupied state has a white background with black text and icon. Indicator in the occupied state has a red background with white text and icon.
 - c. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1 inch (25 mm) throw, constructed of stainless steel.
 - d. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
3. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
- a. Deadbolt: Shall be constructed of stainless steel and include security roller pins. Shall have a minimum 1 inch throw.
 - b. Spring Cages: Lock shall have individual external spring cages for each lever.
 - c. Lever Spindles: Provide lockset with independent, breakaway type lever spindles. Spindles that are continuous through the lock case are not acceptable.
 - d. Hub Blocking: Provide lockset with a hub blocking plate to resist unauthorized entry.
 - e. Vandal Resistant Lever: Where scheduled, provide lockset with lever that freely rotates even when locked to resist vandalism and abuse.
 - f. Thumbturns: Provide thumbturns as enlarged, ADA designated style thumbturns.
 - g. Visual Indicator: Where scheduled, provide visual indicator showing “Vacant” or “Occupied”.

2.7 CYLINDERS AND CORES

A. Acceptable Products:

- 1. Primus/Everst T
- 2. New facility standard

B. Requirements:

1. Full Size Interchangeable Cylinders: Provide cylinders of quantity and type and with the appropriate cam/tailpiece to be compatible with the locking hardware provided. Provide cylinder housings ready to accept 6-pin, Full-Size Interchangeable Cores (FSIC).
 - a. Temporary Construction Keying: Provide each cylinder housing and/or lock lever with keyed construction core during the construction period. Cores will remain property of the contractor and will be returned upon installation of owner’s permanent key system.
 - b. Permanent Cores: Provide 1 bitted cores that are utility patented until at least 2029. Ship cores directly to owner’s representative. At substantial completion, accompany the owner’s representative while replacing temporary construction cores with the owner’s permanent key system.

2. Keys: Provide cylinder manufacturer’s standard keys. Keys shall be shipped separate from cores directly to owner’s representative. For estimating purposes, provide keys in the following quantities:

a.	Construction Control Keys:	2	each
b.	Construction Change Keys:	12	each
c.	Permanent Control Keys:	2	each
d.	Split Key Voiding Keys:	2	each
e.	Permanent Master Keys:	2	each
f.	Permanent Change Keys:	4	per core

2.8 MECHANICAL DOOR CLOSERS

A. General:

1. Valves: Closers shall have separate valves for latch speed, main speed, and back check. Valves shall be staked to prevent accidental removal. Provide the appropriate closer body, handing, and brackets to mount closer inside the building on the least-public side of the door.
 - a. Where closers are to be mounted parallel arm, provide with heavy duty, fully forged arms.
 - b. Where closers are to be mounted regular arm and the opening can otherwise be opened to 180 degrees, provide closer with the appropriate special templating to allow 180 degree door swing. Where a special template is not available for 180 degree swing, provide closer arm with integrated stop.

2. Integrated Stop Closer Arms: Where a closer with integrated stop is required, provide the appropriate closer and arm as follows:
 - a. Parallel arm with spring-cushioned stop arm: Provide where door is otherwise able to open to 95 degrees and requires a parallel arm mount closer.
 - b. Parallel arm with dead stop arm: Provide where door is obstructed from opening to 95 degrees and requires a parallel arm mount closer.
 - c. Regular arm with push side surface-mounted overhead stop: Provide where door closer should mount on pull side of door.

3. Hold Open Arms: Provide closer arms with mechanical hold-opens as scheduled.

4. Provide closers with any special templates, brackets, plates, or other accessories required for interface with header, door, wall, and other hardware. Provide closers with screw packs containing thru-bolts, machine screws, and wood screws.
5. Closers shall be provided with all-weather fluid and shall not require readjustment from 120 degrees F to -30 degrees F. Fluid shall be non-flaming and shall not fuel door or floor covering fires. Upon request, provide data indicating thermal properties of fluid.
6. Closers shall close and latch door when adjusted to meet accessibility requirements for door opening force: 8.5 lbs at exterior doors, 5 lbs at interior doors, and 15 lbs at labeled fire doors.

B. Heavy Duty Door Closers:

1. Acceptable Products:

- a. LCN: 4040XP 4111/4050
- b. Match existing facility standard

2. Requirements:

- a. ANSI Grade: BHMA/ANSI A156.4, Grade 1.
- b. Closer Construction: Closer shall have cast iron or aluminum alloy body with 1-1/2 inch steel piston, double heat treated pinion, 5/8 inch bearing journals, and full complement needle or caged ball bearings. Closer shall be adjustable from sizes 1 through 6.
- c. Provide closers with spring size adjustment dial for ease of adjusting.

2.9 EXIT DEVICES

A. Acceptable Products:

1. Von Duprin: 98 Series
2. Match existing facility standard

B. Requirements:

1. ANSI Grade: BHMA/ANSI A156.3, Grade 1.
2. Device Construction:
 - a. Exit device(s) shall have a mechanism case constructed of extruded aluminum. Base plates constructed of cast steel. Push pad of extruded aluminum with stainless steel covering. End caps with flush mounted, sloped design. At full-glass doors, provide exit devices with no exposed fasteners or rivets visible through glass. Where required by stile width, provide narrow-stile type device.
 - b. Latchbolt: Provide Pullman-type deadlocking latch bolts constructed of stainless steel. Where specified provide high security Pullman-type latchbolt that collapses to be square faced under high pull forces. Latch return springs shall be compression type. Tension and Torsion latch return springs are not acceptable.
 - c. Dogging Mechanism: where dogging or latch-retraction options are not specifically scheduled for non-fire rated doors, provide device with a hex-key activated hook-type dogging mechanism constructed of steel.

- d. Plastic or nylon used for the push pad, or parts in the dogging mechanism or latchbolt mechanism are unacceptable.
 - e. Sound Dampening: Device shall be provided with factory-installed sound dampening materials.
 - f. Provide device type, function, and trim style as indicated in hardware schedules.
3. Where exit device(s) are provided for fire rated door, provide with fire listing and label indicating “Fire Exit Hardware”. If device is mounted on wood doors, provide sex nuts and bolts.
 4. Provide shim kits, filler plates, and other accessories as required for each opening.
 5. Unless otherwise indicated in the sets, provide device with roller-type strike.
 6. Where scheduled, provide removable mullions by same manufacturer as provided exit devices. Provide mullion stabilizers, key removable option, strike preps, and fire rating as indicated in sets.

2.10 ARCHITECTURAL DOOR TRIM

A. Protection Plates and Edge Guards

1. Acceptable Products:
 - a. Ives: 8400 Series
 - b. Rockwood: K1050
 - c. Hager: 194S
 - d. Trimco: K Series
2. Requirements:
 - a. Provide .050 inch thick stainless steel protection plates with height as scheduled. Plate shall have four beveled edges and countersunk screws. Provide plate with width as follows:
 - 1) Single Doors: Provide plate to be 2 inches less door width on push side, pull side mounted plates to be 1 inch less door width.

B. Door Stops and Holders

1. Acceptable Products:
 - a. Ives: FS18S
 - b. Rockwood: 466
 - c. Hager: 269F
 - d. Trimco: 1209
2. Requirements:
 - a. Provide stops and holders as indicated in the hardware sets.
 - b. Where wall bumpers are scheduled for exterior doors, provide FS18S floor stop(s) to be mounted on wall.

2.11 OVERHEAD STOPS AND HOLDERS

A. Acceptable Products:

- | | | | |
|----|------------------|-------------|-------------|
| 1. | Glynn Johnson: | 100 Series | 90 Series |
| 2. | Rixson-Firemark: | 6 Series | 9 Series |
| 3. | ABH: | 1000 Series | 9000 Series |

B. Requirements:

1. Provide overhead stops and holders as scheduled, sized per manufacturer’s recommendations based on door width.
2. Provide concealed overhead stops with adjustable jamb bracket.
3. Where possible without conflicting with other hardware, mount surface overhead stops on least public side of door.
4. Provide stops with any special templates, brackets, plates, or other accessories required for interface with header, door, wall, and other hardware.

2.12 SADDLE AND PANIC THRESHOLDS

A. Acceptable Products:

- | | | |
|----|---------------------|-------|
| 1. | Zero International: | 655A |
| 2. | National Guard: | 425HD |
| 3. | Pemko: | 1715A |

B. Requirements:

1. Saddle thresholds: Provide with length equal to the width of the opening.
2. Provide stainless steel machine screws and lead anchors for each threshold.

2.13 WEATHERSTRIP AND GASKET

A. General:

1. Provide weather strip and gasketing as scheduled.
2. Size weather strip and gasket to provide a continuous seal around opening and at meeting stiles.

B. Perimeter Seals

1. Acceptable Products:

- | | | | |
|----|-----------------|--------|---------|
| a. | Zero: | 429A | 488S-BK |
| b. | National Guard: | 700SA | 2525B |
| c. | Pemko: | 2891AS | PK33D |

C. Door Bottoms

1. Acceptable Products:

- | | | |
|----|-----------------|-------|
| a. | Zero: | 39A |
| b. | National Guard: | C627A |

- c. Pemko: 3452CNB

2.14 MISCELLANEOUS HARDWARE

A. Silencers

1. Acceptable Products:

- a. Ives: SR64
- b. Rockwood: 608
- c. Trimco: 1229A

2. Requirements:

- a. Where indicated on single openings, provide 3 each rubber silencers on lock jamb.

2.15 HIGH SECURITY EMERGENCY KEY BOX

A. Acceptable Products:

- 1. Knox, Inc. 3200 Series x RMK

B. Requirements:

- 1. Provide recess-mounted emergency key box as approved by the local fire jurisdiction. Key box to be master-keyed as dictated by local fire jurisdiction.

2.16 KEY CONTROL CABINET

A. Acceptable Products:

- 1. Lund, Inc. 1200 Series

B. Requirements:

- 1. Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet.
- 2. Provide complete cross-index system set up by Owner, and place keys on markers and hooks in the cabinet as determined by the final key schedule.
- 3. Provide hinged-panel type cabinet for wall mounting with capacity for 250 unique keys.

2.17 FINISHES

- A. Match items to the manufacturer's standard color and texture finish for the latch and locksets (or push-pull units if no latch or locksets).
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.

- C. The designations used in schedules and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18, "Materials and Finishes," including coordination with the traditional U.S. finishes shown by certain manufacturers for their products.
- D. The designations used in schedules and elsewhere to indicate hardware finishes are the industry-recognized standard commercial finishes, except as otherwise noted.
 - 1. Brushed Chrome and/or Stainless Steel Appearance
 - a. Brushed Stainless Steel, no coating: ANSI 630.
 - b. Satin Chrome, Clear Coated: ANSI 626, ANSI 652.
 - c. Powder Coated Aluminum finish: ANSI 689.
 - d. Saddle and Panic Thresholds: Mill Aluminum finish.
 - e. Weatherstrip and Gasket: Clear Anodized Aluminum finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: Comply with DHI A115 Series.
 - 1. Surface-Applied Door Hardware: Drill and tap doors and frames according to ANSI A250.6.
- B. Wood Doors: Comply with DHI A115-W Series.

3.3 INSTALLATION

- A. Pre-installation conference shall be conducted prior to installation of hardware at Project site. Meet with the, Owner, Contractor, installer, and manufacturer's representatives. A separate pre-installation conference shall be conducted prior to the installation of electronic security hardware with the electrical contractor Review catalogs, brochures, templates, installation instructions, and the approved hardware schedule. Survey installation procedures and workmanship, with special emphasis on unusual conditions, as to ensure correct technique of installation, and coordination with other work. Notify participants at least ten, 10 working days before conference.

- B. Hardware Installers must have a minimum of five (5) years' experience in installation of hardware. Provide verification of installer's qualification to Consultant for approval. All installers to attend review meetings with the hardware distributor.
- C. Install hardware using only manufacturer supplied and approved fasteners in strict adherence with manufacturers published installation instructions.
- D. Install head seal prior to installation of "PA"-parallel arm mounted door closers and push side mounted door stops/holders. Trim, cut and notch thresholds and saddles neatly to minimally fit the profile of the door frame. Install thresholds and saddles in a bed of caulking completely sealing the underside from water and air penetration.
- E. Counter sink through bolt of door pull under push plate during installation.
- F. Mounting Heights: Mount door hardware units at heights indicated, as follows, unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 - 2. Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."
 - 3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- G. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
 - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- H. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

3.4 FIELD QUALITY CONTROL

- A. Architectural Hardware Consultant: Architect shall engage a qualified Architectural Hardware Consultant to perform inspections and to prepare inspection reports.
- B. Architectural Hardware Consultant shall inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 - 1. Door Closers: Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.
- B. Occupancy Adjustment: Approximately six months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust, including adjusting operating forces, each item of door hardware as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.6 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.7 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Division 01 Section "Demonstration and Training."

3.8 DOOR HARDWARE SETS

- A. The following schedule of hardware sets shall be considered a guide and the supplier is cautioned to refer to general conditions, special conditions, and the full requirements of this section. It shall be the hardware supplier's responsibility to furnish all required hardware.
- B. Where items of hardware are not definitely or correctly specified and are required for completion of the Work, a written statement of such omission, error, conflict, or other discrepancy shall be sent to the Architect, prior to date specified for receipt of bids, for clarification by addendum.
- C. Adjustments to the Contract Sum will not be allowed for omissions or items of hardware not clarified prior to bid opening.

HW SET: 01

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

101

1	EA	CONT. HINGE	700	630	IVE
1	EA	FIRE EXIT HARDWARE	98-L-F-06	626	VON
1	EA	PRIMUS RIM CYLINDER	20-757 EV29 T	626	SCH
1	EA	SURFACE CLOSER	4111 AVB SCUSH MC SRI TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A-223	A	ZER

HW SET: 02

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

103	200	201	202	203	300
301	302	303	400	401	402
403	500	501	502	503	600
601	602	603			

1	EA	CONT. HINGE	700	630	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	SURFACE CLOSER	4050 CUSH MC TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK	IVE
1	EA	GASKETING	429AA-S	AA	ZER

HW SET: 03

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

104	105	106	107
-----	-----	-----	-----

1	EA	CONT. HINGE	700	630	IVE
1	EA	VANDL STOREROOM LOCK	ND96RD RHO EV T	626	SCH
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK	IVE
3	EA	SILENCER	SR64	GRY	IVE

HW SET: 04

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

109

1	EA	CONT. HINGE	700	630	IVE
1	EA	VANDL STOREROOM LOCK	ND96RD RHO EV T	626	SCH
1	EA	OH STOP	90S J	630	GLY
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A-223	A	ZER

HW SET: 05

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

108

1	EA	CONT. HINGE	700	630	IVE
1	EA	L9486R 06A L583-363 L583-375 EV T	L9486R 06A L583-363 L583-375	626	SCH
1	EA	SURFACE CLOSER	4050 RW/PA MC TBWMS	689	LCN
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK	IVE
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A-223	A	ZER
1	EA	COAT AND HAT HOOK	507	626	IVE

HW SET: A1

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

100A

102A

1	EA	CONT. HINGE	700	630	IVE
1	EA	FIRE EXIT HARDWARE	98-L-F-06	626	VON
1	EA	PRIMUS RIM CYLINDER	20-757 EV29 T	626	SCH
1	EA	OH STOP	100S ADJ	630	GLY
1	EA	SURFACE CLOSER	4040XP EDAW/62G MC SRI	689	LCN
1	EA	PA MOUNTING PLATE	4040XP-18PA SRI	689	LCN
1	EA	5TH SCREW SUPPORT	4040XP-30 SRI	689	LCN
1	SET	PERIMETER SEALS	DOOR MFG STD	AL	B/O
1	EA	THRESHOLD	DOOR MFG STD	AL	B/O

HW SET: A2

DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

100B

102B

1	EA	CONT. HINGE	700	630	IVE
1	EA	FIRE EXIT HARDWARE	98-L-F-06	626	VON
1	EA	PRIMUS RIM CYLINDER	20-757 EV29 T	626	SCH
1	EA	OH STOP	100S ADJ	630	GLY
1	EA	SURFACE CLOSER	4040XP EDAW/62G MC SRI	689	LCN
1	EA	PA MOUNTING PLATE	4040XP-18PA SRI	689	LCN
1	EA	5TH SCREW SUPPORT	4040XP-30 SRI	689	LCN
1	SET	PERIMETER SEALS	DOOR MFG STD	AL	B/O

SECTION 08 80 00 - GLAZING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:
 - 1. Doors.
 - 2. Storefront framing.
 - 3. Interior borrowed lites.

1.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design glass, including comprehensive engineering analysis according to ASTM E 1300 by a qualified professional engineer, using the following design criteria:
 - 1. Design Wind Pressures: As indicated on Drawings.
 - 2. Design Snow Loads: As indicated on Drawings.
 - 3. Vertical Glazing: For glass surfaces sloped 15 degrees or less from vertical, design glass to resist design wind pressure based on glass type factors for short-duration load.
 - 4. Differential Shading: Design glass to resist thermal stresses induced by differential shading within individual glass lites.

1.3 ACTION SUBMITTALS

- A. Product Data: For each glass product and glazing material indicated.
- B. Glass Samples: For each type of glass product other than clear monolithic vision glass; 12 inches (300 mm) square.
- C. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.
- D. Delegated-Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications for Insulating-Glass Units with Sputter-Coated, Low-E Coatings: A qualified insulating-glass manufacturer who is approved by coated-glass manufacturer.
- B. Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

- C. Glass Testing Agency Qualifications: A qualified independent testing agency accredited according to the NFRC CAP 1 Certification Agency Program.
- D. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.

1.5 WARRANTY

- A. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer's standard form in which coated-glass manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.
 - 1. Warranty Period: 10 years from date of Substantial Completion.
- B. Manufacturer's Special Warranty on Insulating Glass: Manufacturer's standard form in which insulating-glass manufacturer agrees to replace insulating-glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.
 - 1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 GLASS PRODUCTS, GENERAL

- A. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass lites in thicknesses as needed to comply with requirements indicated.
- B. Strength: Where float glass is indicated, provide annealed float glass, Kind HS heat-treated float glass, or Kind FT heat-treated float glass. Where heat-strengthened glass is indicated, provide Kind HS heat-treated float glass or Kind FT heat-treated float glass. Where fully tempered glass is indicated, provide Kind FT heat-treated float glass.
- C. Windborne-Debris-Impact Resistance: Provide exterior glazing that passes basic-protection testing requirements in ASTM E 1996 for Wind Zone 1 when tested according to ASTM E 1886. Test specimens shall be no smaller in width and length than glazing indicated for use on the Project and shall be installed in same manner as glazing indicated for use on the Project.
 - 1. Large-Missile Test: For all glazing, regardless of height above grade.
- D. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:

1. U-Factors: Center-of-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as Btu/sq. ft. x h x deg F (W/sq. m x K).
2. Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
3. Visible Reflectance: Center-of-glazing values, according to NFRC 300.

2.2 GLASS PRODUCTS

- A. Float Glass: ASTM C 1036, Type I, Quality-Q3, Class I (clear) unless otherwise indicated.
- B. Heat-Treated Float Glass: ASTM C 1048; Type I; Quality-Q3; Class I (clear) unless otherwise indicated; of kind and condition indicated.
- C. Uncoated Float Glass: Class 2, complying with other requirements specified.
 1. Basis-of-Design Product: Subject to compliance with requirements, provide Vitro, formerly PPG Glass or comparable product.
 2. Tinted Color: Clear.
 3. Visible Light Transmittance: 61 percent minimum.
 4. As indicated on the Drawings.

2.3 INSULATING GLASS

- A. Insulating-Glass Units: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190, and complying with other requirements specified.
 1. Sealing System: Dual seal.
 2. Spacer: Manufacturer's standard spacer material and construction.
 3. As indicated on the Drawings.

2.4 FIRE-PROTECTION-RATED GLAZING

- A. Fire-Protection-Rated Glazing, General: Listed and labeled by a testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 252 for door assemblies and NFPA 257 for window assemblies.
- B. Film-Faced Ceramic Glazing: Clear, ceramic flat glass; 3/16-inch (5-mm) nominal thickness; faced on one surface with a clear glazing film; complying with testing requirements in 16 CFR 1201 for Category II materials.
 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Nippon Electric Glass Co., Ltd. (distributed by Technical Glass Products); FireLite NT.
 - b. Safti First; SuperLite C/SP.
 - c. Schott North America, Inc.; Filmed Pyran Star.
 - d. Vetrotech Saint-Gobain; SGG Keralite FR-F.
 - e. As indicated on the Drawings.

2.5 GLAZING GASKETS

- A. Dense Compression Gaskets: Molded or extruded gaskets of profile and hardness required to maintain watertight seal, made from one of the following:
 - 1. Neoprene complying with ASTM C 864.
 - 2. EPDM complying with ASTM C 864.
 - 3. Silicone complying with ASTM C 1115.
 - 4. Thermoplastic polyolefin rubber complying with ASTM C 1115.
- B. Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned neoprene, EPDM, silicone or thermoplastic polyolefin rubber gaskets complying with ASTM C 509, Type II, black; of profile and hardness required to maintain watertight seal.
 - 1. Application: Use where soft compression gaskets will be compressed by inserting dense compression gaskets on opposite side of glazing or pressure applied by means of pressure-glazing stops on opposite side of glazing.

2.6 GLAZING SEALANTS

- A. General:
 - 1. Compatibility: Provide glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
 - 2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
 - 3. Sealants used inside the weatherproofing system, shall have a VOC content of not more than 250 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 - 4. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.
- B. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.
- C. Glazing Sealants for Fire-Rated Glazing Products: Products that are approved by testing agencies that listed and labeled fire-resistant glazing products with which they are used for applications and fire-protection ratings indicated.

2.7 GLAZING TAPES

- A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
 - 1. AAMA 804.3 tape, where indicated.

2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

B. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:

1. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.
2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.8 MISCELLANEOUS GLAZING MATERIALS

A. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

B. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.

C. Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

D. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

E. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

F. Perimeter Insulation for Fire-Resistive Glazing: Product that is approved by testing agency that listed and labeled fire-resistant glazing product with which it is used for application and fire-protection rating indicated.

2.9 MONOLITHIC-GLASS TYPES

A. Glass Type CG: Clear fully tempered float glass.

1. Thickness: 6.0 mm.
2. Provide safety glazing labeling.

B. Glass Type TG: Fully tempered float glass.

1. Thickness: 6.0 mm.
2. Provide safety glazing labeling.

2.10 INSULATING-GLASS TYPES

A. Glass Type IG-1: Low-e-coated, insulating glass.

1. Basis-of-Design: Vitro, Solarban 60 (2) Clear + Clear (match to existing adjacent).

2. Overall Unit Thickness: 1 inch (25 mm).
3. Thickness of Each Glass Lite: 6.0 mm.
4. Outdoor Lite: Clear fully tempered float glass.
5. Indoor Lite: Clear fully tempered float glass.
6. Low-E Coating: Pyrolytic or sputtered on second or third surface.
7. Visible Light Transmittance: 70 percent minimum.
8. Winter Nighttime U-Factor: 0.29 maximum.
9. Solar Heat Gain Coefficient: 0.39 maximum.
10. Provide safety glazing labeling.

2.11 FIRE-PROTECTION-RATED GLAZING TYPES

- A. Glass Type FG2: 45-minute, fire-rated glazing; film-faced ceramic glazing, laminated ceramic glazing, laminated glass with intumescent interlayers or gel-filled, double glazing units.
 1. Provide safety glazing labeling.
 2. As indicated on the Drawings.

PART 3 - EXECUTION

3.1 GLAZING, GENERAL

- A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.
- B. Adjust glazing channel dimensions as required by Project conditions during installation to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.
- C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.
- D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.
- E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
- F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
- G. Provide spacers for glass lites where length plus width is larger than 50 inches (1270 mm).

- H. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

3.2 TAPE GLAZING

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

3.3 GASKET GLAZING (DRY)

- A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.
- B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.
- C. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
- D. Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
- E. Install gaskets so they protrude past face of glazing stops.

3.4 SEALANT GLAZING (WET)

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

3.5 CLEANING AND PROTECTION

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

END OF SECTION 08 80 00

SECTION 09 29 00 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Interior gypsum board.
 - 2. Texture finishes.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples for Initial Selection: For each type of textured finish indicated.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.5 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 MANUFACTURERS

- A. 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:
 - a. American Gypsum.
 - b. CertainTeed Corporation.
 - c. Georgia-Pacific Building Products.
 - d. National Gypsum Company.
 - e. PABCO Gypsum.
 - f. USG Corporation.

2.4 INTERIOR GYPSUM BOARD

- A. Gypsum Board, Type X: ASTM C 1396/C 1396M.
 - 1. Thickness: 5/8 inch (15.9 mm).
 - 2. Long Edges: Tapered.
 - 3. As indicated on the Drawings.
- B. Gypsum Ceiling Board: ASTM C 1396/C 1396M.
 - 1. Thickness: 1/2 inch (12.7 mm).
 - 2. Long Edges: Tapered.
 - 3. As indicated on the Drawings.
- C. Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.
 - 1. Core: 5/8 inch (15.9 mm), Type X.

2. Long Edges: Tapered.
3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.
4. As indicated on the Drawings.

2.5 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, or paper-faced galvanized-steel sheet.
2. Shapes:
 - a. Cornerbead.
 - b. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - c. L-Bead: L-shaped; exposed long flange receives joint compound.
 - d. Expansion (control) joint.

2.6 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:

1. Interior Gypsum Board: Paper.
2. Exterior Gypsum Soffit Board: Paper.
3. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.

C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting or drying-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting or drying-type, all-purpose compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
3. Fill Coat: For second coat, use setting or drying-type, all-purpose compound.
4. Finish Coat: For third coat, use setting or drying-type, all-purpose compound.

D. Joint Compound for Exterior Applications:

1. Exterior Gypsum Soffit Board: Use setting-type taping compound and setting-type, sandable topping compound.
2. Glass-Mat Gypsum Sheathing Board: As recommended by sheathing board manufacturer.

2.7 ACOUSTIC SEALANT

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work includes, but are not limited to, the following:
1. Acoustic Sealant for Exposed and Concealed Joints:
 - a. Pecora Corp.; AC-20 FTR Acoustical and Insulation Sealant.
 - b. United States Gypsum Co.; SHEETROCK Acoustical Sealant.
 2. Acoustical Sealant for Concealed Joints:
 - a. Ohio Sealants, Inc.; Pro-Series SC-170 Rubber Base Sound Sealant.
 - b. Pecora Corp.; BA-98.
 - c. Tremco, Inc.; Tremco Acoustic Sealant.
- B. Acoustic Sealant for Exposed and Concealed Joints: Nonsag, paintable, nonstaining, latex sealant complying with ASTM C834 that effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
- C. Acoustic Sealant for Concealed Joints: Nondrying nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission.

2.8 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
- C. Steel Drill Screws: ASTM C 1002 unless otherwise indicated.
1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.
 2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.
- D. Acoustical Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
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:

- a. Everkem Diversified Products, Inc.
- b. Pecora Corporation.
- c. USG Corporation.

2.9 TEXTURE FINISHES

- A. Primer: As recommended by textured finish manufacturer.
- B. Non-Aggregate Finish: Premixed, vinyl texture finish for spray application.
 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:
 - a. CertainTeed Corporation.
 - b. National Gypsum Company.
 - c. USG Corporation.
 2. Texture: Orange Peel.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
 - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. (0.7 sq. m) in area.
 - 2. Fit gypsum panels around ducts, pipes, and conduits.
 - 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- (6.4- to 9.5-mm-) wide joints to install sealant.
- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- I. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written instructions for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.
- J. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

3.3 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Type X: Vertical surfaces where required.
 - 2. Ceiling Type: Ceiling surfaces where required.
 - 3. Mold-Resistant Type:
 - a. At the following rooms: All restroom walls.
 - 4. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
 - 5. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - 6. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints at locations indicated on Drawings.
- C. Interior Trim: Install in the following locations:
 - 1. Cornerbead: Use at outside corners unless otherwise indicated.
 - 2. LC-Bead: Use at exposed panel edges.
- D. Exterior Trim: Install in the following locations:
 - 1. Cornerbead: Use at outside corners.
 - 2. LC-Bead: Use: at exposed panel edges.

3.5 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
 - 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
 - 2. Level 4: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges, at panel surfaces that will be exposed to view, unless otherwise indicated.
 - a. Primer and its application to surfaces are specified in Section 099123 "Painting."

3.6 INSTALLATION OF TEXTURE FINISHES

- A. Surface Preparation and Primer: Prepare and apply primer to gypsum panels and other surfaces receiving texture finishes. Apply primer to surfaces that are clean, dry, and smooth.
- B. Texture Finish Application: Mix and apply finish using powered spray equipment, to produce a uniform texture free of starved spots or other evidence of thin application or of application patterns.
- C. Prevent texture finishes from coming into contact with surfaces not indicated to receive texture finish by covering them with masking agents, polyethylene film, or other means. If, despite these

precautions, texture finishes contact these surfaces, immediately remove droppings and overspray to prevent damage according to texture-finish manufacturer's written instructions.

3.7 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 09 29 00

SECTION 09 30 00 - CERAMIC TILING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Ceramic mosaic tile.
2. Metal edge strips.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples:

1. Each type and composition of tile and for each color and finish required.

1.3 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tile and Trim Units: Furnish quantity of full-size units equal to 2 percent of amount installed for each type, composition, color, pattern, and size indicated.

PART 2 - PRODUCTS

2.1 PRODUCTS, GENERAL

A. ANSI Ceramic Tile Standard: Provide Standard-grade tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.

B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCNA installation methods specified in tile installation schedules, and other requirements specified.

2.2 TILE PRODUCTS

A. Ceramic Tile Type FT1: Factory-mounted unglazed ceramic mosaic tile.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Dal-Tile Corporation.
2. Face Size: 2- by 2-inch (50.8 by 50.8 mm).
3. Thickness: 1/4-inch (6.4 mm).
4. Face: Manufacturer's standard.
5. Coefficient of Friction: Match existing – Contractor to verify.
6. Tile Color and Pattern: Match existing – Contractor to verify.
7. Grout Color: Match existing – Contractor to verify.
8. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes as follows, selected from manufacturer's standard shapes:
 - a. Cove base, module size 2 by 2 inches (match existing) – Contractor to verify.
 - b. Cove base out corner, module size 1 by 2 inches (match existing) – Contractor to verify.

2.3 WATERPROOF MEMBRANE

- A. General: Manufacturer's standard product, selected from the following, that complies with ANSI A118.10 and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.
- B. Polyethylene Sheet: Polyethylene faced on both sides with fleece webbing; 0.008-inch (0.2-mm) nominal thickness.
 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. Schluter Systems L.P.; KERDI.
- C. Fluid-Applied Membrane: Liquid-latex rubber or elastomeric polymer.
 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. Bostik, Inc.; Durabond D-222 Duraguard Membrane.
 - b. C-Cure; Pro-Red Waterproofing Membrane 963.
 - c. Custom Building Products; RedGuard Waterproofing and Crack Prevention Membrane.
 - d. Jamo Inc.; Waterproof.
 - e. Laticrete International, Inc.; Laticrete Hydro Ban or Hydro Barrier.
 - f. MAPEI Corporation; Mapelastick AquaDefense.
 - g. Merkrete Systems, Parex USA, Inc.; Hydro-Guard 1 or Hydro-Guard SP1.
 - h. Southern Grouts & Mortars, Inc.; Southcrete 1132.
 - i. TEC, H. B. Fuller Construction Products Inc.; HydraFlex - Waterproofing Crack Isolation Membrane.

- D. Latex-Portland Cement Waterproof Mortar: Flexible, waterproof mortar consisting of cement-based mix and latex additive.
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. Ardex Americas; Ardex 8+9 Waterproofing Compound.
 - b. Boiardi Products Corporation, a QEP company; Elastiment 323 Cement Based Waterproofing, Anti-Fracture/Crack Suppression Membrane.
 - c. C-Cure; UltraCure 971.
 - d. MAPEI Corporation; Mapelastic 315.
 - e. TEC, H. B. Fuller Construction Products Inc.; Triple Flex Waterproofing, Crack Isolation Membrane & Mortar.
- E. Waterproofing and Tile-Setting Adhesive: One-part, fluid-applied product, with a VOC content of 65 g/L or less. intended for use as both waterproofing and tile-setting adhesive in a two-step process.
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. Boiardi Products Corporation, a QEP company; Elastiment 324 Waterproofing, Anti-Fracture/Crack Suppressant and Tile Setting Adhesive or Elastiment 326 100% Solids Polyurethane Waterproofing Membrane & Tile Setting Adhesive.
 - b. Bostik, Inc.; Hydroment Ultra-Set Advanced.

2.4 CRACK ISOLATION MEMBRANE

- A. General: Manufacturer's standard product, selected from the following, that complies with ANSI A118.12 for standard performance and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.
- B. Fluid-Applied Membrane: Liquid-latex rubber or elastomeric polymer.
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. Bostik, Inc.; Durabond D-222 Duraguard Membrane.
 - b. C-Cure; Pro-Red Waterproofing Membrane 963.
 - c. Custom Building Products; RedGard Waterproofing and Crack Prevention Membrane.
 - d. Jamo Inc.; Waterproof.
 - e. Laticrete International, Inc.; Laticrete Hydro Ban or Hydro Barrier.
 - f. MAPEI Corporation; Mapelastic AquaDefense.
 - g. Merkrete Systems, Parex USA, Inc.; Hydro-Guard 1 or Hydro-Guard SP1.
 - h. Southern Grouts & Mortars, Inc.; Southcrete 1132.
 - i. TEC, H. B. Fuller Construction Products Inc.; HydraFlex - Waterproofing Crack Isolation Membrane.

- C. Latex-Portland Cement Crack-Resistant Mortar: Flexible mortar consisting of cement-based mix and latex additive.
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. Ardex Americas; Ardex 8+9 Waterproofing Compound.
 - b. Boiardi Products Corporation, a QEP company; Elastiment 323 Cement Based Waterproofing, Anti-Fracture/Crack Suppression Membrane.
 - c. C-Cure; UltraCure 971.
 - d. MAPEI Corporation; Mapelastic 315.
 - e. TEC, H. B. Fuller Construction Products Inc.; Triple Flex Waterproofing, Crack Isolation Membrane & Mortar.
- D. Crack Isolation Membrane and Tile-Setting Adhesive: One-part, fluid-applied product, with a VOC content of 65 g/L or less. intended for use as both a crack isolation membrane and tile-setting adhesive in a two-step process.
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. Boiardi Products Corporation, a QEP company; Elastiment 324 Waterproofing, Anti-Fracture/Crack Suppressant and Tile Setting Adhesive or Elastiment 326 100% Solids Polyurethane Waterproofing Membrane & Tile Setting Adhesive.
 - b. Bostik, Inc.; Hydroment Ultra-Set Advanced.

2.5 SETTING MATERIALS

- A. Latex-Portland Cement Mortar (Thinset): ANSI A118.4.
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:
 - a. Ardex Americas.
 - b. Boiardi Products Corporation; a QEP company.
 - c. Bonsal American; an Oldcastle company.
 - d. Bostik, Inc.
 - e. C-Cure.
 - f. Custom Building Products.
 - g. Jamo Inc.
 - h. Laticrete International, Inc.
 - i. MAPEI Corporation.
 - j. Merkrete Systems; Parex USA, Inc.
 - k. Southern Grouts & Mortars, Inc.
 - l. Summitville Tiles, Inc.
 - m. TEC; H. B. Fuller Construction Products Inc.
 2. Provide prepackaged, dry-mortar mix to which only water must be added at Project site.
 3. For wall applications, provide nonsagging mortar.

2.6 GROUT MATERIALS

A. Standard Cement Grout: ANSI A118.6.

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:
 - a. Boiardi Products Corporation; a QEP company.
 - b. Bonsal American; an Oldcastle company.
 - c. Bostik, Inc.
 - d. C-Cure.
 - e. Custom Building Products.
 - f. Jamo Inc.
 - g. Laticrete International, Inc.
 - h. MAPEI Corporation.
 - i. Southern Grouts & Mortars, Inc.
 - j. Summitville Tiles, Inc.
 - k. TEC; H. B. Fuller Construction Products Inc.

2.7 MISCELLANEOUS MATERIALS

- A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.
- B. Metal Edge Strips: Angle or L-shape, height to match tile and setting-bed thickness, metallic or combination of metal and PVC or neoprene base, designed specifically for flooring applications; satin anodized aluminum exposed-edge material.
 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Schluter Systems L.P.
- C. Grout Sealer: Manufacturer's standard product for sealing grout joints and that does not change color or appearance of grout.
 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. Bonsal American, an Oldcastle company; Grout Sealer.
 - b. Custom Building Products; Surfaceguard Sealer or Grout and Tile Sealer or Grout Sealer.
 - c. Jamo Inc.; Surfaceguard Sealer or Grout and Tile Sealer or Grout Sealer.
 - d. Southern Grouts & Mortars, Inc.; Grout Sealer or Clear Penetrating Sealer & Grout Release.
 - e. Summitville Tiles, Inc.; SL-15, Invisible Seal or SL-99, Summitseal II.

- f. TEC, H. B. Fuller Construction Products Inc.; Grout Guard Plus Penetrating Grout Sealer or Grout Guard Penetrating Grout Sealer or Guard All Invisible Penetrating Sealer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
 1. Verify that substrates for setting tile are firm; dry; clean; free of coatings that are incompatible with tile-setting materials, including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
 2. Verify that concrete substrates for tile floors installed with thinset mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thinset mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.
- B. Where indicated, prepare substrates to receive waterproofing by applying a reinforced mortar bed that complies with ANSI A108.1A and is sloped 1/4-inch per foot (1:50) toward drains.
- C. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

3.3 CERAMIC TILE INSTALLATION

- A. Comply with TCNA's "Handbook for Ceramic, Glass, and Stone Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 series "Specifications for Installation of Ceramic Tile" that are referenced in TCNA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.
 1. For the following installations, follow procedures in the ANSI A108 series of tile installation standards for providing 95 percent mortar coverage:
 - a. Tile floors in wet areas.
 - b. Tile floors consisting of tiles 8 by 8 inches (200 by 200 mm) or larger.

- c. Tile floors consisting of rib-backed tiles.
- B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
- C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- D. Provide manufacturer's standard trim shapes where necessary to eliminate exposed tile edges.
- E. Where accent tile differs in thickness from field tile, vary setting bed thickness so that tiles are flush.
- F. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.
- G. Joint Widths: Unless otherwise indicated, install tile with the following joint widths:
 - 1. Porcelain Tile: 1/8-inch.
- H. Lay out tile wainscots to dimensions indicated or to next full tile beyond dimensions indicated.
- I. Expansion Joints: Provide expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated. Form joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.
 - 1. Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.
- J. Metal Edge Strips: Install at locations indicated.
- K. Grout Sealer: Apply grout sealer to cementitious grout joints in tile floors and walls according to grout-sealer manufacturer's written instructions. As soon as grout sealer has penetrated grout joints, remove excess sealer and sealer from tile faces by wiping with soft cloth.
- L. Install panels and treat joints according to ANSI A108.11 and manufacturer's written instructions for type of application indicated.
- M. Install waterproofing to comply with ANSI A108.13 and manufacturer's written instructions to produce waterproof membrane of uniform thickness that is bonded securely to substrate.

3.4 INTERIOR CERAMIC TILE INSTALLATION SCHEDULE

- A. Interior Floor Installations, Concrete Subfloor:

- 1. Ceramic Tile Installation: TCNA F125-FULL; thinset mortar on crack isolation/waterproof membrane.
 - a. Ceramic Tile Type: FT1.
 - b. Thinset Mortar: Latex-portland cement mortar.
 - c. Grout: Standard unsanded cement grout.

END OF SECTION 093013

SECTION 09 51 13 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes acoustical panels and exposed suspension systems for interior ceilings.

1.3 ACTION SUBMITTALS

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

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For finishes to include in maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run,] that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Acoustical Ceiling Units: Full-size panels equal to 2 percent of quantity installed.
 - 2. Suspension-System Components: Quantity of each exposed component equal to 2 percent of quantity installed.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical panels, suspension-system components, and accessories to Project site and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.

1.7 FIELD CONDITIONS

- A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
 - 1. Pressurized Plenums: Operate ventilation system for not less than 48 hours before beginning acoustical panel ceiling installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain each type of acoustical ceiling panel and its supporting suspension system from single source from single manufacturer.
- B. 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:
 - 1. Armstrong World Industries, Inc.
 - 2. CertainTeed Corporation.
 - 3. Chicago Metallic Corporation.
 - 4. Rockfon (Roxul Inc.).
 - 5. USG Corporation.

2.2 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Suspended ceilings shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
- B. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: Class A according to ASTM E 1264.
 - 2. Smoke-Developed Index: 50 or less.

2.3 ACOUSTICAL PANEL CEILINGS, GENERAL

- A. Glass-Fiber-Based Panels: Made with binder containing no urea formaldehyde.
- B. Acoustical Panel Standard: Comply with ASTM E 1264.
- C. Metal Suspension System Standard: Comply with ASTM C 635.
- D. Attachment Devices: Size for five times the design load indicated in ASTM C 635, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.

2.4 ACOUSTICAL CEILING PANEL <ACP-1>

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Armstrong 'Cortega', medium texture #769 World Industries.
- B. Classification: ASTM E1264, Type III, Form 2, and Pattern CD.
- C. Color: White.
- D. LR: .82.
- E. NRC: .55, Type E-400 mounting according to ASTM E 795.
- F. CAC: 35.
- G. Edge/Joint Detail: Square Lay-in.
- H. Thickness: 5/8-inch (15 mm).
- I. Modular Size: 24 by 48 inches (610 by 1220 mm).
 - 1. Provide at all locations unless indicated otherwise.
 - a. Basis-of-Design: Armstrong “Cortega Square Lay-In”.

2.5 METAL SUSPENSION SYSTEM <ACP-1>

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Armstrong World Industries, 15/16-inch Prelude XL or comparable product by one of the following:
 - 1. CertainTeed Corp.
 - 2. Chicago Metallic Corporation.
 - 3. USG Interiors, Inc.; Subsidiary of USG Corporation.
- B. Wide-Face, Capped, Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet; prepainted, electrolytically zinc coated, or hot-dip galvanized according to ASTM A 653/A 653M, not less than G30 (Z90) coating designation; with prefinished 15/16-inch wide metal caps on flanges.
 - 1. Structural Classification: Intermediate-duty system.
 - 2. End Condition of Cross Runners: Override (stepped) or butt-edge type.
 - 3. Face Design: Flat, flush.
 - 4. Cap Material: Steel or aluminum cold-rolled sheet.
 - 5. Cap Finish: Painted white.
- C. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension-system runners.

2.6 ACCESSORIES

- A. Wire Hangers, Braces, and Ties: Provide wires as follows:
 - 1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
 - 2. Size: Wire diameter sufficient for its stress at three times hanger design load (ASTM C 635/C 635M, Table 1, "Direct Hung") will be less than yield stress of wire, but not less than 0.135-inch- (3.5-mm-) diameter wire.
- B. Hanger Rods: Mild steel, zinc coated or protected with rust-inhibitive paint.
- C. Angle Hangers: Angles with legs not less than 7/8 inch (22 mm) wide; formed with 0.04-inch- (1-mm-) thick, galvanized-steel sheet complying with ASTM A 653/A 653M, G90 (Z275) coating designation; with bolted connections and 5/16-inch- (8-mm-) diameter bolts.
- D. Seismic Stabilizer Bars: Manufacturer's standard perimeter stabilizers designed to accommodate seismic forces.
- E. Seismic Struts: Manufacturer's standard compression struts designed to accommodate seismic forces.

2.7 METAL EDGE MOLDINGS AND TRIM

- A. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension-system runners.
 - 1. Edge moldings shall fit acoustical panel edge details and suspension systems indicated and match width and configuration of exposed runners unless otherwise indicated.
 - 2. For lay-in panels with reveal edge details, provide stepped edge molding that forms reveal of same depth and width as that formed between edge of panel and flange at exposed suspension member.
 - 3. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.
- B. Basis-of-Design Product: Subject to compliance with requirements, provide Armstrong World Industries, 15/16-inch Prelude XL / 360-degree Painted Grid.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, including structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified

in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.

- B. Examine acoustical panels before installation. Reject acoustical panels that are wet, moisture damaged, or mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders unless otherwise indicated, and comply with layout shown on reflected ceiling plans.
- B. Layout openings for penetrations centered on the penetrating items.

3.3 INSTALLATION

- A. Install acoustical panel ceilings according to ASTM C 636/C 636M, seismic design requirements, and manufacturer's written instructions.
- B. Suspend ceiling hangers from building's structural members and as follows:
 - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
 - 2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 - 3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension-system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
 - 4. Secure wire hangers to ceiling-suspension members and to supports above with a minimum of three tight turns. Connect hangers directly to structure or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
 - 5. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both the structure to which hangers are attached and the type of hanger involved. Install hangers in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
 - 6. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, postinstalled mechanical or adhesive anchors, or power-actuated fasteners that extend through forms into concrete.
 - 7. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
 - 8. Do not attach hangers to steel deck tabs.
 - 9. Do not attach hangers to steel roof deck. Attach hangers to structural members.

10. Space hangers not more than 48 inches (1200 mm) o.c. along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches (200 mm) from ends of each member.
 11. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
- C. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs. Fasten bracing wires into concrete with cast-in-place or postinstalled anchors.
- D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels.
1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
 2. Screw attach moldings to substrate at intervals not more than 16 inches (400 mm) o.c. and not more than 3 inches (75 mm) from ends. Miter corners accurately and connect securely.
 3. Do not use exposed fasteners, including pop rivets, on moldings and trim.
- E. Install suspension-system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- F. Install acoustical panels with undamaged edges and fit accurately into suspension-system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide precise fit.
1. Arrange directionally patterned acoustical panels as follows:
 - a. As indicated on reflected ceiling plans.
 2. For reveal-edged panels on suspension-system runners, install panels with bottom of reveal in firm contact with top surface of runner flanges.
 3. Paint cut edges of panel remaining exposed after installation; match color of exposed panel surfaces using coating recommended in writing for this purpose by acoustical panel manufacturer.
 4. Protect lighting fixtures and air ducts according to requirements indicated for fire-resistance-rated assembly.

3.4 ERECTION TOLERANCES

- A. Suspended Ceilings: Install main and cross runners level to a tolerance of 1/8 inch (3 mm) in 12 feet (3.6 m), non-cumulative.
- B. Moldings and Trim: Install moldings and trim to substrate and level with ceiling suspension system to a tolerance of 1/8 inch (3 mm) in 12 feet (3.6 m), non-cumulative.

3.5 CLEANING

- A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension-system members. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage.
- B. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09 51 13

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Thermoset-rubber base.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified, not less than 12 inches (300 mm) long.
- C. Samples for Initial Selection: For each type of product indicated.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Furnish not less than 10 linear feet (3 linear m) for every 500 linear feet (150 linear m) or fraction thereof, of each type, color, pattern, and size of resilient product installed.

1.5 QUALITY ASSURANCE

- A. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.
 - 1. Coordinate mockups in this Section with mockups specified in other Sections.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F (10 deg C) or more than 90 deg F (32 deg C).

1.7 FIELD CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F (21 deg C) or more than 95 deg F (35 deg C), in spaces to receive resilient products during the following periods:
 - 1. 48 hours before installation.
 - 2. During installation.
 - 3. 48 hours after installation.
- B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F (13 deg C) more than 95 deg F (35 deg C).
- C. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 THERMOSET-RUBBER BASE

- A. 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:
 - 1. Burke Mercer Flooring Products; a division of Burke Industries Inc.
 - 2. Flexco.
 - 3. Johnsonite; a Tarkett company.
 - 4. Roppe Corporation, USA.
- B. Product Standard: ASTM F 1861, Type TS (rubber, vulcanized thermoset), Group I (solid, homogeneous).
 - 1. Style and Location:
 - a. Style B, Cove: Provide in areas with resilient floor coverings.
- C. Thickness: 0.125 inch (3.2 mm).
- D. Height: 6 inches (152 mm).
- E. Lengths: Cut lengths Coils in manufacturer's standard length.
- F. Outside Corners: Job formed.

- G. Inside Corners: Job formed.
- H. Colors: Match Architect's sample.

2.2 RUBBER MOLDING ACCESSORY

- A. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:
 - 1. Roppe Corporation, USA.
- B. Description: Rubber nosing for carpet, reducer strip for resilient floor covering, and joiner for tile and carpet.
- C. Profile and Dimensions: Manufacturer's standard for materials indicated.
- D. Locations: Provide rubber molding accessories at all transitions from carpet tile to concrete, sheet vinyl to concrete, and sheet vinyl to carpet.
- E. Colors and Patterns: Selected by Architect from manufacturer's full range of colors.

2.3 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
 - 1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
 - 1. Installation of resilient products indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
- C. Do not install resilient products until materials are the same temperature as space where they are to be installed.
 - 1. At least 48 hours in advance of installation, move resilient products and installation materials into spaces where they will be installed.
- D. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

3.3 RESILIENT BASE INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.
- D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- E. Do not stretch resilient base during installation.
- F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.
- G. Job-Formed Corners:
 - 1. Outside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 3 inches (76 mm) in length.
 - a. Form without producing discoloration (whitening) at bends.
 - 2. Inside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 3 inches (76 mm) in length.
 - a. Miter or cope corners to minimize open joints.

3.4 RESILIENT ACCESSORY INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient accessories.

- B. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor covering that would otherwise be exposed.

3.5 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.
- B. Perform the following operations immediately after completing resilient-product installation:
 - 1. Remove adhesive and other blemishes from surfaces.
 - 2. Sweep and vacuum horizontal surfaces thoroughly.
 - 3. Damp-mop horizontal surfaces to remove marks and soil.
- C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION 09 65 13

SECTION 09 91 23 - PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and the application of paint systems on the following interior substrates:
 - 1. Concrete.
 - 2. Steel.
 - 3. Gypsum board.

1.2 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- D. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- E. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- F. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- G. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples: For each type of paint system and in each color and gloss of topcoat.
- C. Product List: For each product indicated. Include printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Paint: 5 percent, but not less than 1 gal. (3.8 L) of each material and color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to:
 - 1. Benjamin Moore & Co.
 - 2. ICI Paints.
 - 3. Kelly-Moore Paints.
 - 4. Sherwin Williams.

2.2 PAINT, GENERAL

- A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."
- B. Material Compatibility:
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- C. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction and, for interior paints and coatings applied at Project site, the following VOC limits, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 - 1. Flat Paints and Coatings: 50 g/L.
 - 2. Nonflat Paints and Coatings: 150 g/L.
 - 3. Dry-Fog Coatings: 400 g/L.
 - 4. Primers, Sealers, and Undercoaters: 200 g/L.
 - 5. Anticorrosive and Antirust Paints Applied to Ferrous Metals: 250 g/L.
 - 6. Zinc-Rich Industrial Maintenance Primers: 340 g/L.
 - 7. Pretreatment Wash Primers: 420 g/L.
 - 8. Floor Coatings: 100 g/L.
 - 9. Shellacs, Clear: 730 g/L.
 - 10. Shellacs, Pigmented: 550 g/L.
- D. Colors: Match the following colors and sheen.

1. As Indicated on the Drawings.

2.3 PRIMERS/SEALERS

- A. Primer Sealer, Latex, Interior: MPI #50.

1. Sherwin Williams; Harmony Interior Latex Primer.

2.4 METAL PRIMERS

- A. Primer, Alkyd, Anti-Corrosive, for Metal: MPI #79.

- B. Primer, Alkyd, Quick Dry, for Metal: MPI #76.

2.5 WATER-BASED PAINTS

- A. Latex, Interior, Satin (Gloss Level 3): MPI #52.

1. Sherwin Williams; Harmony Interior Latex Eg-shell.

- B. Latex, Interior, Semi-Gloss, (Gloss Level 5): MPI #54.

1. Sherwin Williams; Harmony Interior Latex Semi-gloss.

- C. Acrylic Urethane, Interior, High Performance, high gloss.

1. Sherwin Williams; Pro Industrial Waterbased Acrolon 100.

2.6 SOLVENT-BASED PAINTS

- A. Alkyd, Interior, Semi-Gloss (Gloss Level 5): MPI #47.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Concrete: 12 percent.
2. Masonry (Clay and CMU): 12 percent.
3. Wood: 15 percent.
4. Gypsum Board: 12 percent.

5. Plaster: 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected.
 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
- B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

- A. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 INTERIOR PAINTING SCHEDULE

- A. Concrete Substrates, Traffic Surfaces:

1. Water-Based Clear Sealer System:
 - a. First Coat: Sealer, water based, for concrete floors, MPI #99.
 - b. Topcoat: Sealer, water based, for concrete floors, MPI #99.

- B. Steel Substrates:
 1. Alkyd System:
 - a. Prime Coat: Primer, alkyd, anti-corrosive, for metal, MPI #79 or primer, alkyd, quick dry, for metal, MPI #76.
 - b. Intermediate Coat: Alkyd, interior, matching topcoat.
 - c. Topcoat: Alkyd, interior, semi-gloss (Gloss Level 5), MPI #47.

- C. Gypsum Board Substrates:
 1. Latex System: Sheen as listed with color designation.
 - a. Prime Coat: Primer sealer, latex, interior, MPI #50.
 - b. Intermediate Coat: Latex, interior, matching topcoat.
 - c. Topcoat: Latex, interior, (Gloss Level 3), MPI #52.
 - d. Topcoat: Latex, interior, semi-gloss, (Gloss Level 5), MPI #54.

 2. High-Performance Architectural Latex System: At areas as noted on Drawings, regardless of sheen listed with color designation.
 - a. Prime Coat: Primer sealer, latex, interior, MPI #50.
 - b. Intermediate Coat: Acrylic urethane, interior, high performance, matching topcoat.
 - c. Topcoat: Acrylic urethane, interior, high performance, high gloss.

END OF SECTION 09 91 23

SECTION 10 26 00 - WALL AND DOOR PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Glass-fiber-reinforced plastic paneling.

1.3 ACTION SUBMITTALS

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

- 1. Include construction details, material descriptions, impact strength, dimensions of individual components and profiles, and finishes.

- B. Shop Drawings: For each type of wall protection showing locations and extent.

- 1. Include plans, elevations, sections, and attachment details.

- C. Samples for Initial Selection: For each type of impact-resistant wall-protection unit indicated, in each color and texture specified.

- 1. Include Samples of accent strips and accessories to verify color selection.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of wall and door protection product to include in maintenance manuals.

- 1. Include recommended methods and frequency of maintenance for maintaining best condition of plastic covers under anticipated traffic and use conditions. Include precautions against using cleaning materials and methods that may be detrimental to finishes and performance.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store wall protection in original undamaged packages and containers inside well-ventilated area protected from weather, moisture, soiling, extreme temperatures, and humidity.
 - 1. Maintain room temperature within storage area at not less than 70 deg F (21 deg C) during the period plastic materials are stored.
 - 2. Keep plastic materials out of direct sunlight.
 - 3. Store plastic wall- and door-protection components for a minimum of 72 hours, or until plastic material attains a minimum room temperature of 70 deg F (21 deg C).
 - a. Store corner-guard covers in a vertical position.

1.6 WARRANTY

- A. Warranty: Manufacturer agrees to repair or replace components of wall-protection units that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including detachment of components from each other or from the substrates, delamination, and permanent deformation beyond normal use.
 - b. Deterioration of metals, metal finishes, plastics, and other materials beyond normal use.
 - 2. Warranty Period: Manufacturers standard number years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Surface Burning Characteristics: Comply with ASTM E 84 or UL 723; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: 25 or less.
 - 2. Smoke-Developed Index: 450 or less.

2.2 WALL COVERINGS

- A. Glass-Fiber-Reinforced Plastic Paneling: Gelcoat-finished, glass-fiber-reinforced plastic panels complying with ASTM D 5319.
 - 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:
 - a. Crane Composites, Inc.

- b. Marlite.
- c. Nudo Products, Inc.
- 2. Basis-of-Design: Nudo Products, Inc.; Fiber – Lite Liner Panel LP-9; Thickness, 0.090”.
- 3. Size: 48 by 96 inches (1219 by 2438 mm) FRP -1.
- 4. Sheet Thickness: 3/32”.
- 5. Color and Texture: Pearl, Smooth.
- 6. Height: As indicated.
- 7. Trim and Joint Moldings: PVC.
- 8. Mounting: Adhesive.

2.3 FINISHES

- A. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and wall areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine walls to which wall protection will be attached for blocking, grounds, and other solid backing that have been installed in the locations required for secure attachment of support fasteners.
 - 1. For wall protection attached with adhesive, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Complete finishing operations, including painting, before installing wall protection.
- B. Before installation, clean substrate to remove dust, debris, and loose particles.

3.3 INSTALLATION

- A. Installation Quality: Install wall and door protection according to manufacturer's written instructions, level, plumb, and true to line without distortions. Do not use materials with chips, cracks, voids, stains, or other defects that might be visible in the finished Work.

- B. Accessories: Provide splices, mounting hardware, anchors, trim, joint moldings, and other accessories required for a complete installation.
 - 1. Provide anchoring devices and suitable locations to withstand imposed loads.
 - 2. Where splices occur in horizontal runs of more than 20 feet (6.1 m), splice aluminum retainers at different locations along the run, but no closer than 12 inches (305 mm) apart.
 - 3. Adjust end and top caps as required to ensure tight seams.
- C. Abuse-Resistant Wall Covering: Install top and edge moldings, corners, and divider bars as required for a complete installation.
- D. Glass-fiber-reinforced plastic paneling: Install top and edge moldings, corners, and divider bars as required for a complete installation.

3.4 CLEANING

- A. Immediately after completion of installation, clean plastic covers and accessories using a standard ammonia-based household cleaning agent.
- B. Remove excess adhesive using methods and materials recommended in writing by manufacturer.

END OF SECTION 10 26 00

SECTION 10 28 00 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Public-use washroom accessories.
 - 2. Underlavatory guards.

1.3 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 2. Include anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
 - 3. Include electrical characteristics.
- B. Samples: Full size, for each exposed product and for each finish specified.
 - 1. Approved full-size Samples will be returned and may be used in the Work.
- C. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.
 - 1. Identify locations using room designations indicated.
 - 2. Identify accessories using designations indicated.

1.5 INFORMATIONAL SUBMITTALS

- A. Sample Warranty: For manufacturer's special warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For accessories to include in maintenance manuals.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 PUBLIC-USE WASHROOM ACCESSORIES

- A. Source Limitations: Obtain public-use washroom accessories from single source from single manufacturer.

- B. Toilet Paper (Roll) Dispenser < C >:

- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc.
 - c. Bradley Corporation.
- 2. Description: Roll-in-reserve dispenser with hinged front secured with tumbler lockset equal to Bobrick B2888.
- 3. Mounting: Surface mounted.
- 4. Operation: Noncontrol delivery with theft-resistant spindle.
- 5. Capacity: Designed for 4-1/2- or 5-inch- (114- or 127-mm-) diameter tissue rolls.
- 6. Material and Finish: Stainless steel, No. 4 finish (satin).

- C. Paper Towel (Folded) Dispenser: < E >:

- 1. Manufacturers:
 - a. Bobrick Washroom Equipment, Inc.
- 2. Model No: B-262.

- D. Liquid-Soap Dispenser < D >: Remove existing and replace as indicated on drawings.

- E. Grab Bar < B >:

- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc.
 - c. Bradley Corporation.

2. Mounting: Flanges with concealed fasteners.
3. Material: Stainless steel, 0.05 inch (1.3 mm) thick.
 - a. Finish: Smooth, No. 4 finish (satin) on ends and slip-resistant texture in grip area.
4. Outside Diameter: 1-1/2 inches (38 mm).
5. Configuration and Length: As indicated on Drawings.

F. Mirror Unit < A >:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc.
 - c. Bradley Corporation.
2. Frame: Stainless-steel.
 - a. Corners: Mitered and mechanically interlocked.
3. Hangers: Produce rigid, tamper- and theft-resistant installation, using method indicated below.
 - a. Wall bracket of galvanized steel, equipped with concealed locking devices requiring a special tool to remove.
4. Size: 24"x36".

2.3 UNDERLAVATORY GUARDS

A. Underlavatory Guard:

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:
 - a. Plumberex Specialty Products, Inc.
 - b. Truebro by IPS Corporation.
2. Description: Insulating pipe covering for supply and drain piping assemblies that prevents direct contact with and burns from piping; allow service access without removing coverings.
3. Material and Finish: Antimicrobial, molded plastic, white.

2.4 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, 0.031-inch (0.8-mm) minimum nominal thickness unless otherwise indicated.
- B. Brass: ASTM B 19, flat products; ASTM B 16/B 16M, rods, shapes, forgings, and flat products with finished edges; or ASTM B 30, castings.

- C. Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold rolled, commercial steel), 0.036-inch (0.9-mm) minimum nominal thickness.
- D. Galvanized-Steel Sheet: ASTM A 653/A 653M, with G60 (Z180) hot-dip zinc coating.
- E. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- F. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.
- G. Chrome Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).
- H. Mirrors: ASTM C 1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.

2.5 FABRICATION

- A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.
- B. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3 - ECUTION

3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
- B. Grab Bars: Install to withstand a downward load of at least 250 lbf (1112 N), when tested according to ASTM F 446.

3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.
- B. Remove temporary labels and protective coatings.
- C. Clean and polish exposed surfaces according to manufacturer's written instructions.

END OF SECTION 102800

SECTION 32 13 13 - CONCRETE PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes Concrete Paving. Including the Following:
 - 1. Curbs and gutters.
 - 2. Sidewalks.
- B. Related Requirements:
 - 1. Section 32 13 73 "Concrete Paving Joint Sealants" for joint sealants in expansion and contraction joints within concrete paving and in joints between concrete paving and asphalt paving or adjacent construction.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash, slag cement, and other pozzolans.
- B. W/C Ratio: The ratio by weight of water to cementitious materials.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For the following, from manufacturer:
 - 1. Cementitious materials.
 - 2. Steel reinforcement and reinforcement accessories.
 - 3. Fiber reinforcement.

4. Admixtures.
5. Curing compounds.
6. Applied finish materials.
7. Bonding agent or epoxy adhesive.
8. Joint fillers.

B. Material Test Reports: For each of the following:

1. Aggregates: Include service-record data indicating absence of deleterious expansion of concrete due to alkali-aggregate reactivity.

1.6 QUALITY ASSURANCE

A. Stamped Detectable Warning Installer Qualifications: An employer of workers trained and approved by manufacturer of stamped concrete paving systems.

B. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities" (Quality Control Manual - Section 3, "Plant Certification Checklist").

C. Testing Agency Qualifications: Qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.

1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

- A. ACI Publications: Comply with ACI 301 (ACI 301M) unless otherwise indicated.

2.2 FORMS

- A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, and smooth exposed surfaces.

1. Use flexible or uniformly curved forms for curves with a radius of 100 feet (30.5 m) or less.

- B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and that will not impair subsequent treatments of concrete surfaces.

2.3 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420); deformed.

2.4 CONCRETE MATERIALS

- A. Cementitious Materials: Use the following cementitious materials, of same type, brand, and source throughout Project:

1. Portland Cement: ASTM C 150/C 150M, gray portland cement Type I or Type II.
2. Fly Ash: ASTM C 618, Class C.

- B. Normal-Weight Aggregates: ASTM C 33/C 33M, Class 4M uniformly graded. Provide aggregates from a single source with documented service-record data of at least 10 years' satisfactory service in similar paving applications and service conditions using similar aggregates and cementitious materials.

1. Maximum Coarse-Aggregate Size: 3/4 inch (19 mm)] nominal.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

- C. Air-Entraining Admixture: ASTM C 260/C 260M.

- D. Chemical Admixtures: Admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.

- E. Water: Potable and complying with ASTM C 94/C 94M.

2.5 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) dry.

- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

- C. Water: Potable.

- D. Evaporation Retarder: Waterborne, monomolecular, film forming, manufactured for application to fresh concrete.

1. Products:
 - a. Axim Concrete Technologies; Cimfilm.
 - b. Burke by Edeco; BurkeFilm.
 - c. ChemMasters; Spray-Film.

- d. Conspec Marketing & Manufacturing Co., Inc.; Aquafilm.
- e. Dayton Superior Corporation; Sure Film.
- f. Euclid Chemical Company (The); Eucobar.
- g. Kaufman Products, Inc.; Vapor Aid
- h. Lambert Corportation; Lambco Skin.
- i. L &M Construction Chemicals, Inc.; E-Con.
- j. MBT Protection and Repair, CemRex Inc.; Confilm.
- k. Meadows, W.R., Inc.; Sealtight Evapre.
- l. Metalcrete Industries; Waterhold.
- m. Nox-Crete Products Group, Kinsman Corporation; Monofilm.
- n. Sika Corporation, Sikafilm.
- o. Symons Corporation; Finishing Aid.
- p. Vexcon Chemicals, Inc.; Certi-Vex EnvioAssist.

2.6 RELATED MATERIALS

- A. Joint Fillers: ASTM D 1751, asphalt-saturated cellulosic fiber in preformed strips.
- B. Bonding Agent: ASTM C 1059/C 1059M, Type II, non-redispersible, acrylic emulsion or styrene butadiene.
- C. Epoxy-Bonding Adhesive: ASTM C 881/C 881M, two-component epoxy resin capable of humid curing and bonding to damp surfaces; of class suitable for application temperature, of grade complying with requirements, and of the following types:
 - 1. Types I and II, nonload bearing for bonding hardened or freshly mixed concrete to hardened concrete.

2.7 DETECTABLE WARNING MATERIALS

- A. Detectable Warning: Truncated domes per ISPWC SD-172 Onsite truncated domes shall be yellow.

2.8 CONCRETE MIXTURES

- A. Prepare design mixtures, proportioned according to ACI 301 (ACI 301M), for each type and strength of normal-weight concrete, and as determined by either laboratory trial mixtures or field experience.
 - 1. Use a qualified independent testing agency for preparing and reporting proposed concrete design mixtures for the trial batch method.
 - 2. When automatic machine placement is used, determine design mixtures and obtain laboratory test results that comply with or exceed requirements.
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
 - 1. Fly Ash or Pozzolan: 25 percent.

2.9 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M and ASTM C 1116/C 1116M. Furnish batch certificates for each batch discharged and used in the Work.
 - 1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.
- B. Proof-roll prepared subbase surface below concrete paving to identify soft pockets and areas of excess yielding.
 - 1. Completely proof-roll subbase in one direction and repeat in perpendicular direction. Limit vehicle speed to 3 mph (5 km/h).
 - 2. Proof-roll with a pneumatic-tired and loaded, 10-wheel, tandem-axle dump truck weighing not less than 15 tons (13.6 tonnes).
 - 3. Correct subbase with soft spots and areas of pumping or rutting exceeding depth of 1/2 inch (13 mm).
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.3 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.4 STEEL REINFORCEMENT INSTALLATION

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

- B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.
- D. Install welded-wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.

3.5 JOINTS

- A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.
 - 1. When joining existing paving, place transverse joints to align with previously placed joints unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.
 - 1. Continue steel reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of paving strips unless otherwise indicated.
 - 2. Provide tie bars at sides of paving strips where indicated.
 - 3. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or coat with asphalt one-half of dowel length to prevent concrete bonding to one side of joint.
- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.
 - 1. Locate expansion joints at intervals of [50 feet (15.25 m)] unless otherwise indicated.
 - 2. Extend joint fillers full width and depth of joint.
 - 3. Terminate joint filler not less than 1/2 inch (13 mm) or more than 1 inch (25 mm) below finished surface if joint sealant is indicated.
 - 4. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.
 - 5. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
 - 6. During concrete placement, protect top edge of joint filler with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.
- D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows, to match jointing of existing adjacent concrete paving:
 - 1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with grooving tool to a [1/4-inch (6-mm)] [3/8-inch (10-mm)] radius. Repeat grooving of contraction joints after applying surface finishes.

- a. Tolerance: Ensure that grooved joints are within [3 inches (75 mm)] either way from centers of dowels.
2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3-mm-) wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before developing random contraction cracks.
 - a. Tolerance: Ensure that sawed joints are within [3 inches (75 mm)] either way from centers of dowels.
- E. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a [1/4-inch (6-mm)] [3/8-inch (10-mm)] radius. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

3.6 CONCRETE PLACEMENT

- A. Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast-in.
- B. Remove snow, ice, or frost from subbase surface and steel reinforcement before placing concrete. Do not place concrete on frozen surfaces.
- C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.
- D. Comply with ACI 301 (ACI 301M) requirements for measuring, mixing, transporting, and placing concrete.
- E. Do not add water to concrete during delivery or at Project site. Do not add water to fresh concrete after testing.
- F. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- G. Consolidate concrete according to ACI 301 (ACI 301M) by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.
 1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.
- H. Screed paving surface with a straightedge and strike off.
- I. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleedwater appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

- J. Curbs and Gutters: Use design mixture for automatic machine placement. Produce curbs and gutters to required cross section, lines, grades, finish, and jointing.
- K. Slip-Form Paving: Use design mixture for automatic machine placement. Produce paving to required thickness, lines, grades, finish, and jointing.
 - 1. Compact subbase and prepare subgrade of sufficient width to prevent displacement of slip-form paving machine during operations.

3.7 FLOAT FINISHING

- A. General: Do not add water to concrete surfaces during finishing operations.
- B. Float Finish: Begin the second floating operation when bleedwater sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
 - 1. Burlap Finish: Drag a seamless strip of damp burlap across float-finished concrete, perpendicular to line of traffic, to provide a uniform, gritty texture.
 - 2. Medium-to-Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface, perpendicular to line of traffic, to provide a uniform, fine-line texture.
 - 3. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch (1.6 to 3 mm) deep with a stiff-bristled broom, perpendicular to line of traffic.

3.8 DETECTABLE WARNING INSTALLATION

- A. Detectable Warning: Truncated domes per ISPWC SD-172 Onsite truncated domes shall be yellow.
 - 1. Comply with ISPWC Standards.

3.9 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- B. Comply with ACI 306.1 for cold-weather protection.
- C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.
- D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

- E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows:
1. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating, and repair damage during curing period.

3.10 PAVING TOLERANCES

- A. Comply with tolerances in ACI 117 (ACI 117M) and as follows:

1. Elevation: 3/4 inch (19 mm).
2. Thickness: Plus 3/8 inch (10 mm), minus 1/4 inch (6 mm).
3. Surface: Gap below 10-feet- (3-m-) long; unlevelled straightedge not to exceed 1/2 inch (13 mm).
4. Alignment of Tie-Bar End Relative to Line Perpendicular to Paving Edge: 1/2 inch per 12 inches (13 mm per 300 mm) of tie bar.
5. Lateral Alignment and Spacing of Dowels: 1 inch (25 mm).
6. Vertical Alignment of Dowels: 1/4 inch (6 mm).
7. Alignment of Dowel-Bar End Relative to Line Perpendicular to Paving Edge: 1/4 inch per 12 inches (6 mm per 300 mm) of dowel.
8. Joint Spacing: 3 inches (75 mm).
9. Contraction Joint Depth: Plus 1/4 inch (6 mm), no minus.
10. Joint Width: Plus 1/8 inch (3 mm), no minus.

3.11 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Testing Services: Testing and inspecting of composite samples of fresh concrete obtained according to ASTM C 172/C 172M shall be performed according to the following requirements:
1. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. (76 cu. m) 5000 sq. ft. (465 sq. m) or fraction thereof of each concrete mixture placed each day.
 - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
 3. Air Content: ASTM C 231/C 231M, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when it is 80 deg F (27 deg C) and above, and one test for each composite sample.

5. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.
6. Compressive-Strength Tests: ASTM C 39/C 39M; test one specimen at seven days and two specimens at 28 days.
 - a. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at 28 days.
- C. Strength of each concrete mixture will be satisfactory if average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
- D. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
- E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
- F. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.
- G. Concrete paving will be considered defective if it does not pass tests and inspections.
- H. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- I. Prepare test and inspection reports.

3.12 REPAIR AND PROTECTION

- A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Architect.
- B. Drill test cores, where directed by Architect, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory paving areas with portland cement concrete bonded to paving with epoxy adhesive.
- C. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.
- D. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 32 13 13

SECTION 32 13 73 - CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Cold-applied joint sealants.
2. Hot-applied joint sealants.
3. Cold-applied, fuel-resistant joint sealants.
4. Hot-applied, fuel-resistant joint sealants.
5. Joint-sealant backer materials.
6. Primers.

B. Related Requirements:

1. Section 07 92 00 "Joint Sealants" for sealing nontraffic and traffic joints in locations not specified in this Section.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

- B. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

C. Paving-Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

- B. Product Certificates: For each type of joint sealant and accessory.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
- B. Product Testing: Test joint sealants using a qualified testing agency.

1.6 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C)].
 - 2. When joint substrates are wet.
 - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

2.2 COLD-APPLIED JOINT SEALANTS

- A. Multicomponent, Nonsag, Urethane, Elastomeric Joint Sealant: ASTM C 920, Type M, Grade NS, Class 25, for Use T.
 - 1. Chem-Calk 500 by Bostik.
 - 2. Vulkem 227, by Mameco.
 - 3. Dynatrol II, by Pecora Corporation.
 - 4. Sonolastic NP2, by Sonneborn Building Products, ChemRex Inc.
 - 5. Sikaflex-2c NS/SL, by Sika Corporation.
- B. Single Component, Pourable, Urethane, Elastomeric Joint Sealant: ASTM C 920, Type S, Grade P, Class 25, for Use T.
 - 1. Vulkem 45, by Mameco.
 - 2. Urexpam NR-201, by Pecora Corporation.
 - 3. Sololastic SL1, by Sonneborn Building Products, ChemRex Inc.
 - 4. Sikaflex I C-SL, by Sika
- C. Multicomponent, Pourable, Urethane, Elastomeric Joint Sealant: ASTM C 920, Type M, Grade P, Class 25, for Use T.
 - 1. Chem-Calk CC-550, By Bostik.
 - 2. Vulkem 245, by Mameco.

3. Vulkem 255, Wide-Joint, by Mameco.
4. NR-200 Urespan, by Pecora Corporation.
5. Sikaflex-2c NS/SL, by Sika Corporation.

- D. Single Component, Nonsag, Urethane, Elastomeric Joint Sealant: ASTM C920, Type S, Grade NS, Class 25.
1. Cham-Calk 900, by Bostik.
 2. Vulken 116, by Mameco.
 3. Sonolastic NP 1, by Sonneborn Building Products, ChemRex Inc.
 4. Sikaflex 1A, by Sika.

2.3 PAVING SEALANTS

- A. Multicomponent, Urethane, Self-Leveling, ASTM C920, Type M, Grade P, Class 25.
1. Vulkem 202, by Mameco. (Jet Fuel Resistant) (FS SS-S-200D, Type H only)
 2. NR-300 Urexpan, by Pecora Corporation. (FS SS-S-200E)
- B. Single-Component, Urethane, Self-Leveling, ASTM C920, Type S, Grade P, Class 25.
1. Sonomeric I Sealant, by Sonneborn Building Products, ChemRex Inc.. (FS SS-S-200E)
 2. Vulkem 45, by Mameco.

2.4 JOINT-SEALANT BACKER MATERIALS

- A. Joint-Sealant Backer Materials: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by joint-sealant manufacturer, based on field experience and laboratory testing.
- B. Round Backer Rods for Cold- and Hot-Applied Joint Sealants: ASTM D 5249, Type 1, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.
- C. Round Backer Rods for Cold-Applied Joint Sealants: ASTM D 5249, Type 3, of diameter and density required to control joint-sealant depth and prevent bottom-side adhesion of sealant.
- D. Backer Strips for Cold- and Hot-Applied Joint Sealants: ASTM D 5249; Type 2; of thickness and width required to control joint-sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.

2.5 PRIMERS

- A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Before installing joint sealants, clean out joints immediately to comply with joint-sealant manufacturer's written instructions.
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
- B. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.3 INSTALLATION OF JOINT SEALANTS

- A. Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.
- B. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions.
- C. Install joint-sealant backings to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of joint-sealant backings.
 - 2. Do not stretch, twist, puncture, or tear joint-sealant backings.
 - 3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install joint sealants immediately following backing installation, using proven techniques that comply with the following:
 - 1. Place joint sealants so they fully contact joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

- E. Tooling of Nonsag Joint Sealants: Immediately after joint-sealant application and before skinning or curing begins, tool sealants according to the following requirements to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint:
 - 1. Remove excess joint sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.
- F. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

3.4 CLEANING AND PROTECTION

- A. Clean off excess joint sealant as the Work progresses, by methods and with cleaning materials approved in writing by joint-sealant manufacturers.
- B. Protect joint sealants, during and after curing period, from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.

3.5 PAVING-JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Joints within concrete paving - PJS-1.
 - 1. Joint Location:
 - a. Expansion and isolation joints in concrete paving.
 - b. Contraction joints in concrete paving.
 - c. Other joints as indicated.
 - 2. Joint Sealant: Single-component, self-leveling, urethane – Sealant 2.2.D..
 - 3. Joint-Sealant Color: Manufacturer's standard.
- B. Joint-Sealant Application: Joints within concrete paving and between concrete and asphalt paving - PJS-2.
 - 1. Joint Location:
 - a. Joints between concrete and asphalt paving.
 - b. Joints between concrete curbs and asphalt paving.
 - c. Other joints as indicated.
 - 2. Joint Sealant: Hot-applied, single-component joint sealant – Sealant 2.3.B..
 - 3. Joint-Sealant Color: Manufacturer's standard.
- C. Joint-Sealant Application: Fuel-resistant joints within concrete paving - PJS-3.

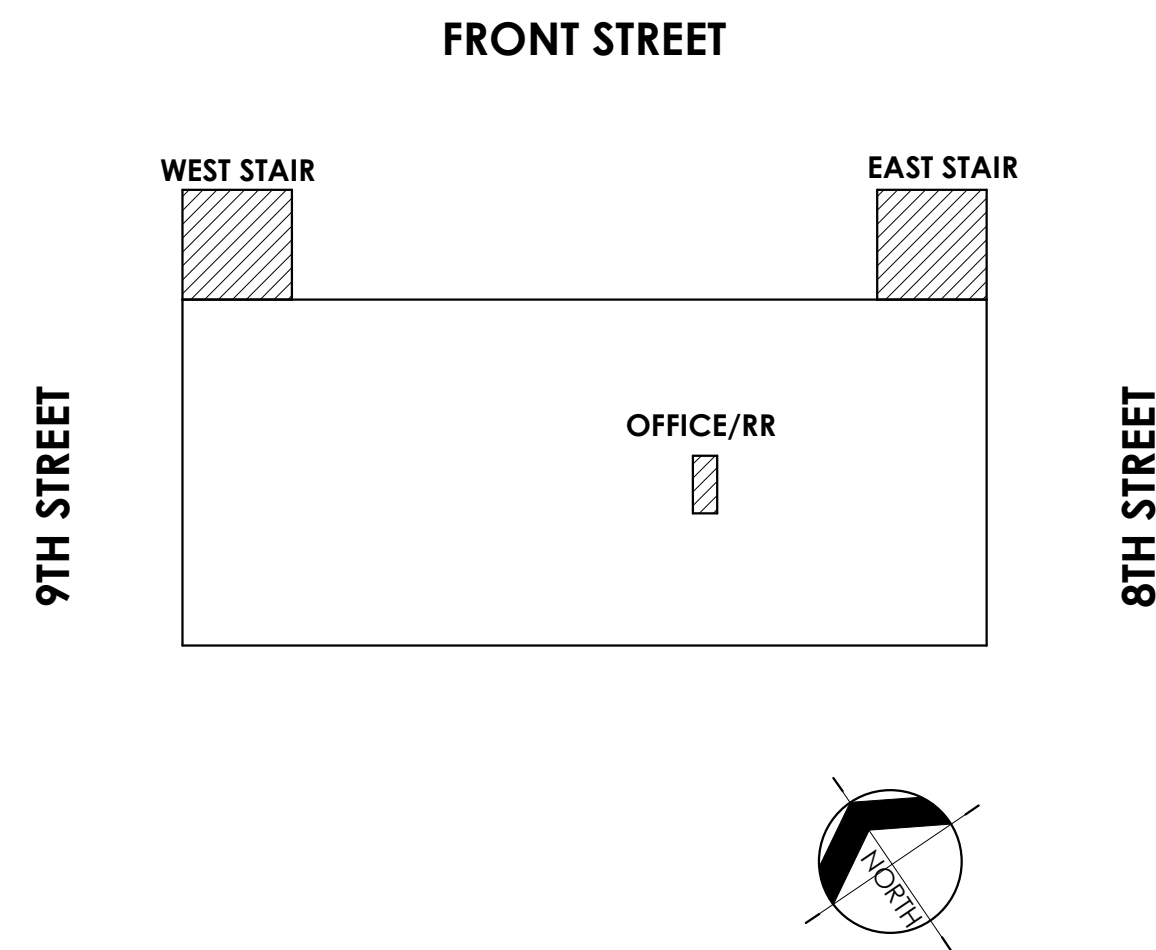
- 1. Joint Location:
 - a. Expansion and isolation joints in concrete paving.
 - b. Contraction joints in concrete paving.
 - c. Other joints as indicated.
- 2. Joint Sealant: Fuel-resistant, multicomponent, pourable, modified-urethane, elastomeric joint sealant – Sealant 2.3.A..
- 3. Joint-Sealant Color: Manufacturer's standard.

END OF SECTION 32 13 73

CCDC 9TH AND FRONT PARKING GARAGE UPGRADES

312 SOUTH 9TH STREET BOISE, IDAHO 83702
CONSTRUCTION DOCUMENTS - MARCH 3, 2020

KEY PLAN:



SCOPE OF WORK:

DOOR AND DOOR HARDWARE REPLACEMENT IN ELEVATOR AND STAIR TOWERS OF PUBLIC PARKING GARAGES. ACCESSIBILITY UPGRADES TO PARKING ATTENDANT RESTROOM INCLUDING NEW FIXTURES, ACCESSORIES, AND PAINTING.

PROJECT RECAP:

BUILDING CODE DATA:
 2015 INTERNATIONAL BUILDING CODE
 2015 INTERNATIONAL EXISTING BUILDING CODE
 2015 INTERNATIONAL FIRE CODE
 2015 INTERNATIONAL ENERGY CONSERVATION CODE
 2012 INTERNATIONAL MECHANICAL CODE
 2012 INTERNATIONAL FUEL GAS CODE
 2017 IDAHO STATE PLUMBING CODE
 2017 NATIONAL ELECTRICAL CODE
 2017 ICC/ANSI A117.1

SITE ADDRESS:
 312 SOUTH 9TH STREET
 BOISE, ID 83702

PARCEL: R2940670090
ZONE: C-SDD

CONSTRUCTION TYPE: -
OCCUPANCY TYPE: S-2

SHEET INDEX:

GENERAL SHEETS									
G0.01	COVER								
G0.02	DRAWING INFORMATION								
FLOOR PLANS									
A2.11	FLOOR PLANS								
INTERIORS									
A8.11	SCHEDULES								
PLUMBING									
P1.0	PLUMBING PLAN								

PROJECT DIRECTORY:

OWNER/TENANT:

CCDC
 121 NORTH 9TH STREET
 BOISE, IDAHO 83702
 Contact: KARL WOODS
 Phone: 208-384-4264



ARCHITECT:

Slichter/Ugrin Architecture
 415 South 13th Street
 Boise, Idaho 83702
 208.658.1679 phone
 Contact: JOHN DAY



CIVIL/LANDSCAPE:

NIC

STRUCTURAL:

NIC

MECHANICAL:

NIC

ELECTRICAL:

NIC

VICINITY MAP:



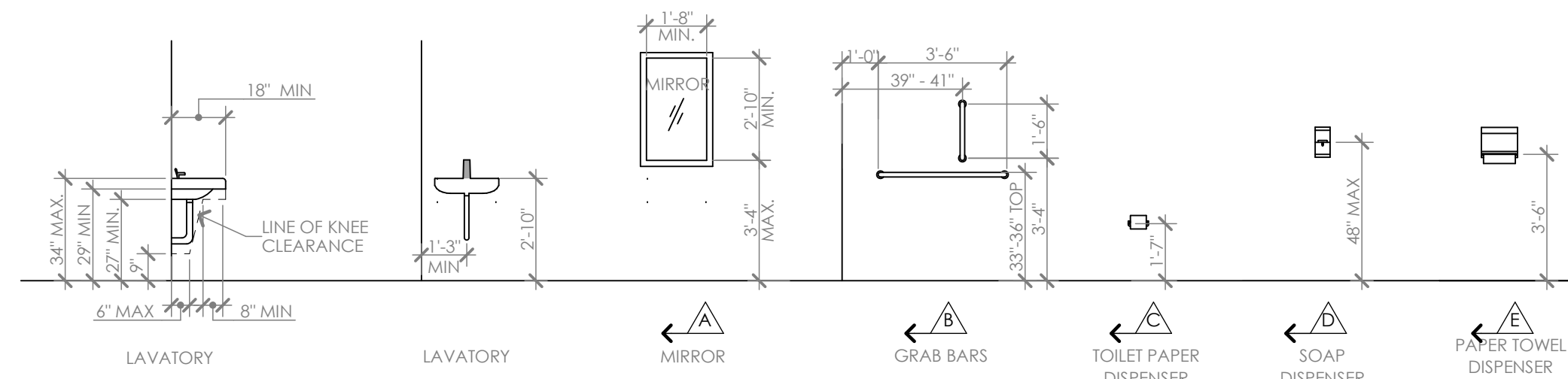
PROJECT LOCATION
 312 SOUTH 9TH STREET

Revision ID	ChID	Issue Name	Date

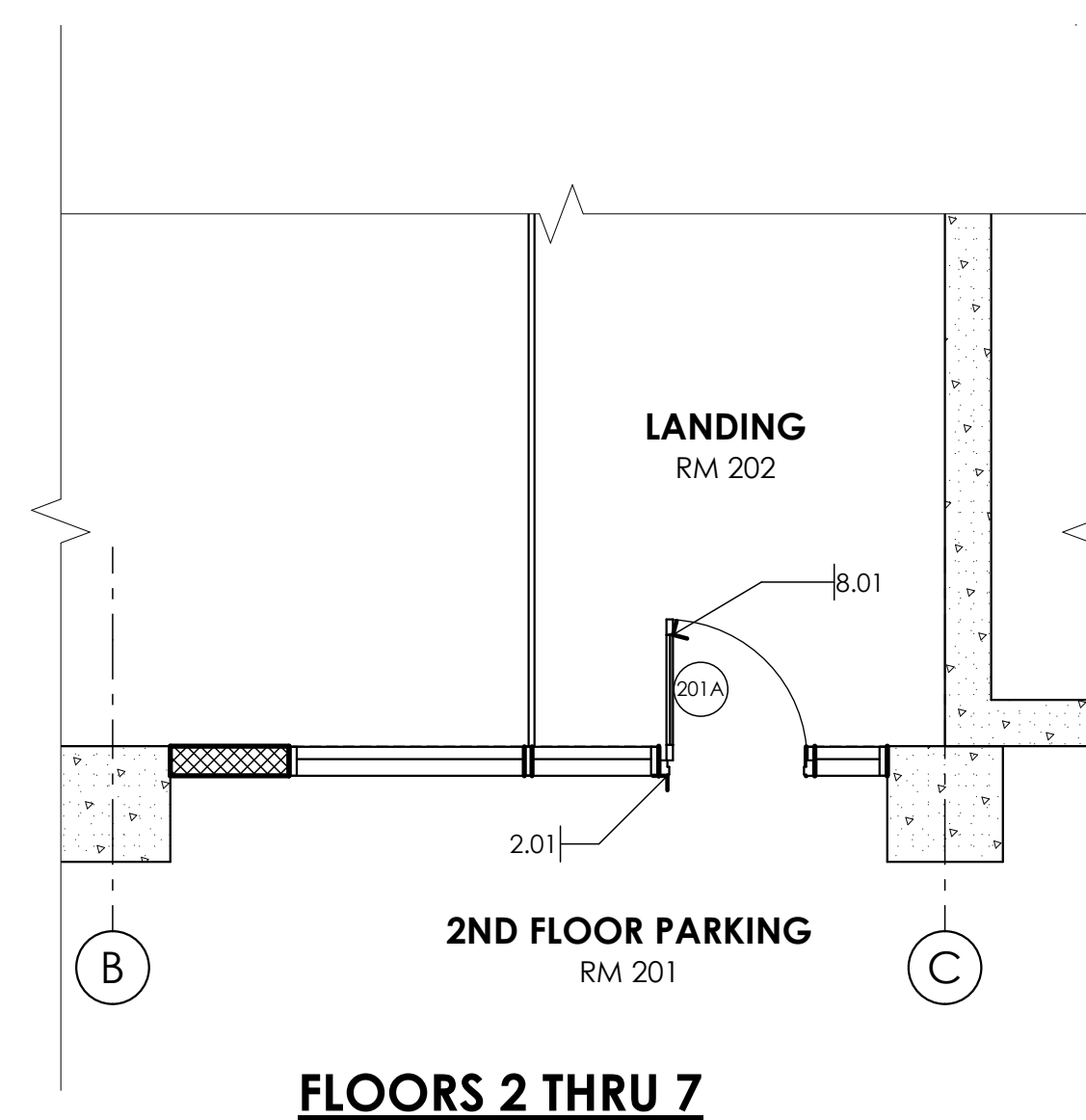
Revision ID	ChID	Issue Name	Date

Project No. 19060

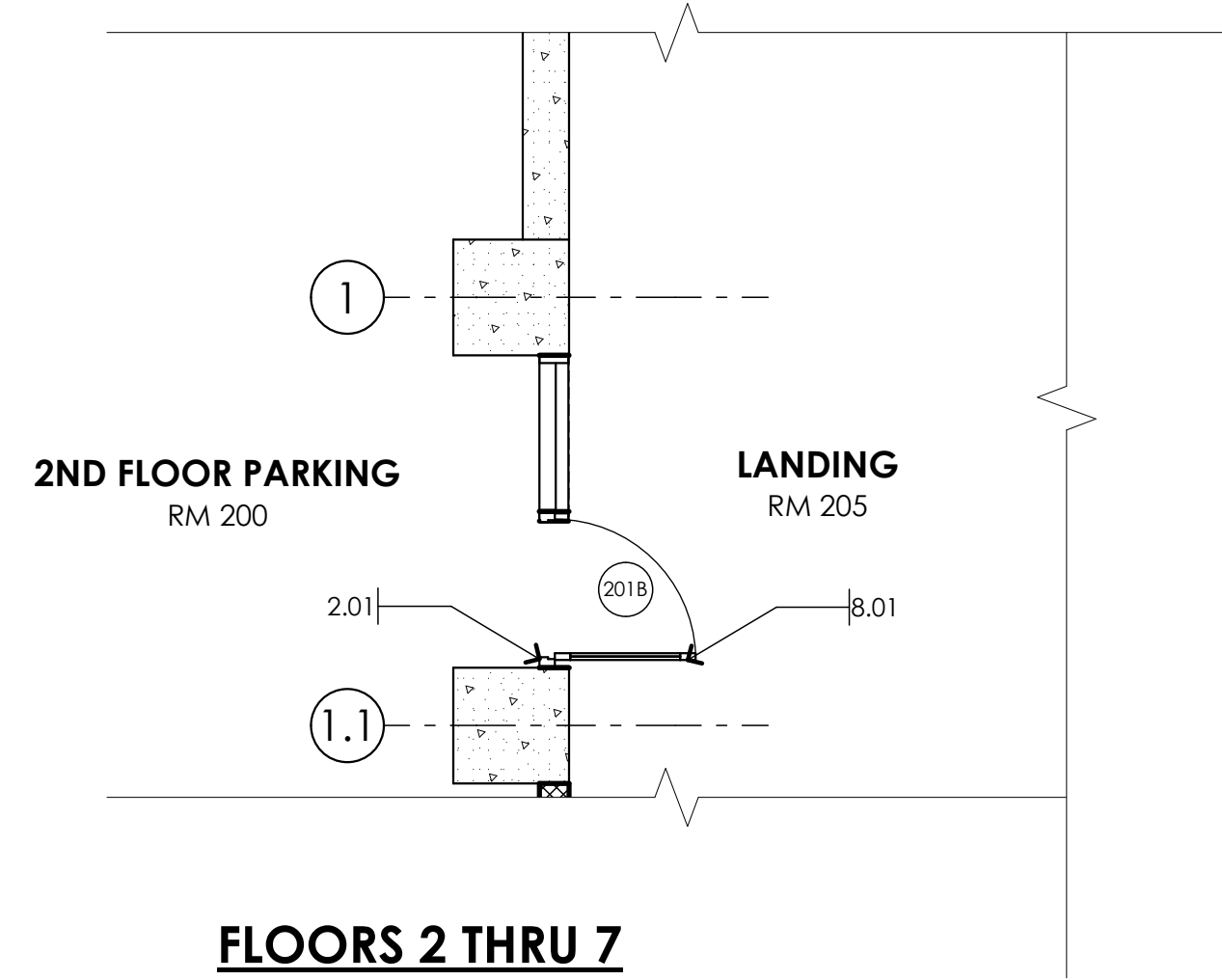
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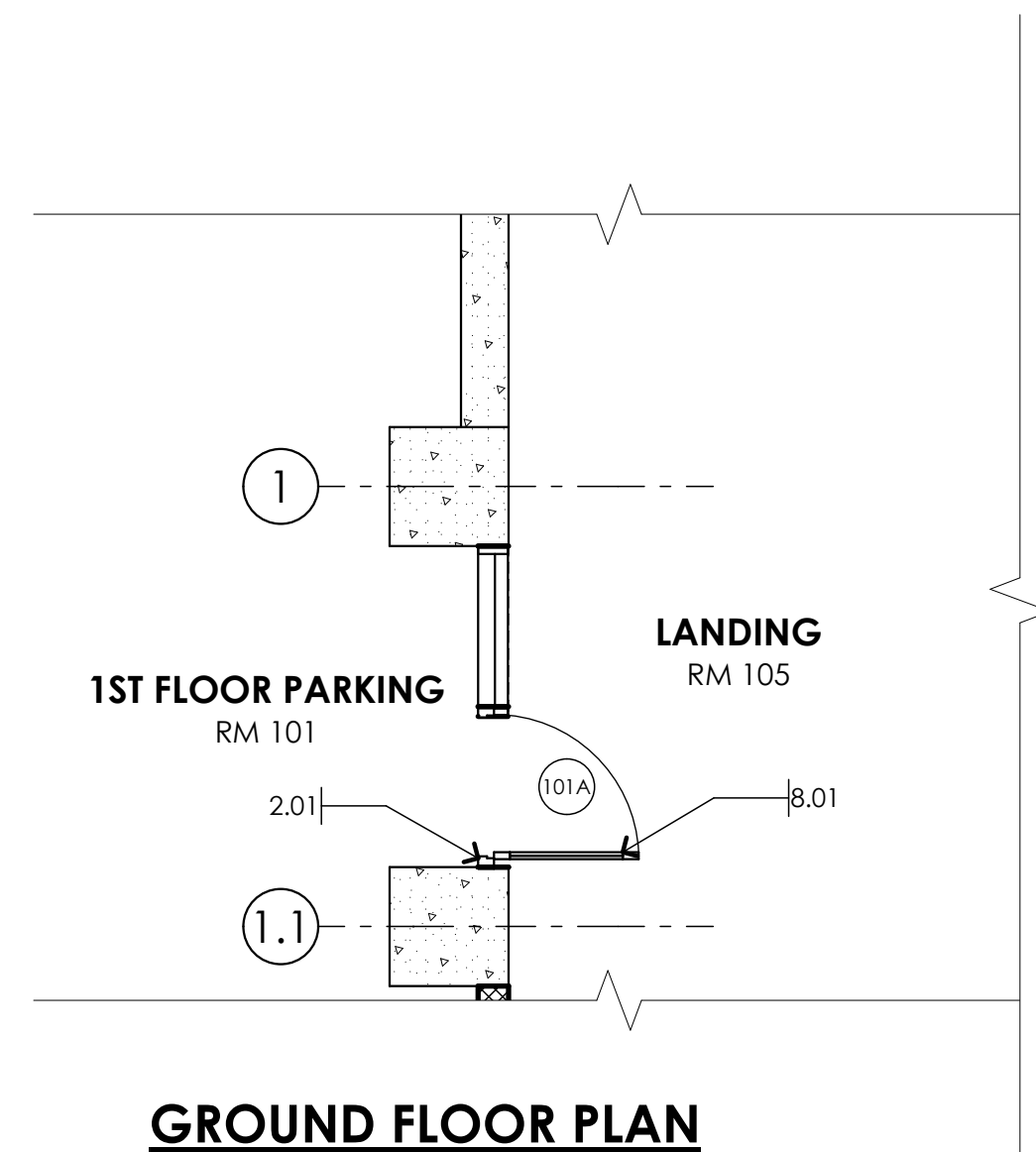
ADA MOUNTING HEIGHTS
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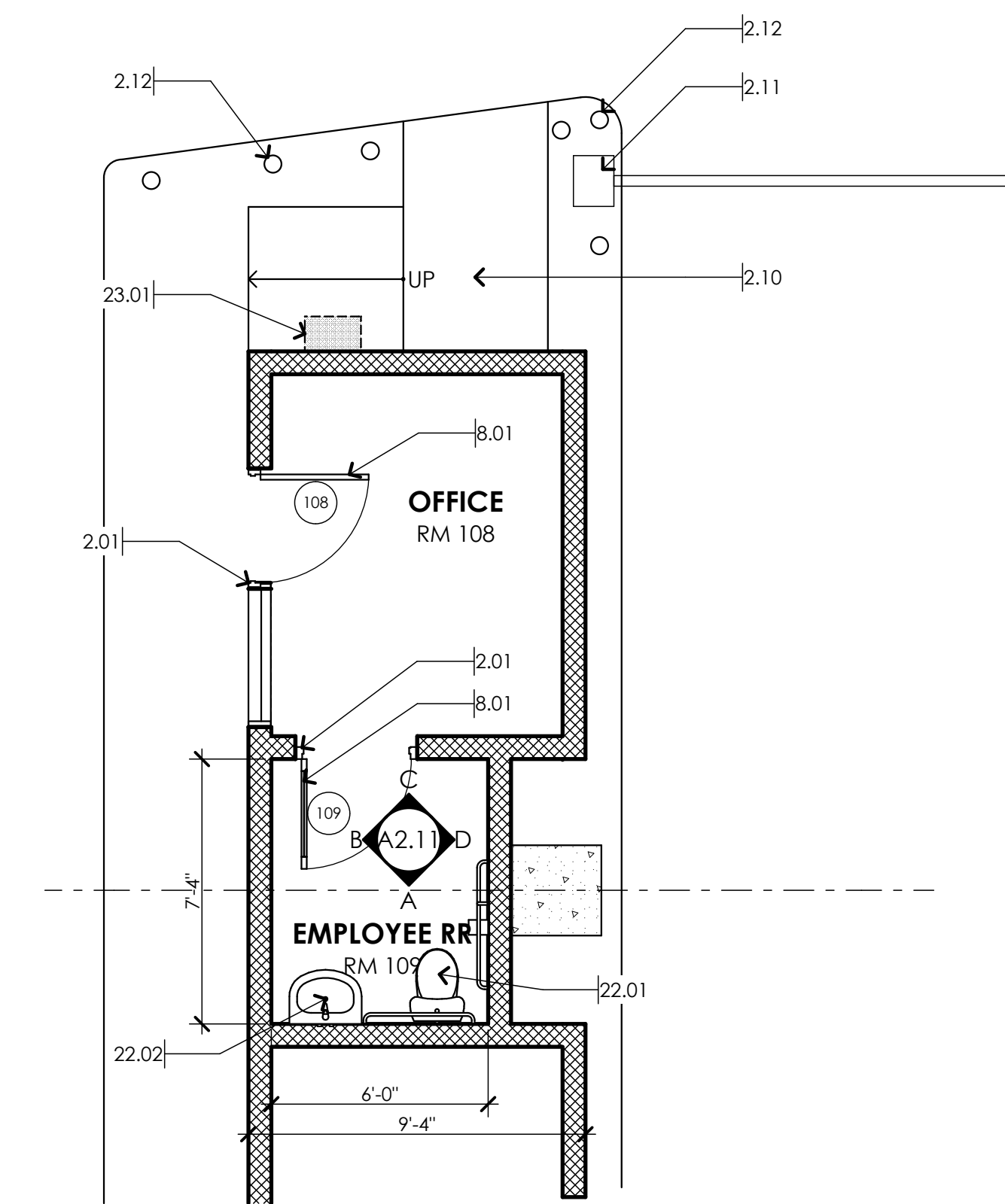
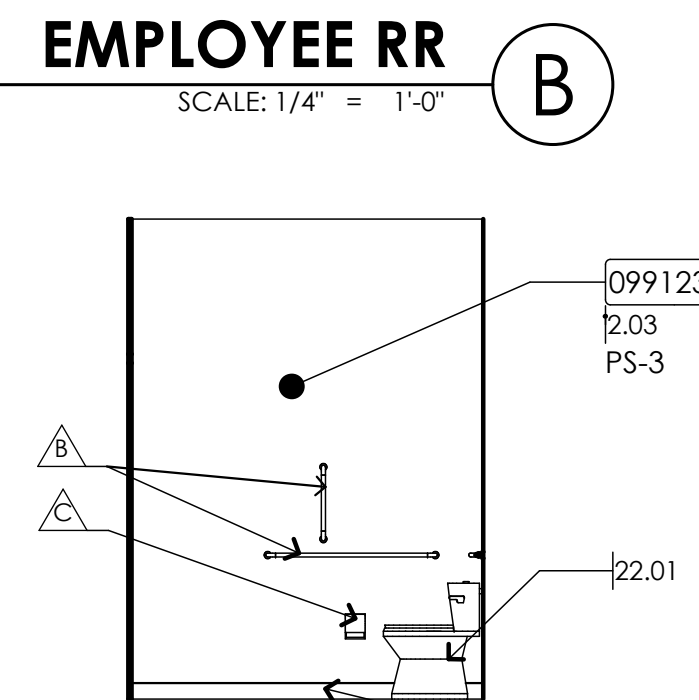
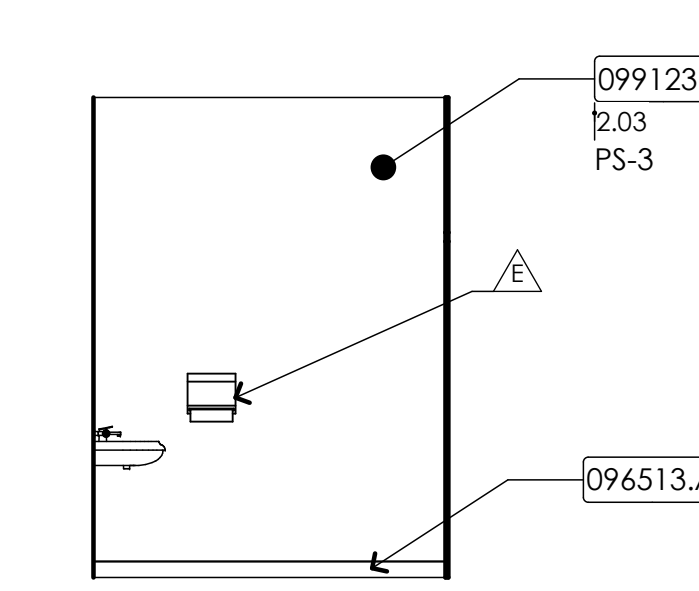
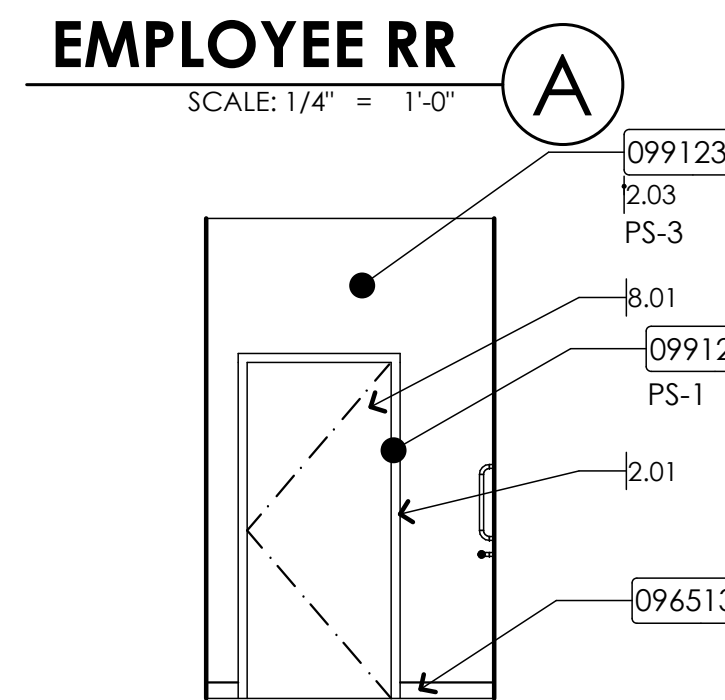
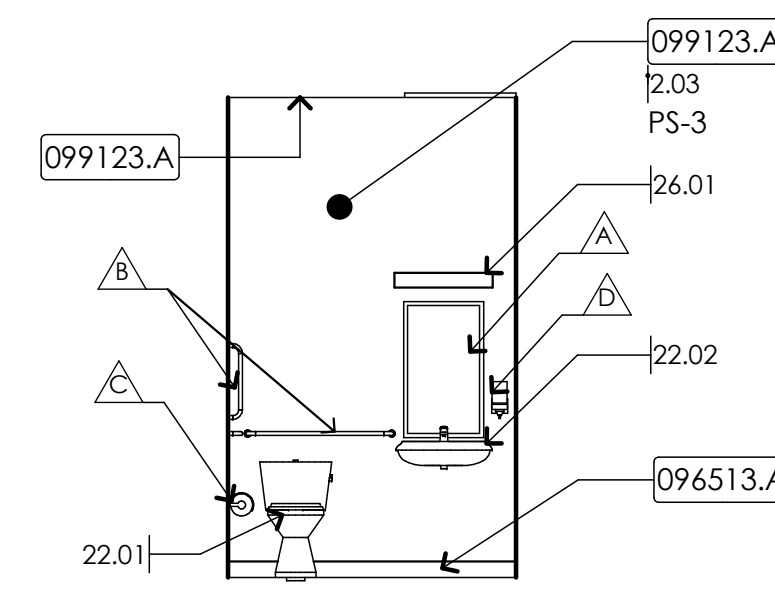
WEST STAIR TOWER PLANS
SCALE: 1/4" = 1'-0" (4)



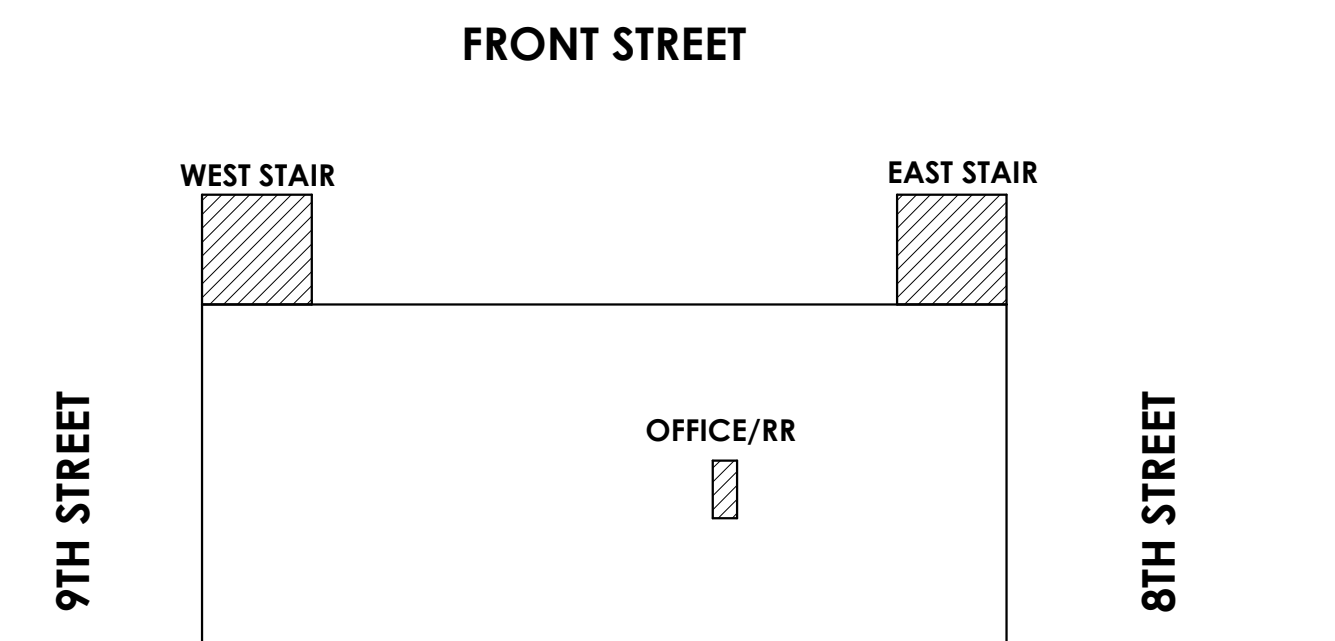
FLOORS 2 THRU 7



EAST STAIR TOWER PLANS
SCALE: 1/4" = 1'-0" (2)



EMPLOYEE OFFICE/RR PLAN
SCALE: 1/4" = 1'-0" (1)



FRONT STREET

KEYED/REFERENCE NOTES:

- 2.01 EXISTING DOOR FRAME TO REMAIN. PROTECT FROM DAMAGE DURING NEW WORK.
- 2.03 EXISTING CONCRETE MASONRY UNIT (CMU) WALL WITH PAINTED FINISH
- 2.10 EXISTING CONCRETE ACCESSIBLE RAMP.
- 2.11 EXISTING PARKING CONTROL EQUIPMENT TO REMAIN.
- 2.12 EXISTING STEEL PIPE BOLLARDS TO REMAIN, TYP.
- 8.01 NEW DOOR AND HARDWARE, REFERENCE SCHEDULE.
- 22.01 CONTRACTOR TO REMOVE EXISTING WATER CLOSET AND REPLACE WITH NEW WATER CLOSET, REFERENCE PLUMBING PLAN.
- 22.02 CONTRACTOR TO REMOVE EXISTING VANITY AND LAVATORY AND REPLACE WITH NEW WALL HUNG LAVATORY.
- 23.01 RELOCATE EXISTING THRU WALL AC UNIT TO MINIMUM 8" FROM FINISHED FLOOR TO LOWER EDGE OF AC UNIT. CONTRACTOR TO VERIFY AND PROPOSE LOCATION THAT IS ACCEPTABLE TO OWNER. PATCH AND REPAIR EXISTING 6" CMU WALL AS REQUIRED.
- 26.01 EXISTING LIGHT FIXTURE TO REMAIN.

FINISHES:

- 096513.A RESILIENT BASE
- 099123.A INTERIOR PAINTING

Revision ID	ChID	Issue Name	Date

HW SET: 01
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)
101A

1	EA	CONT. HINGE	700	630	IVE
1	EA	FIRE EXIT HARDWARE	98-L-F-06	626	VON
1	EA	PRIMUM RIM CYLINDER	20-757 EV29 T	626	SCH
1	EA	SURFACE CLOSER	4111 AVB SCUSH MC SRI TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A-223	A	ZER

HW SET: 02
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)
201A 201B 301A 301B 401A 401B
501A 501B 601A 601B 701A 701B

1	EA	CONT. HINGE	700	630	IVE
1	EA	PASSAGE SET	ND105 RHO	626	SCH
1	EA	SURFACE CLOSER	4050 SCUSH MC TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	429AA-S	AA	ZER

HW SET: 03
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)
108

1	EA	CONT. HINGE	700	630	IVE
1	EA	VANDL. STOREROOM LOCK	ND96RD RHO EV T	626	SCH
1	EA	OH STOP	905 J	630	GLY
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A-223	A	ZER

HW SET: 04
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)
109

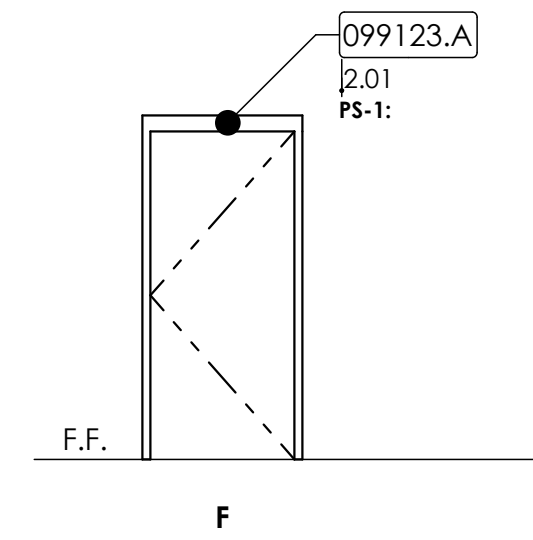
1	EA	HINGE	58B1 4.5 X 4.5	630	IVE
1	EA	PRIVACY LOCK	ND405 RHO	626	SCH
1	EA	WALL STOP	FS185 (TO BE MOUNTED ON WALL)	BLK	IVE
1	EA	GASKETING	488SBK PSA	BK	ZER
1	EA	COAT AND HAT HOOK	507	626	IVE

DOOR NUMBER	ID	ROOM	ROOM NAME	DOOR PANEL						FRAME			HDWR. GROUP	RATINGS		SCHEDULE REMARKS	
				PANEL SIZE			DOOR TYPE	MATL	FINISH	GLAZE	TYPE	MATL		FINISH	FIRE		STC
				WIDTH	HEIGHT	THICKNESS											
101A	RM 105	LANDING		3'-0"	7'-0"	1 3/4"	FGL	HM	PNT	FR GL	-	HM	PNT	01	45 min.	1.	
108	RM 108	OFFICE		3'-0"	7'-0"	1 3/4"	F	HM	PNT	-	-	HM	PNT	03	Unrated	1.	
109	RM 108	OFFICE		3'-0"	7'-0"	1 3/4"	F	HM	PNT	FR GL	-	HM	PNT	04	Unrated	1.	
201A	RM 202	LANDING		3'-0"	7'-0"	1 3/4"	FGL	HM	PNT	FR GL	-	HM	PNT	02	45 min.	1.	
201B	RM 205	LANDING		3'-0"	7'-0"	1 3/4"	FGL	HM	PNT	FR GL	-	HM	PNT	02	45 min.	1.	
301A	RM 302	LANDING		3'-0"	7'-0"	1 3/4"	FGL	HM	PNT	FR GL	-	HM	PNT	02	45 min.	1.	
301B	RM 305	LANDING		3'-0"	7'-0"	1 3/4"	FGL	HM	PNT	FR GL	-	HM	PNT	02	45 min.	1.	
401A	RM 402	LANDING		3'-0"	7'-0"	1 3/4"	FGL	HM	PNT	FR GL	-	HM	PNT	02	45 min.	1.	
401B	RM 405	LANDING		3'-0"	7'-0"	1 3/4"	FGL	HM	PNT	FR GL	-	HM	PNT	02	45 min.	1.	
501A	RM 502	LANDING		3'-0"	7'-0"	1 3/4"	FGL	HM	PNT	FR GL	-	HM	PNT	02	45 min.	1.	
501B	RM 505	LANDING		3'-0"	7'-0"	1 3/4"	FGL	HM	PNT	FR GL	-	HM	PNT	02	45 min.	1.	
601A	RM 602	LANDING		3'-0"	7'-0"	1 3/4"	FGL	HM	PNT	FR GL	-	HM	PNT	02	45 min.	1.	
601B	RM 605	LANDING		3'-0"	7'-0"	1 3/4"	FGL	HM	PNT	FR GL	-	HM	PNT	02	45 min.	1.	
701A	RM 702	LANDING		3'-0"	7'-0"	1 3/4"	FGL	HM	PNT	FR GL	-	HM	PNT	02	45 min.	1.	
701B	RM 705	LANDING		3'-0"	7'-0"	1 3/4"	FGL	HM	PNT	FR GL	-	HM	PNT	02	45 min.	1.	

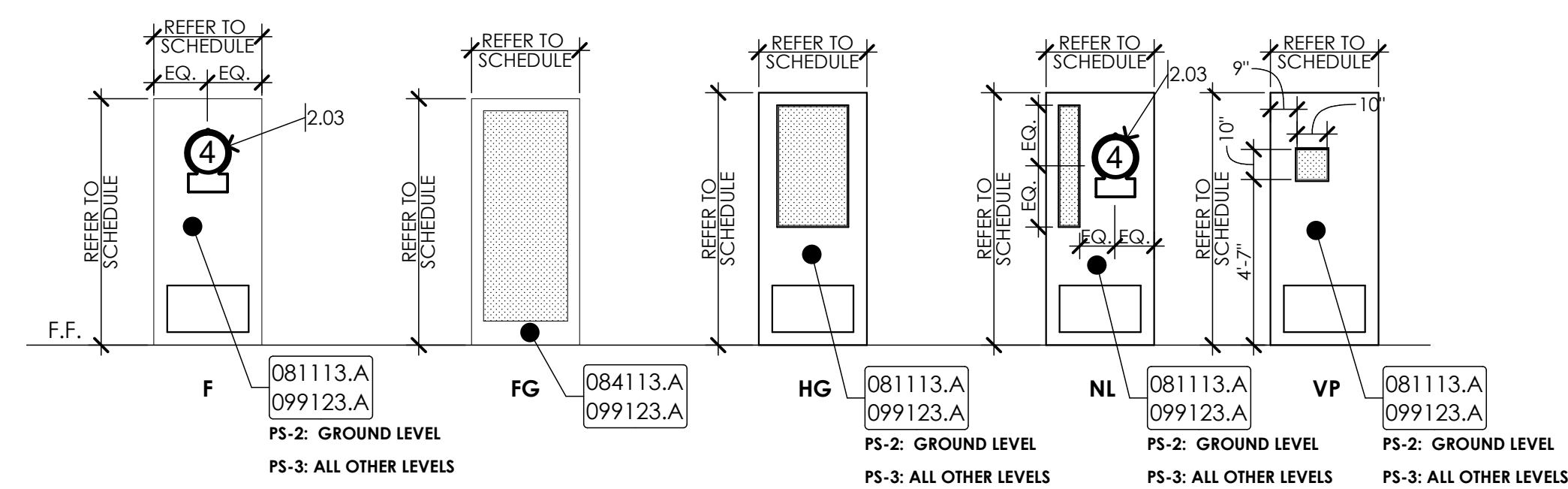
- DOOR AND FRAME SCHEDULE REMARKS:**
- EXISTING FRAME TO REMAIN.
 - VERIFY FRAME FINISH PRIOR TO ORDERING AND INSTALLING DOOR HARDWARE.

DOOR AND FRAME SCHEDULE 1

SCALE: 1" = 1'-0"



TYPICAL FRAME PAINT SCHEME 3
SCALE: 1/4" = 1'-0"



DOOR TYPES 2
SCALE: 1/4" = 1'-0"

- PAINT SCHEDULE:**
- PS-1:** PAINT COLOR TO MATCH PMS BLACK C
 - PS-2:** PAINT COLOR TO MATCH PMS 375C
 - PS-3:** PAINT COLOR TO MATCH PMS BRIGHT WHITE
 - PS-4:** PAINT COLOR TO MATCH PMS 300C
 - PS-5:** LEVEL 1: SHERWIN WILLIAMS "CONFIDENT YELLOW", SW6911.
 - PS-6:** LEVEL 2: SHERWIN WILLIAMS "DYNAMIC BLUE", SW6958.
 - PS-7:** LEVEL 3: SHERWIN WILLIAMS "REAL RED", SW6868.
 - PS-8:** LEVEL 4: SHERWIN WILLIAMS "CARNIVAL SW", SW6892.
 - PS-9:** LEVEL 5: SHERWIN WILLIAMS "GUTSY GRAPE", SW 6980.
 - PS-10:** LEVEL 6: SHERWIN WILLIAMS "DIRECT GREEN", SW 6924.
 - PS-11:** LEVEL 7: SHERWIN WILLIAMS "PINK MOMENT", SW 6857.
 - PS-12:** LEVEL 8: SHERWIN WILLIAMS BLACK MAGIC", SW6991.

- KEYED/REFERENCE NOTES:**
- EXISTING DOOR FRAME TO REMAIN. PROTECT FROM DAMAGE DURING NEW WORK.
 - CONTRACTOR TO REMOVE SIGNAGE FROM EXISTING DOORS AND REPLACE AS REQUIRED.
- OPENINGS:**
081113.A HOLLOW METAL DOOR
084113.A ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS
- FINISHES:**
099123.A INTERIOR PAINTING

DESIGN PLANNING + SUSTAINABILITY

S|U>ARCH.

SLICHTER | UGRIN > ARCHITECTURE, INC.
415 S. 13TH ST. BOISE, IDAHO 83702 208 658 1679

LICENSED ARCHITECT AR-92543

GREGORY A. UGRIN
STATE OF IDAHO

MARCH 3, 2020
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DOCUMENTS PHASE
Print Date: February 27, 2020

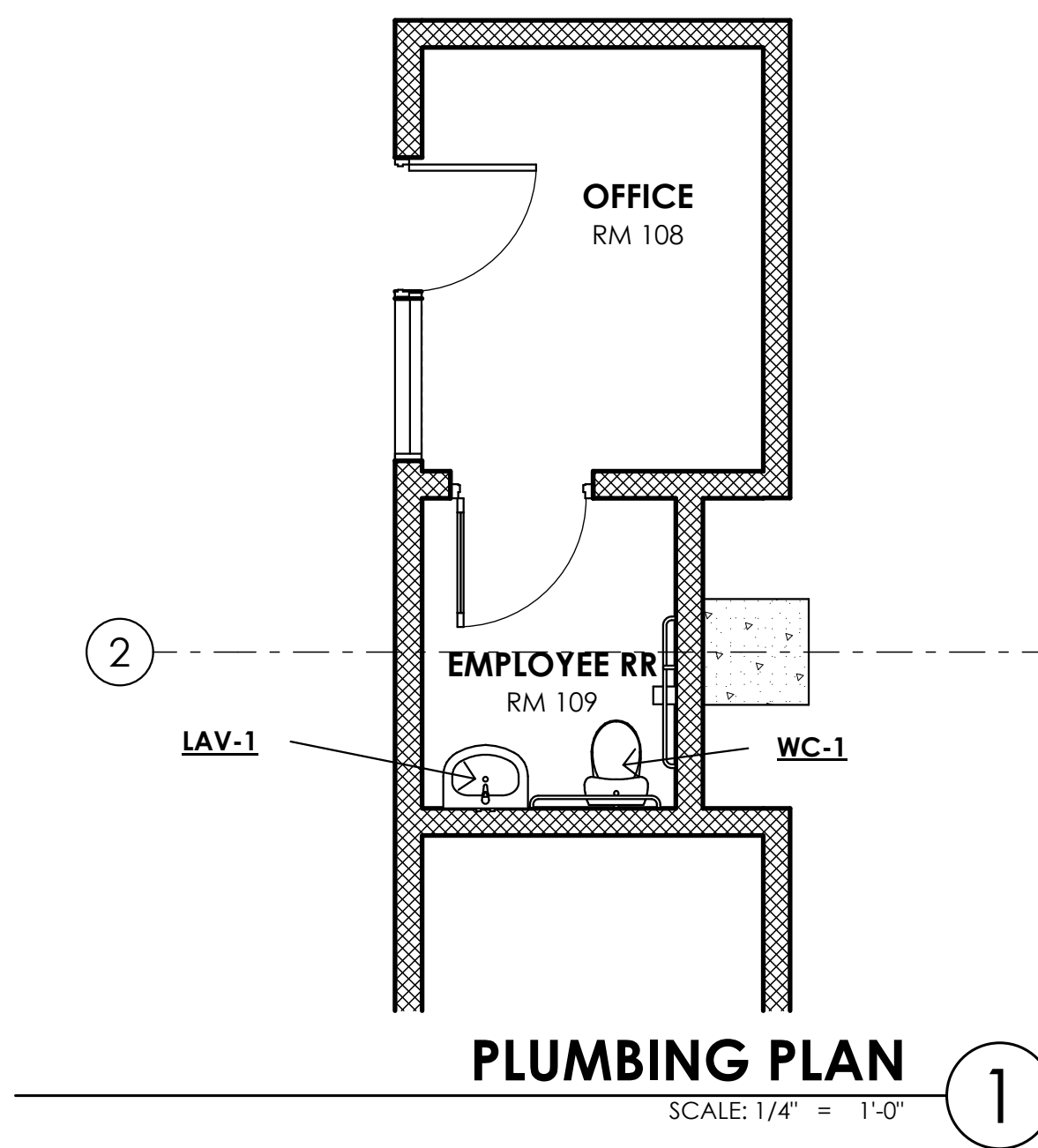
CCDC
ParkBOI PARKING GARAGE UPGRADES
9TH AND FRONT GARAGE
312 SOUTH 9TH STREET
BOISE, IDAHO 83702

Issue Date: **FEB 2020**
Drawn By: **jd**
Checked By: **JD**

Revision ID	ChID	Issue Name	Date

Project No. **19060**

SCHEDULES

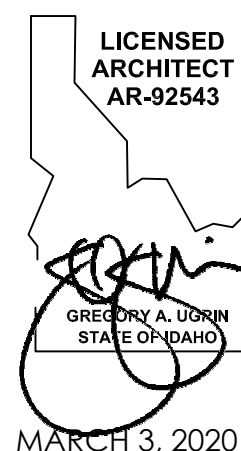


PLUMBING FIXTURE SCHEDULE		
SYMBOL	FIXTURE DESCRIPTION	MANUFACTURER / MODEL / DESCRIPTION
LAV-1	LAVATORY (WALL HUNG) (ADA COMPLIANT)	KOHLER KINGSTON MODEL K-2005: VITREOUS CHINA, WALL MOUNTED, HOLES ON 4" CENTERS, AND GRID STRAINER. KOHLER TRITON BOWE CENTERSET BATHROOM SINK FAUCET K-400T20-4ANA.
WC-1	WATER CLOSET (FLUSH TANK) (FLOOR MOUNTED) (ADA COMPLIANT)	KOHLER CIMARRON MODEL K-3589 (LEFT LEVER) / K-3589-RA (RIGHT LEVER), FLOOR MOUNTED, GRAVITY FLUSH TANK WITH ELONGATED BOWL. KOHLER LUSTRA MODEL K-4650 ELONGATED, OPEN FRONT SEAT WITH CHECK HINGE AND NO COVER. APPROVED ALTERNATES: AMERICAN STANDARD - CADET PRO, BRIGGS - TOILET EXPRESS 7006, TOTO -DRAKE, AND ZURN Z5551.

Revision ID	ChID	Issue Name	Date

CCDC 9TH AND MAIN PARKING GARAGE UPGRADES

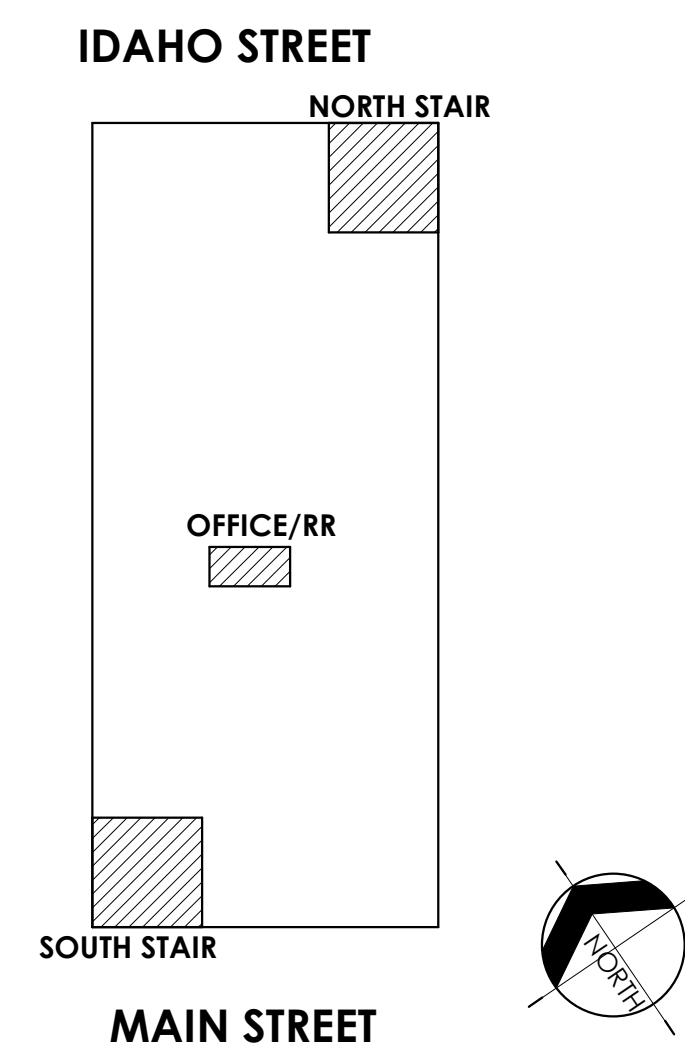
848 WEST MAIN STREET BOISE, IDAHO 83702
CONSTRUCTION DOCUMENTS - MARCH 3, 2020



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CONSTRUCTION DOCUMENTS
Print Date: February 27, 2020

KEY PLAN:



SCOPE OF WORK:

DOOR AND DOOR HARDWARE REPLACEMENT IN ELEVATOR AND STAIR TOWERS OF PUBLIC PARKING GARAGES. ACCESSIBILITY UPGRADES TO PARKING ATTENDANT RESTROOMS INCLUDING NEW FIXTURES, ACCESSORIES, AND PAINTING.

PROJECT RECAP:

BUILDING CODE DATA:
2015 INTERNATIONAL BUILDING CODE
2015 INTERNATIONAL EXISTING BUILDING CODE
2015 INTERNATIONAL FIRE CODE
2015 INTERNATIONAL ENERGY CONSERVATION CODE
2012 INTERNATIONAL MECHANICAL CODE
2012 INTERNATIONAL FUEL GAS CODE
2017 IDAHO STATE PLUMBING CODE
2017 NATIONAL ELECTRICAL CODE
2017 ICC/ANSI A117.1

SITE ADDRESS:
848 WEST MAIN STREET
BOISE, ID 83702

PARCEL: R1919690700 **ZONE:** C-SDD

CONSTRUCTION TYPE: - **OCCUPANCY TYPE:** S-2

SHEET INDEX:

GENERAL SHEETS	
G0.01	COVER
G0.02	DRAWING INFORMATION
FLOOR PLANS	
A2.11	FLOOR PLANS
INTERIORS	
A8.11	SCHEDULES
PLUMBING	
P1.0	PLUMBING PLAN

PROJECT DIRECTORY:

OWNER/TENANT:

CCDC
121 NORTH 9TH STREET
BOISE, IDAHO 83702
Contact: KARL WOODS
Phone: 208-384-4264



STRUCTURAL:

NIC

MECHANICAL:

NIC

ELECTRICAL:

NIC

ARCHITECT:

Slichter/Ugrin Architecture
415 South 13th Street
Boise, Idaho 83702
208.658.1679 phone
Contact: JOHN DAY



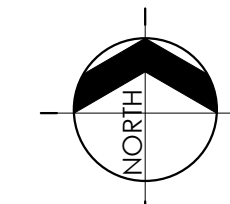
CIVIL/LANDSCAPE:

NIC

VICINITY MAP:



PROJECT LOCATION
848 WEST MAIN STREET



Revision ID	ChID	Issue Name	Date

Issue Date: FEB. 2020
Drawn By: jod
Checked By: jod

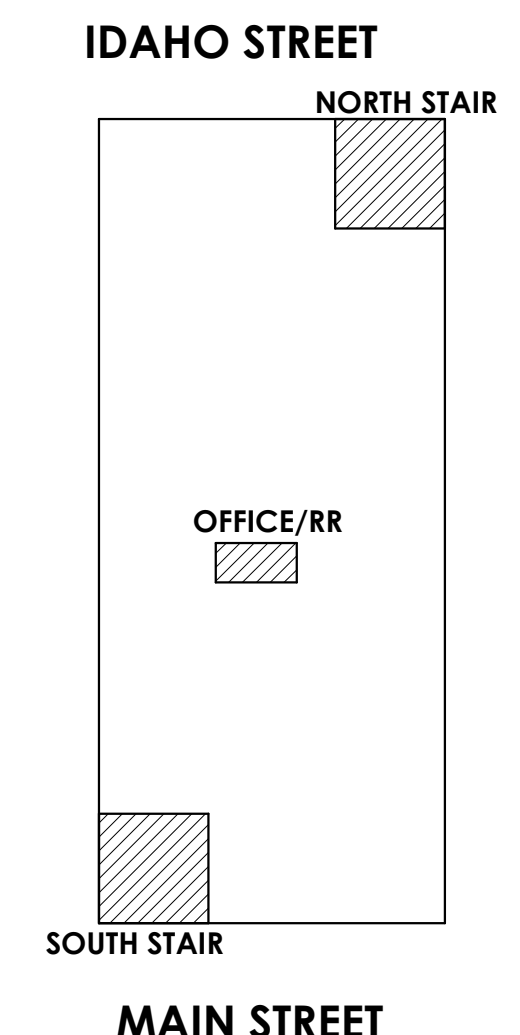
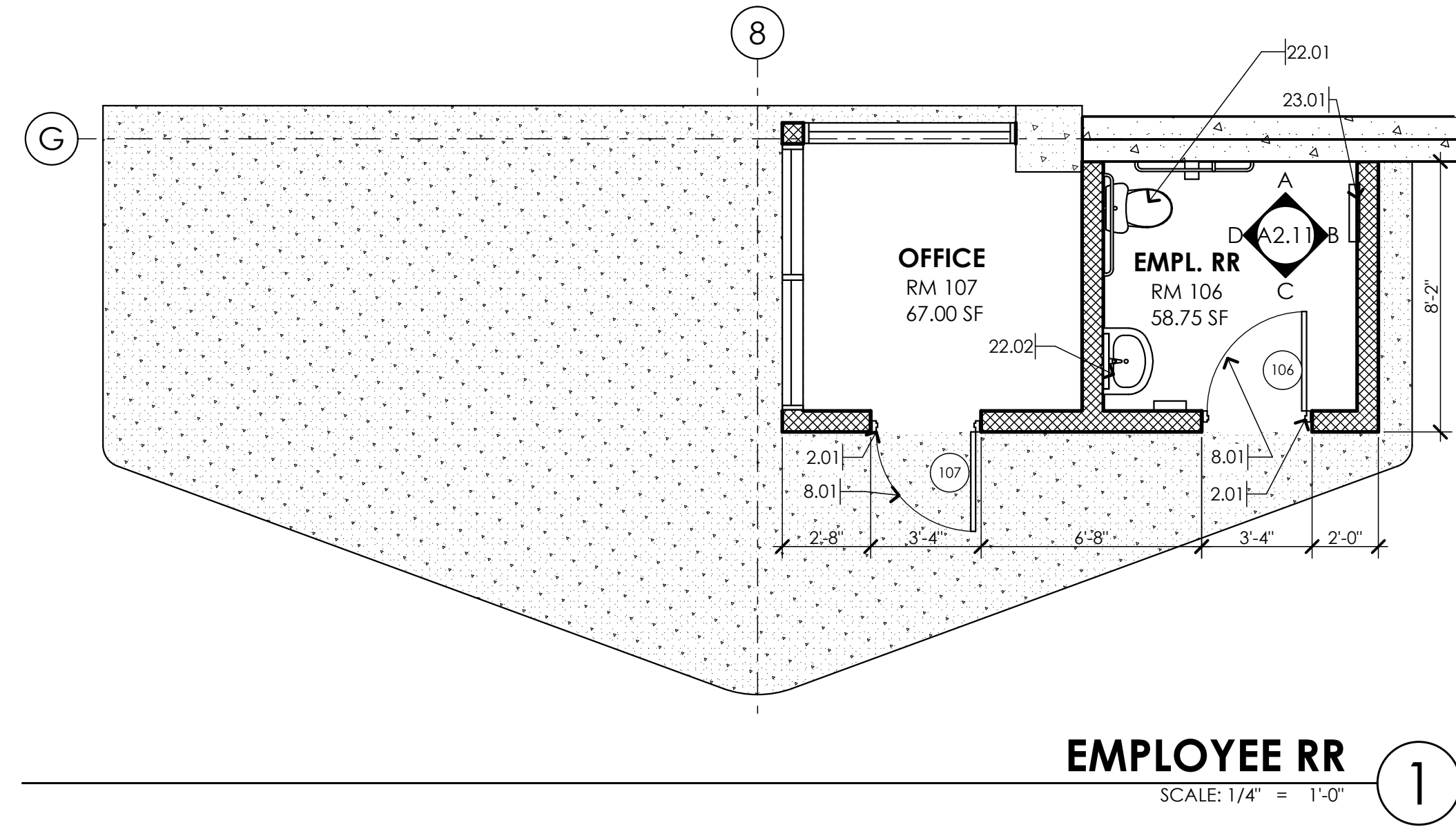
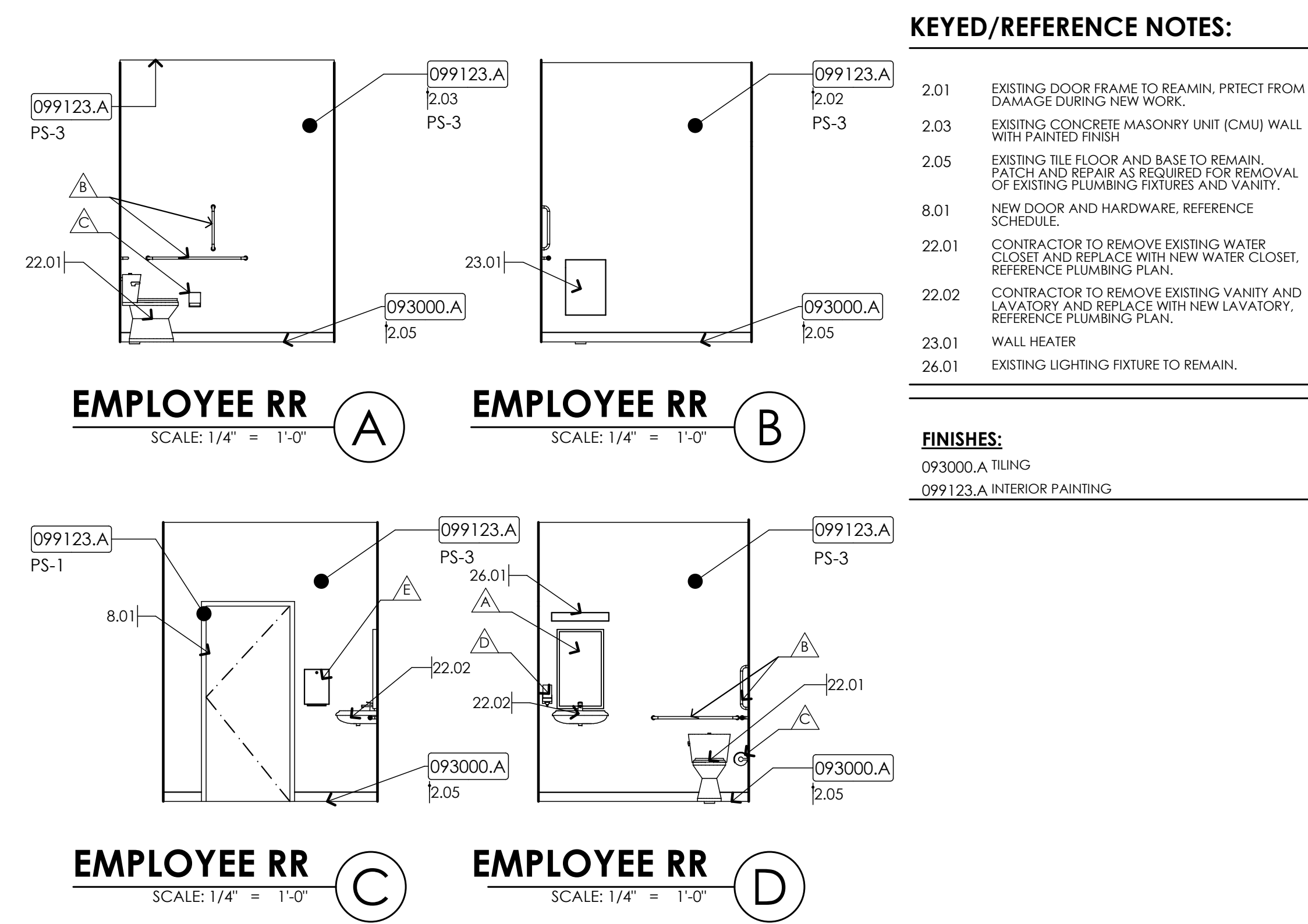
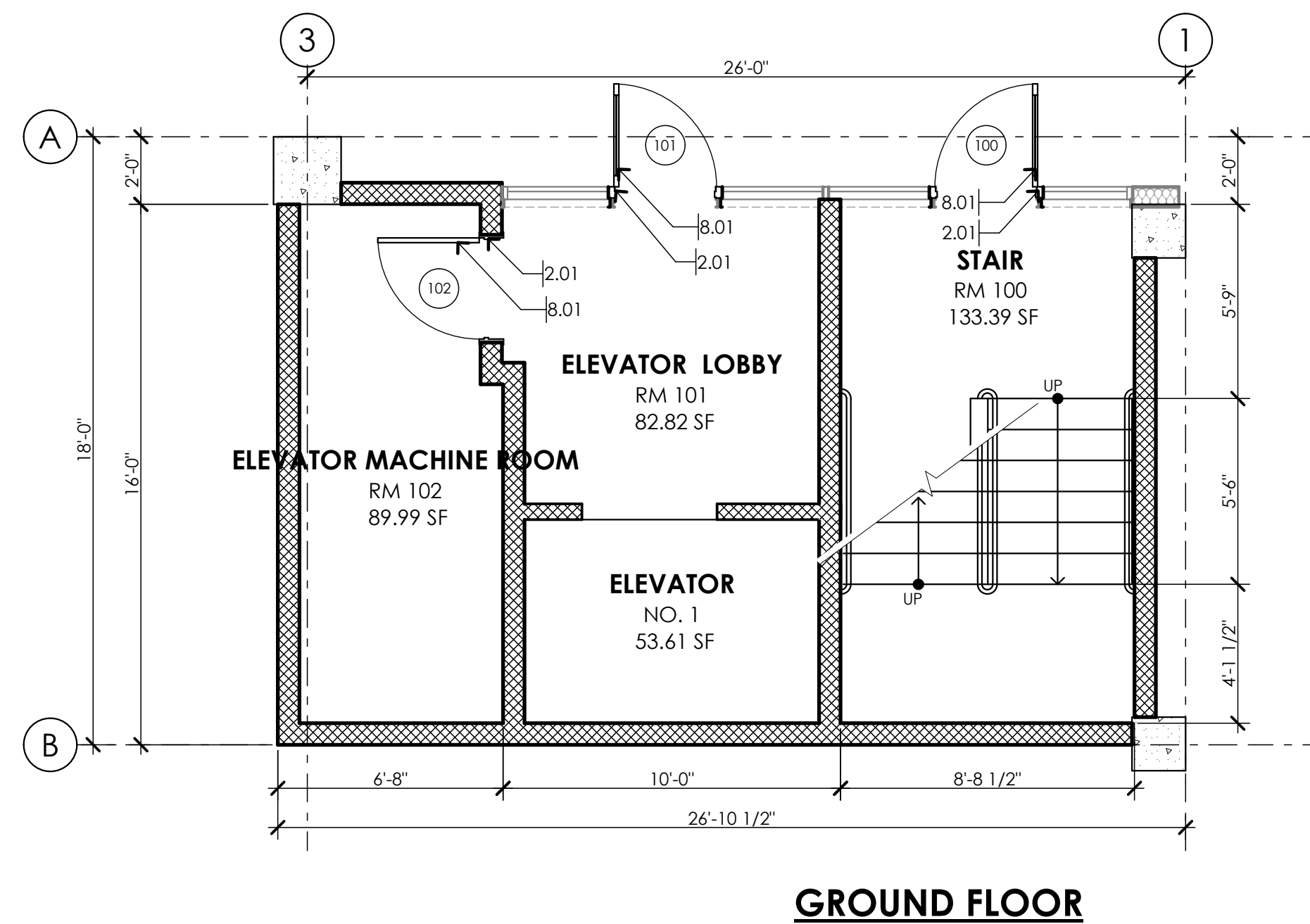
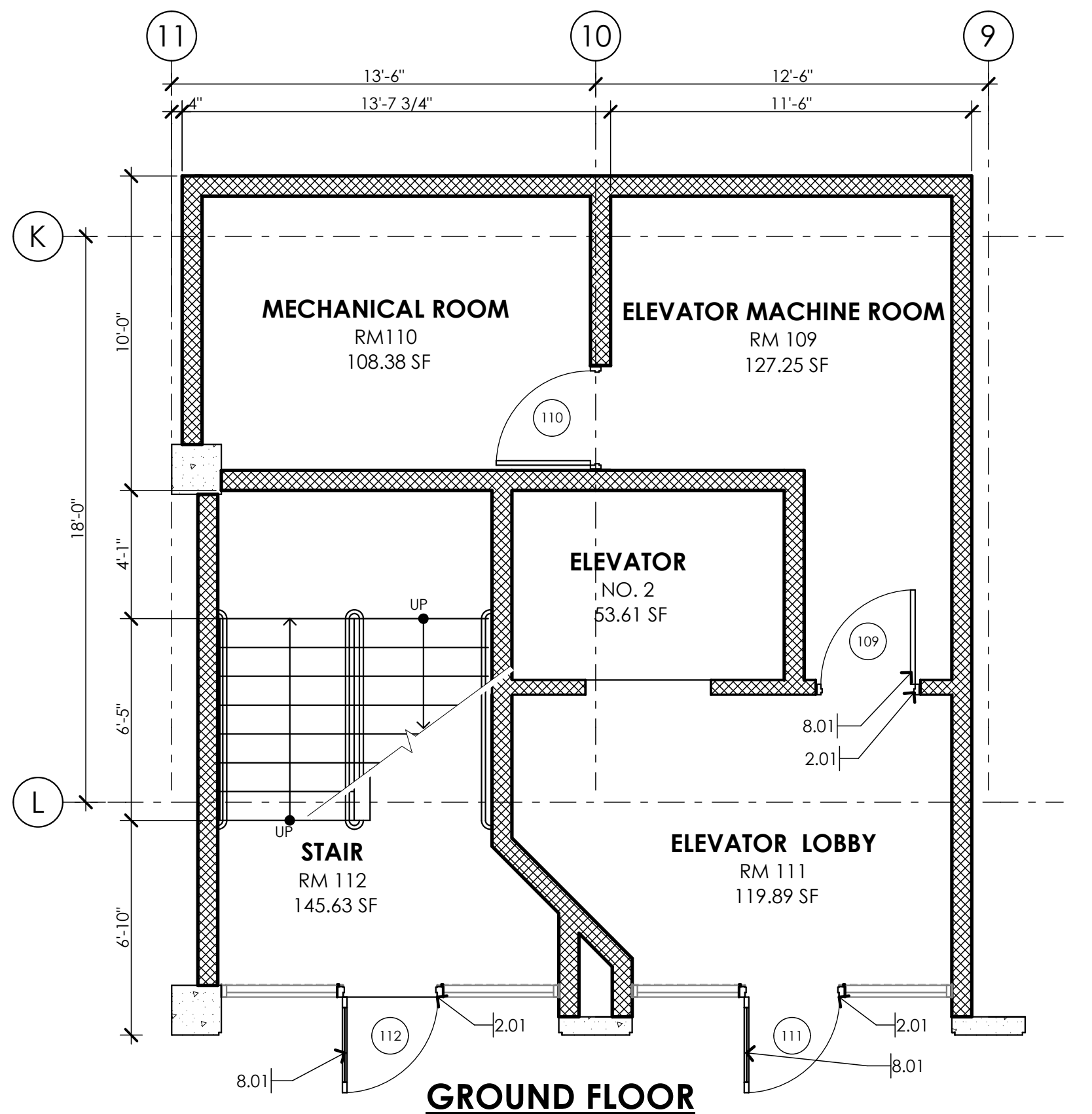
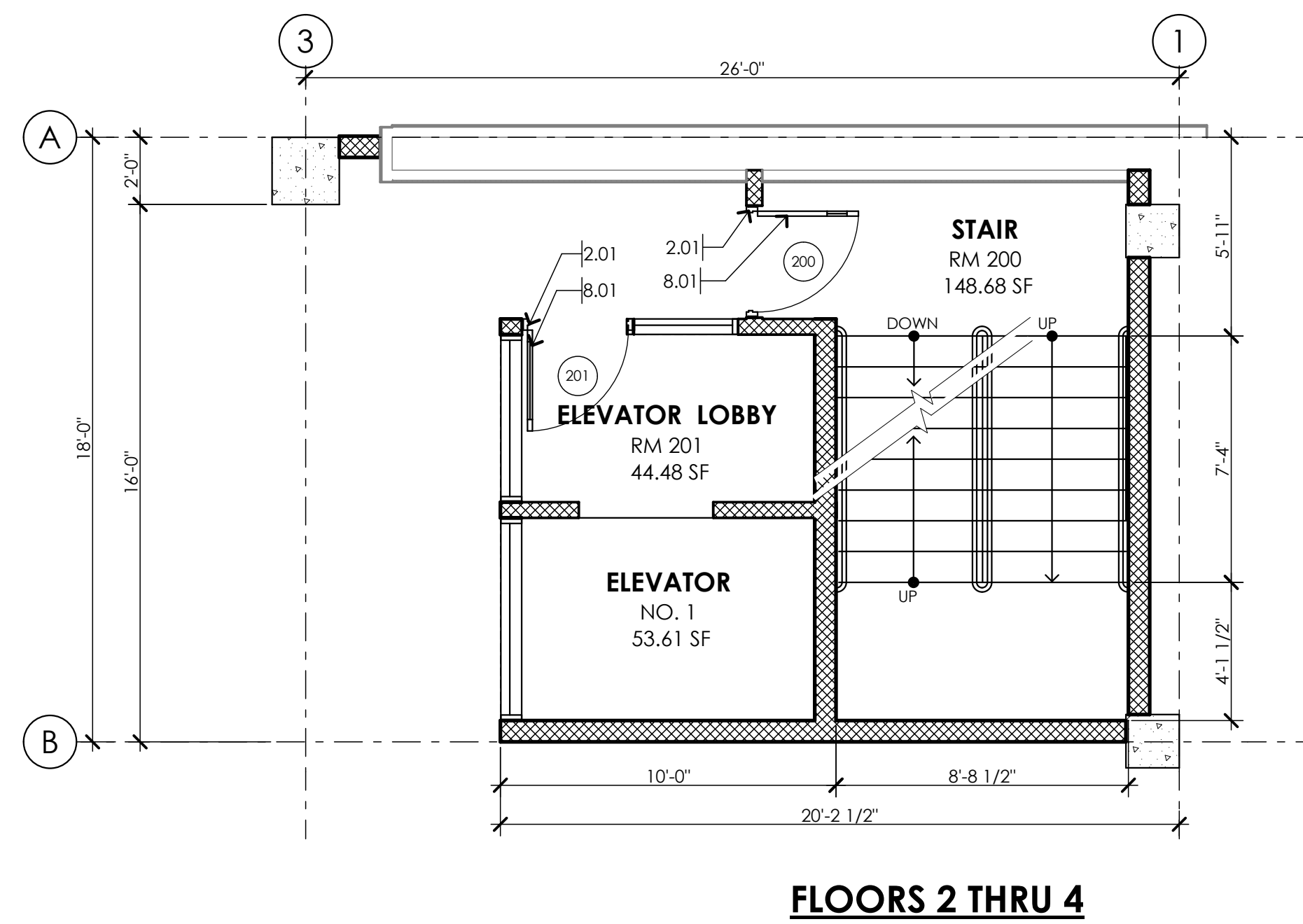
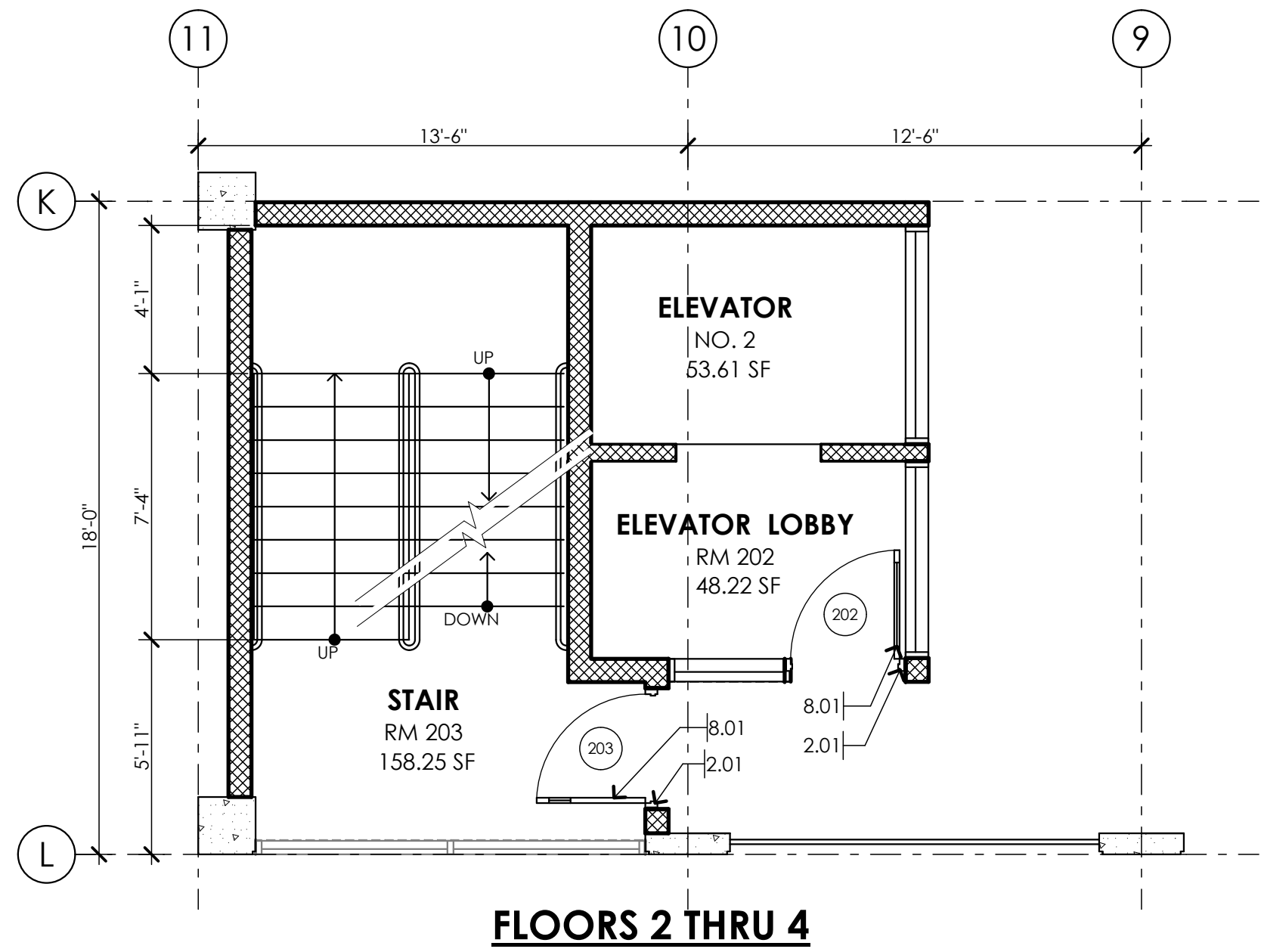
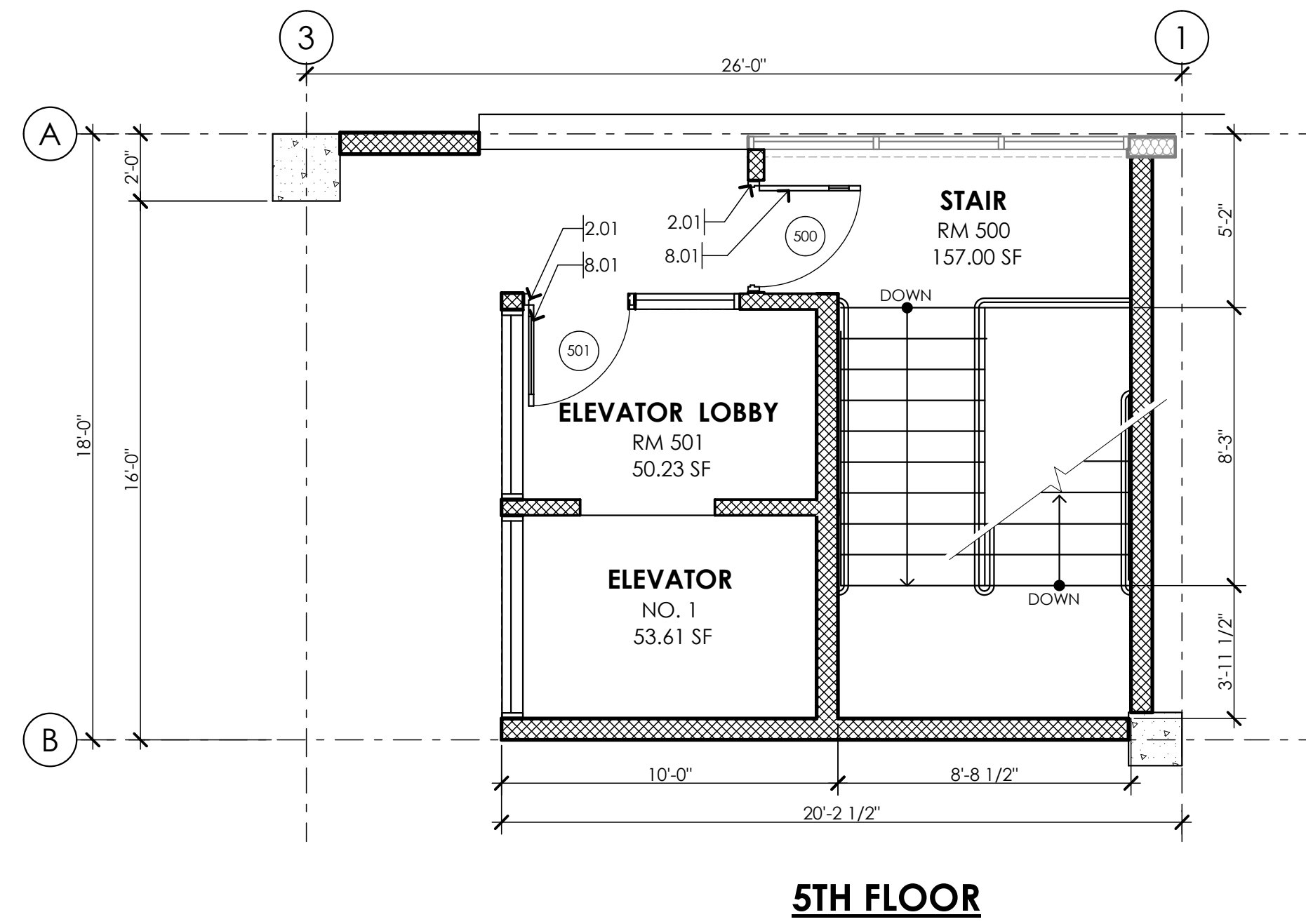
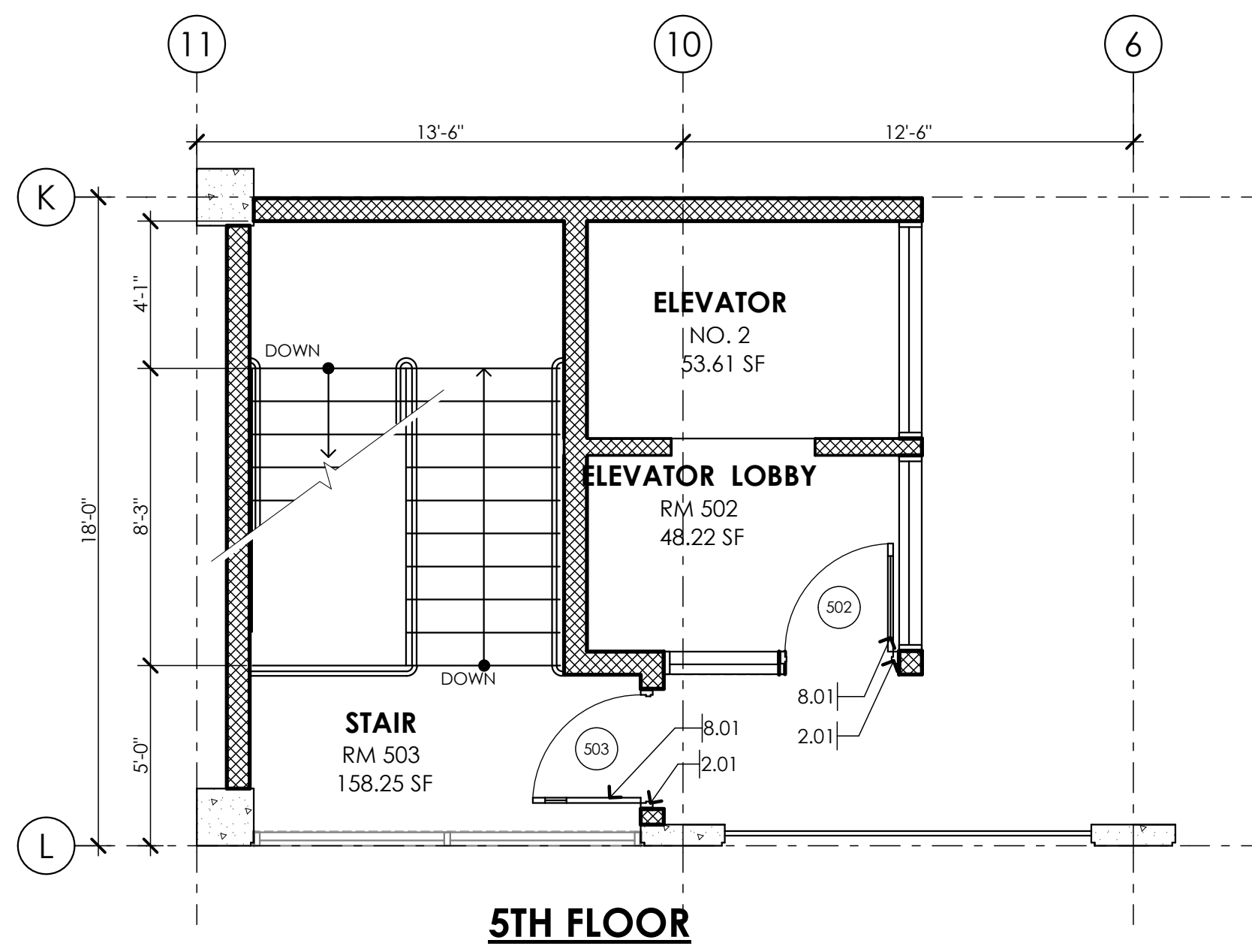
Revision ID	ChID	Issue Name	Date

Project No. 19073

COVER

G0.01

CCDC
ParkBOI PARKING GARAGE UPGRADES
9TH AND MAIN PARKING GARAGE
848 WEST MAIN STREET
BOISE, IDAHO 83702



SOUTH STAIR TOWER PLANS

NORTH STAIR TOWER PLANS

Issue Date: FEB. 2020
 Drawn By: jad
 Checked By: jad

Revision ID	ChID	Issue Name	Date

Project No. 19073

HW SET: 01
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

200	203	300	303	400	403	
1	EA	CONT. HINGE	700		630	IVE
1	EA	PASSAGE SET	ND10S RHO		626	SCH
1	EA	SURFACE CLOSER	4050 SCUSH MC TBWMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK		IVE
1	EA	GASKETING	429AA-S		AA	ZER

HW SET: 02
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

201	202	301	302	401	402	
1	EA	CONT. HINGE	700		630	IVE
1	EA	PASSAGE SET	ND10S RHO		626	SCH
1	EA	SURFACE CLOSER	4050 CUSH MC TBWMS		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK		IVE
1	EA	GASKETING	429AA-S		AA	ZER

HW SET: 03
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

102	109	110				
1	EA	CONT. HINGE	700		630	IVE
1	EA	VANDL. STOREROOM LOCK	ND96RD RHO EV T		626	SCH
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK		IVE
3	EA	SILENCER	SR64		GRY	IVE

HW SET: 04
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

107						
1	EA	CONT. HINGE	700		630	IVE
1	EA	VANDL. STOREROOM LOCK	ND96RD RHO EV T		626	SCH
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK		IVE
1	EA	GASKETING	429AA-S		AA	ZER
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	655A-223		A	ZER

HW SET: 05
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

106						
1	EA	CONT. HINGE	700		630	IVE
1	EA	L9486R 06A L583-363 L583-375 EV T	L9486R 06A L583-363 L583-375		626	SCH
1	EA	SURFACE CLOSER	4050 RW/PA MC TBWMS		689	LCN
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK		IVE
1	EA	GASKETING	429AA-S		AA	ZER
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	655A-223		A	ZER
1	EA	COAT AND HAT HOOK	507		626	IVE

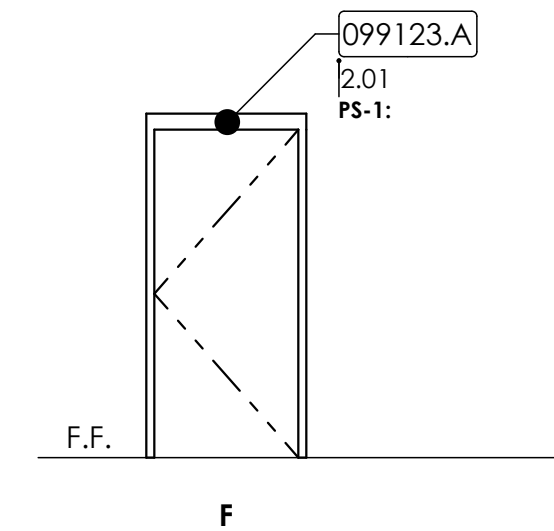
HW SET: A1
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)

100	101	111	112			
1	EA	CONT. HINGE	700		630	IVE
1	EA	PANIC HARDWARE	CD-98-NL		626	VON
1	EA	PRIMUS RIM CYLINDER	20-757 EV29 T		626	SCH
1	EA	PRIMUS MORT. CYL.	20-763 X B502-191 X B11-475 EV29 T 36-083 (DOGGING)		626	SCH
1	EA	OH STOP	100S ADJ		630	GLY
1	EA	SURFACE CLOSER	4040XP EDW/62G MC SRI		689	LCN
1	EA	PA MOUNTING PLATE	4040XP-18PA SRI		689	LCN
1	EA	5TH SCREW SUPPORT	4040XP-30 SRI		689	LCN
1	SET	PERIMETER SEALS	DOOR MFG STD		AL	B/O
1	EA	THRESHOLD	DOOR MFG STD		AL	B/O

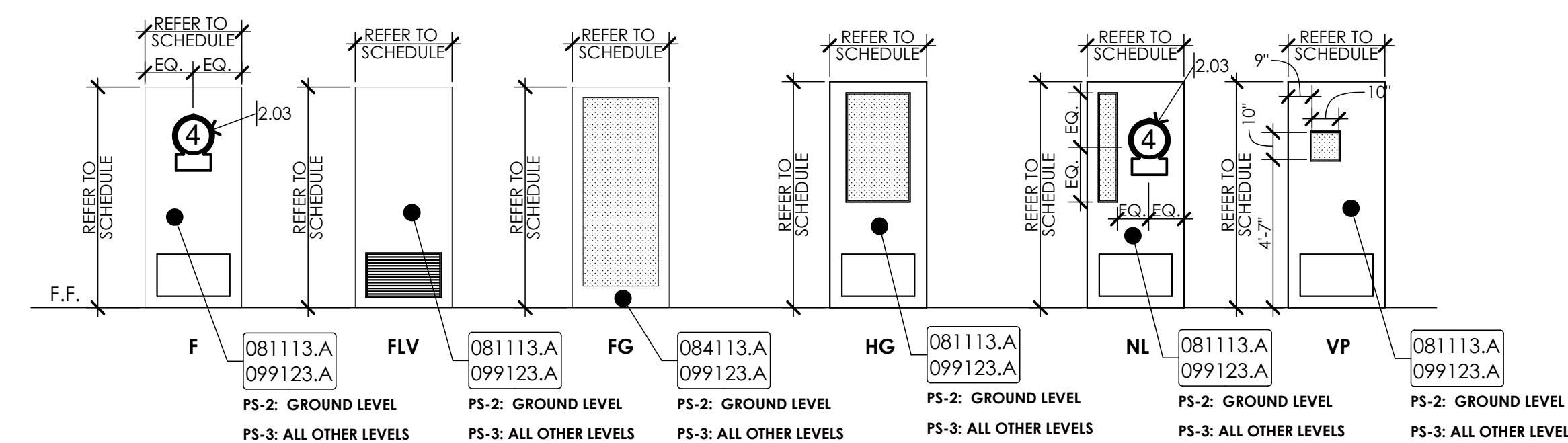
DOOR NUMBER	ROOM	ROOM NAME	DOOR PANEL				FRAME			HDWR. GROUP	RATINGS		SCHEDULE REMARKS		
			WIDTH	HEIGHT	THICKNESS	DOOR TYPE	MATL	FINISH	GLAZE		TYPE	MATL		FINISH	FIRE
100	RM 100	STAIR	3'-0"	7'-0"	1 3/4"	FGL	AL	AAL-DBZ	TMPD	-	AL	AAL-DBZ	A1	Unrated	1.; 2.
101	RM 101	ELEVATOR LOBBY	3'-0"	7'-0"	1 3/4"	FGL	AL	AAL-DBZ	TMPD	-	AL	AAL-DBZ	A1	Unrated	1.; 2.
102	RM 102	ELEVATOR MACHINE ROOM	3'-0"	7'-0"	1 3/4"	FLV	HM	PNT	-	-	HM	PNT	03	90 min.	1.
106	RM 106	EMPL. RR	3'-0"	7'-0"	1 3/4"	F	HM	PNT	-	-	HM	PNT	05	Unrated	1.
107	RM 107	OFFICE	3'-0"	7'-0"	1 3/4"	F	HM	PNT	-	-	HM	PNT	04	Unrated	1.
109	RM 111	ELEVATOR LOBBY	3'-0"	7'-0"	1 3/4"	FLV	HM	PNT	-	-	HM	PNT	03	Unrated	1.
110	RM 110	MECHANICAL ROOM	3'-0"	7'-0"	1 3/4"	FLV	HM	PNT	-	-	HM	PNT	03	Unrated	1.
111	RM 111	ELEVATOR LOBBY	3'-0"	7'-0"	1 3/4"	FGL	AL	AAL-DBZ	TMPD	-	AL	AAL-DBZ	A1	Unrated	1.; 2.
112	RM 112	STAIR	3'-0"	7'-0"	1 3/4"	FGL	AL	AAL-DBZ	TMPD	-	AL	AAL-DBZ	A1	Unrated	1.; 2.
200	RM 200	STAIR	3'-0"	7'-0"	1 3/4"	NL	HM	PNT	FR GL	-	HM	PNT	01	90 min.	1.
201	RM 201	ELEVATOR LOBBY	3'-0"	7'-0"	1 3/4"	HGL	HM	PNT	FR GL	-	HM	PNT	02	Unrated	1.
202	RM 202	ELEVATOR LOBBY	3'-0"	7'-0"	1 3/4"	HGL	HM	PNT	FR GL	-	HM	PNT	02	Unrated	1.
203	RM 203	STAIR	3'-0"	7'-0"	1 3/4"	NL	HM	PNT	FR GL	-	HM	PNT	01	90 min.	1.
300	RM 300	STAIR	3'-0"	7'-0"	1 3/4"	NL	HM	PNT	FR GL	-	HM	PNT	01	90 min.	1.
301	RM 301	ELEVATOR LOBBY	3'-0"	7'-0"	1 3/4"	HGL	HM	PNT	FR GL	-	HM	PNT	02	Unrated	1.
302	RM 302	ELEVATOR LOBBY	3'-0"	7'-0"	1 3/4"	HGL	HM	PNT	FR GL	-	HM	PNT	02	Unrated	1.
303	RM 303	STAIR	3'-0"	7'-0"	1 3/4"	NL	HM	PNT	FR GL	-	HM	PNT	01	90 min.	1.
400	RM 400	STAIR	3'-0"	7'-0"	1 3/4"	NL	HM	PNT	FR GL	-	HM	PNT	01	90 min.	1.
401	RM 401	ELEVATOR LOBBY	3'-0"	7'-0"	1 3/4"	HGL	HM	PNT	FR GL	-	HM	PNT	02	Unrated	1.
402	RM 402	ELEVATOR LOBBY	3'-0"	7'-0"	1 3/4"	HGL	HM	PNT	FR GL	-	HM	PNT	02	Unrated	1.
403	RM 403	STAIR	3'-0"	7'-0"	1 3/4"	NL	HM	PNT	FR GL	-	HM	PNT	01	90 min.	1.
500	RM 500	STAIR	3'-0"	7'-0"	1 3/4"	NL	HM	PNT	FR GL	-	HM	PNT	01	90 min.	1.
501	RM 501	ELEVATOR LOBBY	3'-0"	7'-0"	1 3/4"	HGL	HM	PNT	FR GL	-	HM	PNT	02	Unrated	1.
502	RM 502	ELEVATOR LOBBY	3'-0"	7'-0"	1 3/4"	HGL	HM	PNT	FR GL	-	HM	PNT	02	Unrated	1.
503	RM 503	STAIR	3'-0"	7'-0"	1 3/4"	NL	HM	PNT	FR GL	-	HM	PNT	01	90 min.	1.

- DOOR AND FRAME SCHEDULE REMARKS:**
- EXISTING FRAME TO REMAIN.
 - VERIFY FRAME FINISH PRIOR TO ORDERING AND INSTALLING DOOR HARDWARE.

DOOR AND FRAME SCHEDULE ④
 SCALE: 1" = 1'-0"



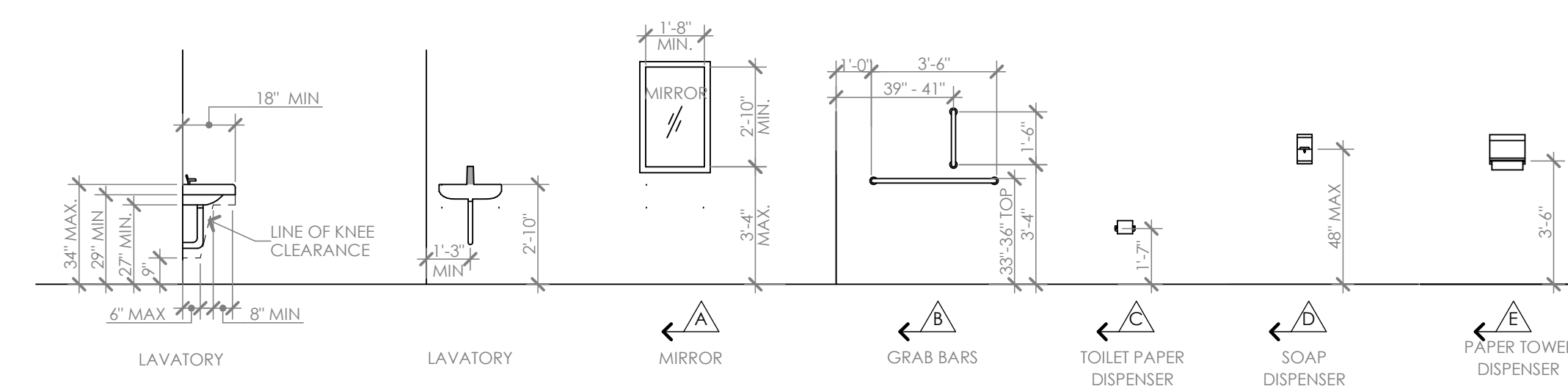
TYPICAL FRAME PAINT SCHEME ③
 SCALE: 1/4" = 1'-0"



DOOR TYPES ②
 SCALE: 1/4" = 1'-0"

PAIN T SCHEDULE:

- PS-1: PAINT COLOR TO MATCH PMS BLACK C
- PS-2: PAINT COLOR TO MATCH PMS 375C
- PS-3: PAINT COLOR TO MATCH PMS BRIGHT WHITE
- PS-4: PAINT COLOR TO MATCH PMS 300C
- PS-5: LEVEL 1: SHERWIN WILLIAMS "CONFIDENT YELLOW", SW6911.
- PS-6: LEVEL 2: SHERWIN WILLIAMS "DYNAMIC BLUE", SW6958.
- PS-7: LEVEL 3: SHERWIN WILLIAMS "REAL RED", SW6868.
- PS-8: LEVEL 4: SHERWIN WILLIAMS "CARNIVAL SW", SW6892.
- PS-9: LEVEL 5: SHERWIN WILLIAMS "GUTSY GRAPE", SW 6980.
- PS-10: LEVEL 6: SHERWIN WILLIAMS "DIRECT GREEN", SW 6924.
- PS-11: LEVEL 7: SHERWIN WILLIAMS "PINK MOMENT", SW 6857.
- PS-12: LEVEL 8: SHERWIN WILLIAMS BLACK MAGIC", SW6991.



ADA MOUNTING HEIGHTS ①
 SCALE: 1/4" = 1'-0"

KEYED/REFERENCE NOTES:

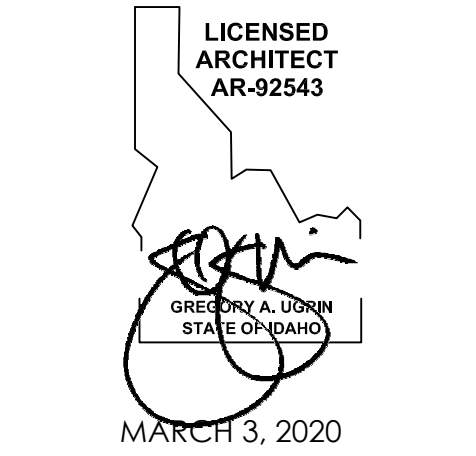
- 2.01 EXISTING DOOR FRAME TO REMAIN. PROTECT FROM DAMAGE DURING NEW WORK.
- 2.03 CONTRACTOR TO REMOVE SIGNAGE FROM EXISTING DOORS AND REPLACE ON NEW DOORS AS REQUIRED

OPENINGS:

- 081113.A HOLLOW METAL DOOR
- 084113.A ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

FINISHES:

- 099123.A INTERIOR PAINTING



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CONSTRUCTION DOCUMENTS
 Print Date: February 27, 2020

CCDC
 ParkBOI PARKING GARAGE UPGRADES
9TH AND MAIN PARKING GARAGE
 848 WEST MAIN STREET
 BOISE, IDAHO 83702

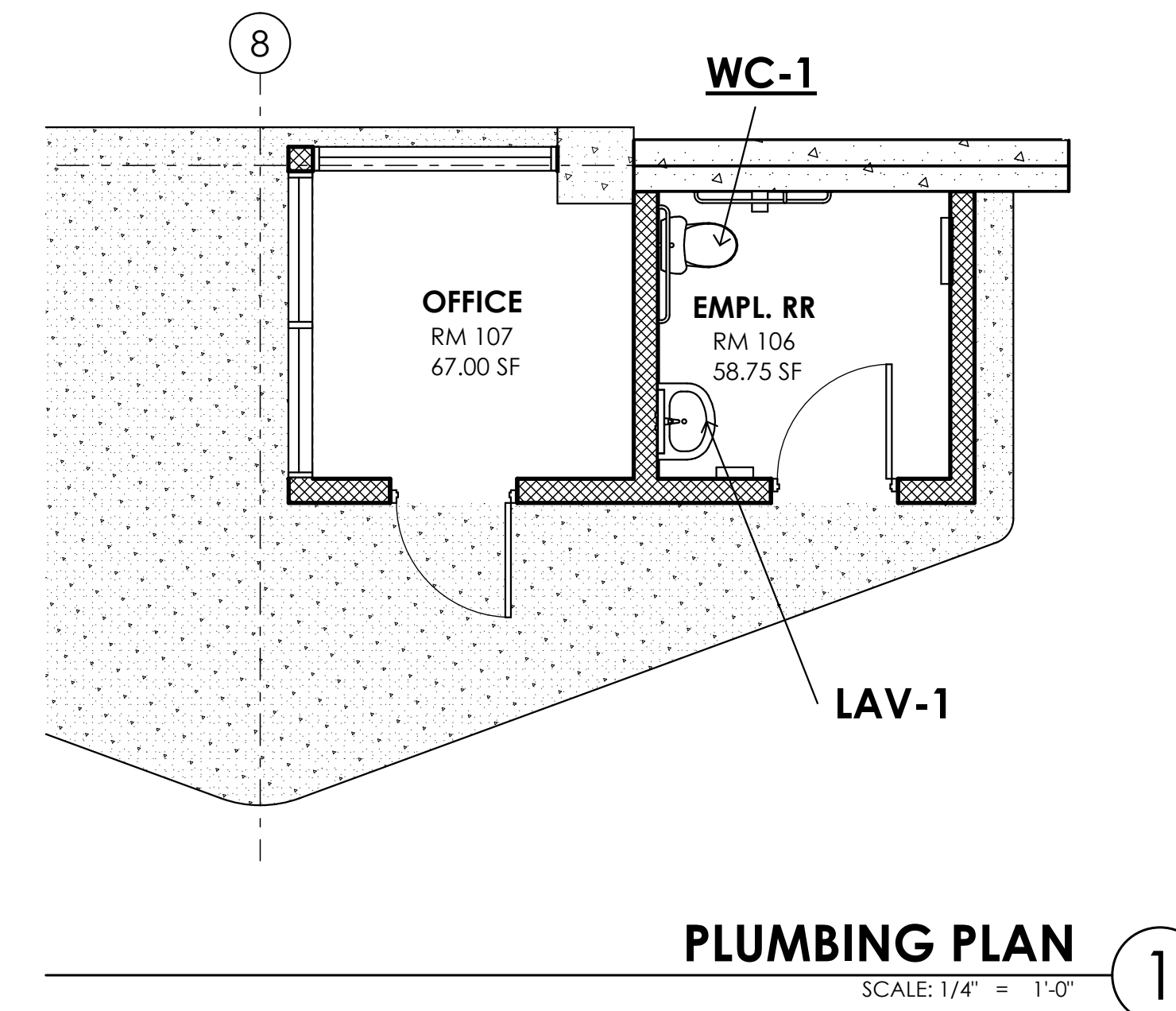
Issue Date: **FEB. 2020**
 Drawn By: jod
 Checked By: jod

Revision ID	ChID	Issue Name	Date

Project No. 19073

SCHEDULES

A8.11

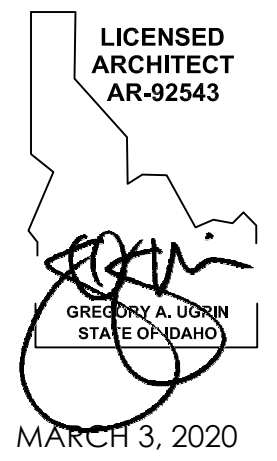


PLUMBING PLAN

SCALE: 1/4" = 1'-0"

1

PLUMBING FIXTURE SCHEDULE		
SYMBOL	FIXTURE DESCRIPTION	MANUFACTURER / MODEL / DESCRIPTION
LAV-1	LAVATORY (WALL HUNG) (ADA COMPLIANT)	KOHLER KINGSTON MODEL K-2005: VITREOUS CHINA, WALL MOUNTED, HOLES ON 4" CENTERS, AND GRID STRAINER. KOHLER TRITON BOWE CENTERSET BATHROOM SINK FAUCET K-400T20-4ANA.
WC-1	WATER CLOSET (FLUSH TANK) (FLOOR MOUNTED) (ADA COMPLIANT)	KOHLER CIMARRON MODEL K-3589 (LEFT LEVER) / K-3589-RA (RIGHT LEVER), FLOOR MOUNTED, GRAVITY FLUSH TANK WITH ELONGATED BOWL. KOHLER LUSTRA MODEL K-4650 ELONGATED, OPEN FRONT SEAT WITH CHECK HINGE AND NO COVER. APPROVED ALTERNATES: AMERICAN STANDARD - CADET PRO, BRIGGS - TOILET EXPRESS 7006, TOTO -DRAKE, AND ZURN Z5551.



Issue Date: **FEB. 2020**
 Drawn By: jad
 Checked By: jad

Revision ID	ChID	Issue Name	Date

Project No. 19073

PLUMBING PLAN

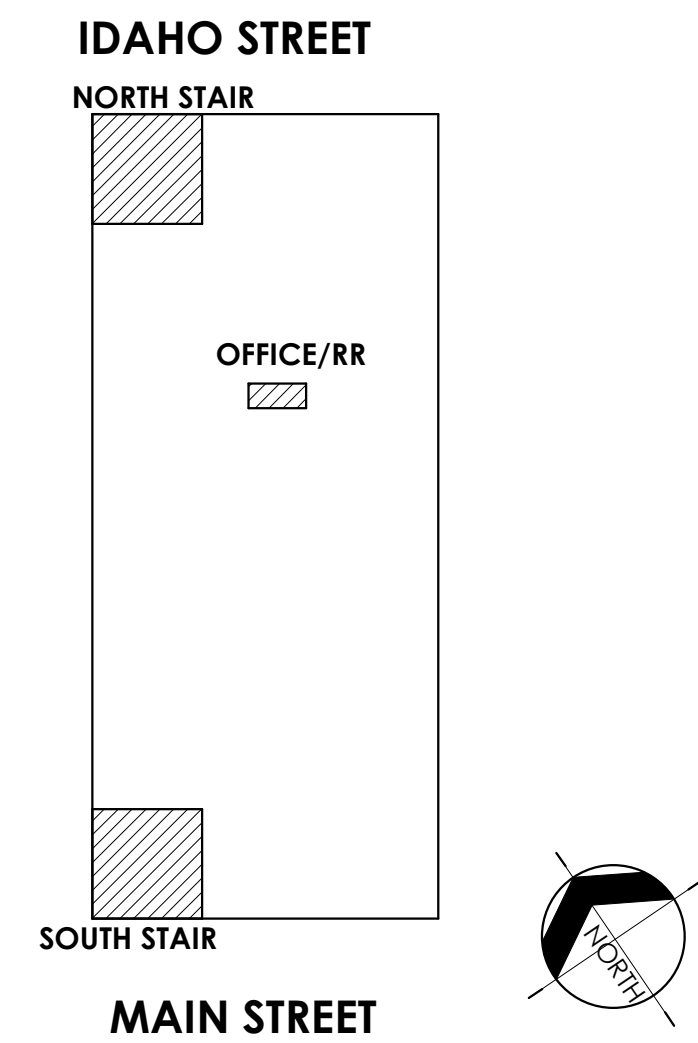
CCDC CAPITOL AND MAIN PARKING GARAGE UPGRADES

770 WEST MAIN STREET BOISE, IDAHO 83702
CONSTRUCTION DOCUMENTS - MARCH 3, 2020



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DOCUMENTS PHASE
Print Date: February 27, 2020

KEY PLAN:



SCOPE OF WORK:

DOOR AND DOOR HARDWARE REPLACEMENT IN ELEVATOR AND STAIR TOWERS OF PUBLIC PARKING GARAGES. ACCESSIBILITY UPGRADES TO PARKING ATTENDANT RESTROOMS INCLUDING NEW FIXTURES, ACCESSORIES, AND PAINTING. NEW ACCESSIBLE CONCRETE RAMP

PROJECT RECAP:

BUILDING CODE DATA:
2015 INTERNATIONAL BUILDING CODE
2015 INTERNATIONAL EXISTING BUILDING CODE
2015 INTERNATIONAL FIRE CODE
2015 INTERNATIONAL ENERGY CONSERVATION CODE
2012 INTERNATIONAL MECHANICAL CODE
2012 INTERNATIONAL FUEL GAS CODE
2017 IDAHO STATE PLUMBING CODE
2017 NATIONAL ELECTRICAL CODE
2017 ICC/ANSI A117.1

SITE ADDRESS:
770 WEST MAIN STREET
BOISE, ID 83702

PARCEL: R1281150120 **ZONE:** C-SDD

CONSTRUCTION TYPE: - **OCCUPANCY TYPE:** S-2

SHEET INDEX:

GENERAL SHEETS													
G0.01	COVER												
G0.02	DRAWING INFORMATION												
FLOOR PLANS													
A2.11	FLOOR PLANS												
A2.12	NEW ACCESSIBLE RAMP PLAN AND DETAILS												
INTERIORS													
A8.11	SCHEDULES												
PLUMBING													
P1.0	PLUMBING PLAN												

PROJECT DIRECTORY:


OWNER/TENANT:
CCDC
121 NORTH 9TH STREET
BOISE, IDAHO 83702
Contact: KARL WOODS
Phone: 208-384-4264



STRUCTURAL:
NIC

MECHANICAL:
NIC

ARCHITECT:
Slichter/Ugrin Architecture
415 South 13th Street
Boise, Idaho 83702
208.658.1679 phone
Contact: JOHN DAY



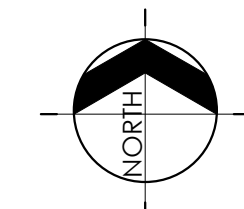
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CIVIL/LANDSCAPE:
NIC

VICINITY MAP:



PROJECT LOCATION
770 WEST MAIN STREET



Revision ID	ChID	Issue Name	Date

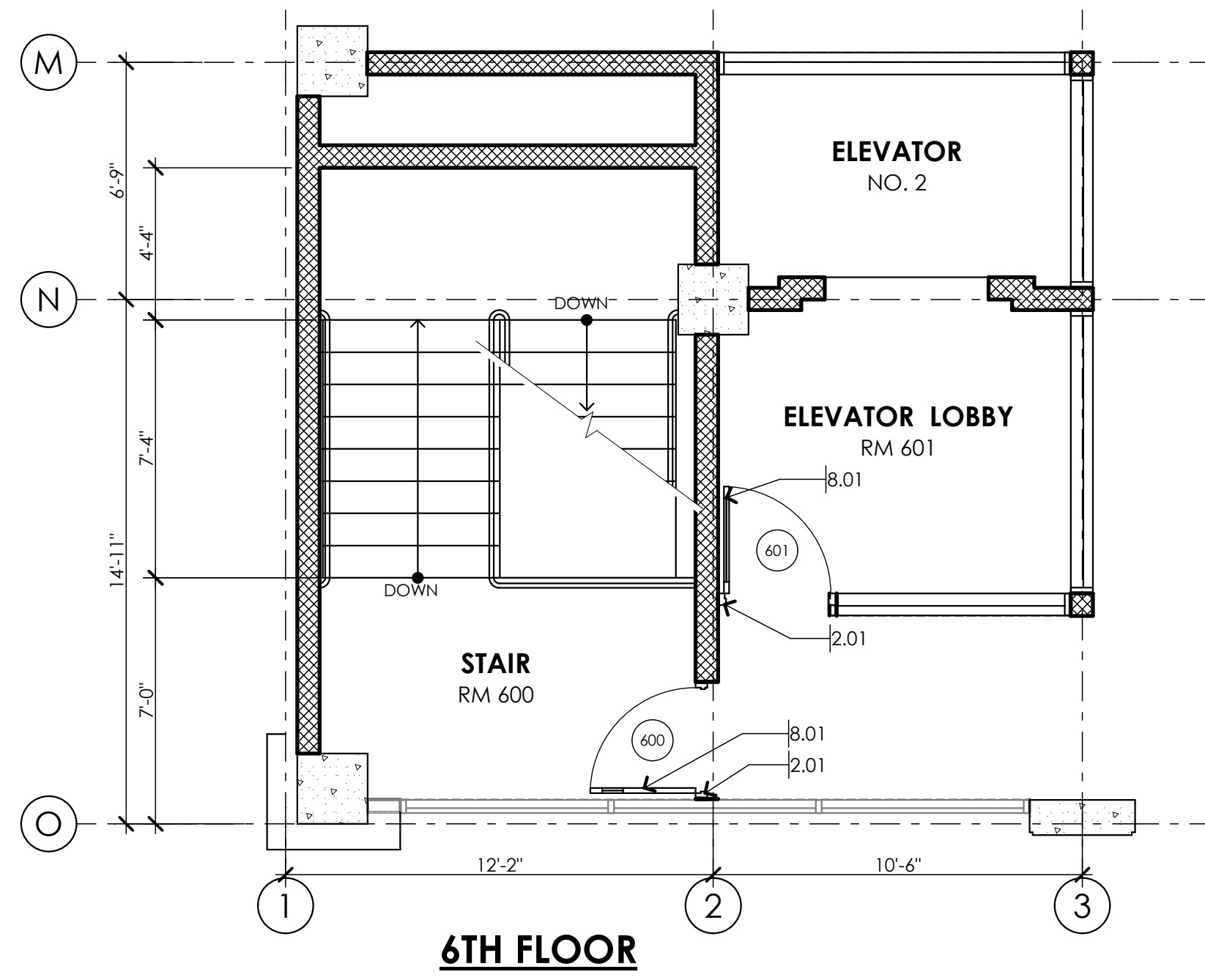
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Drawn By: JAD
Checked By: JAD

Revision ID	ChID	Issue Name	Date

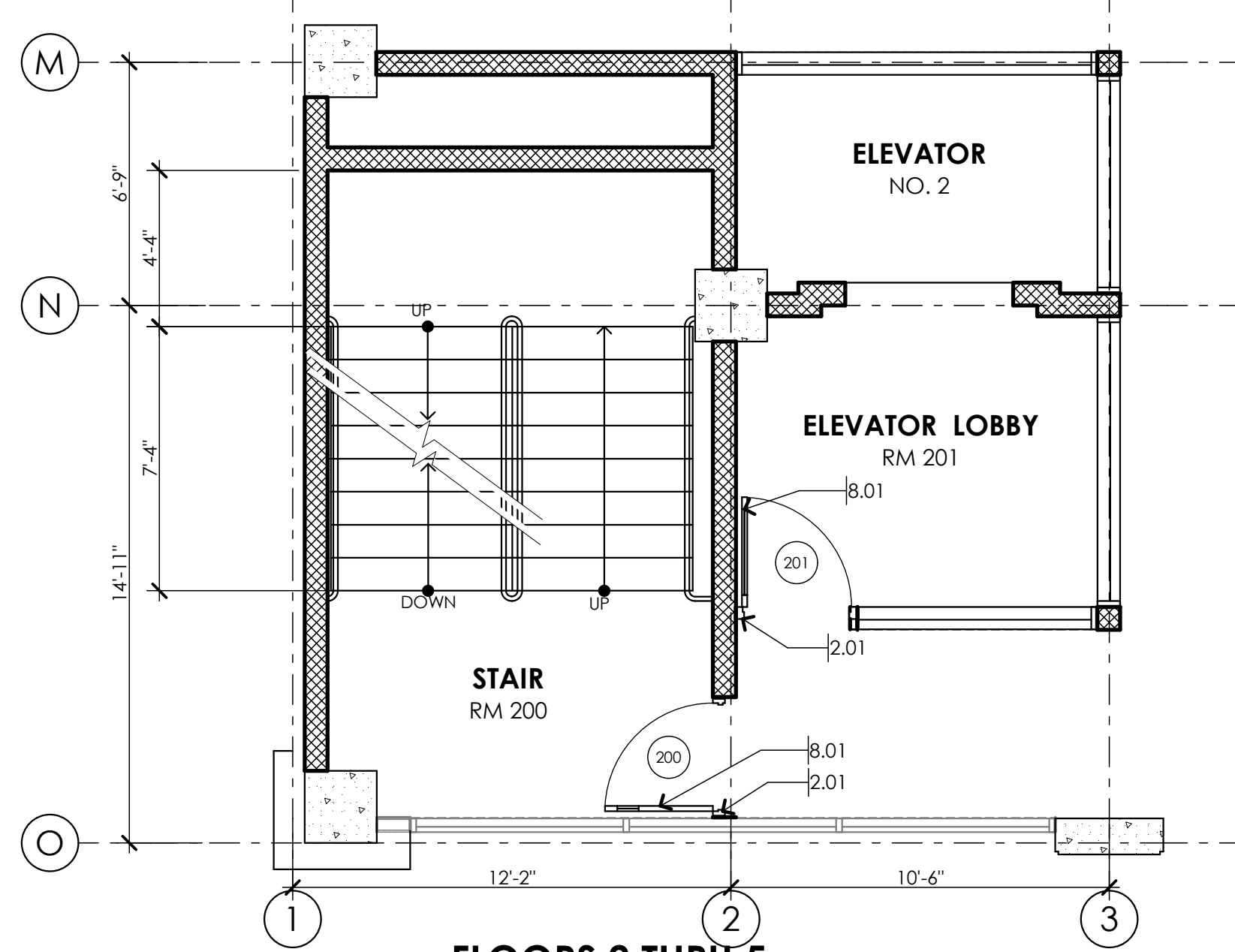
Project No. #19075

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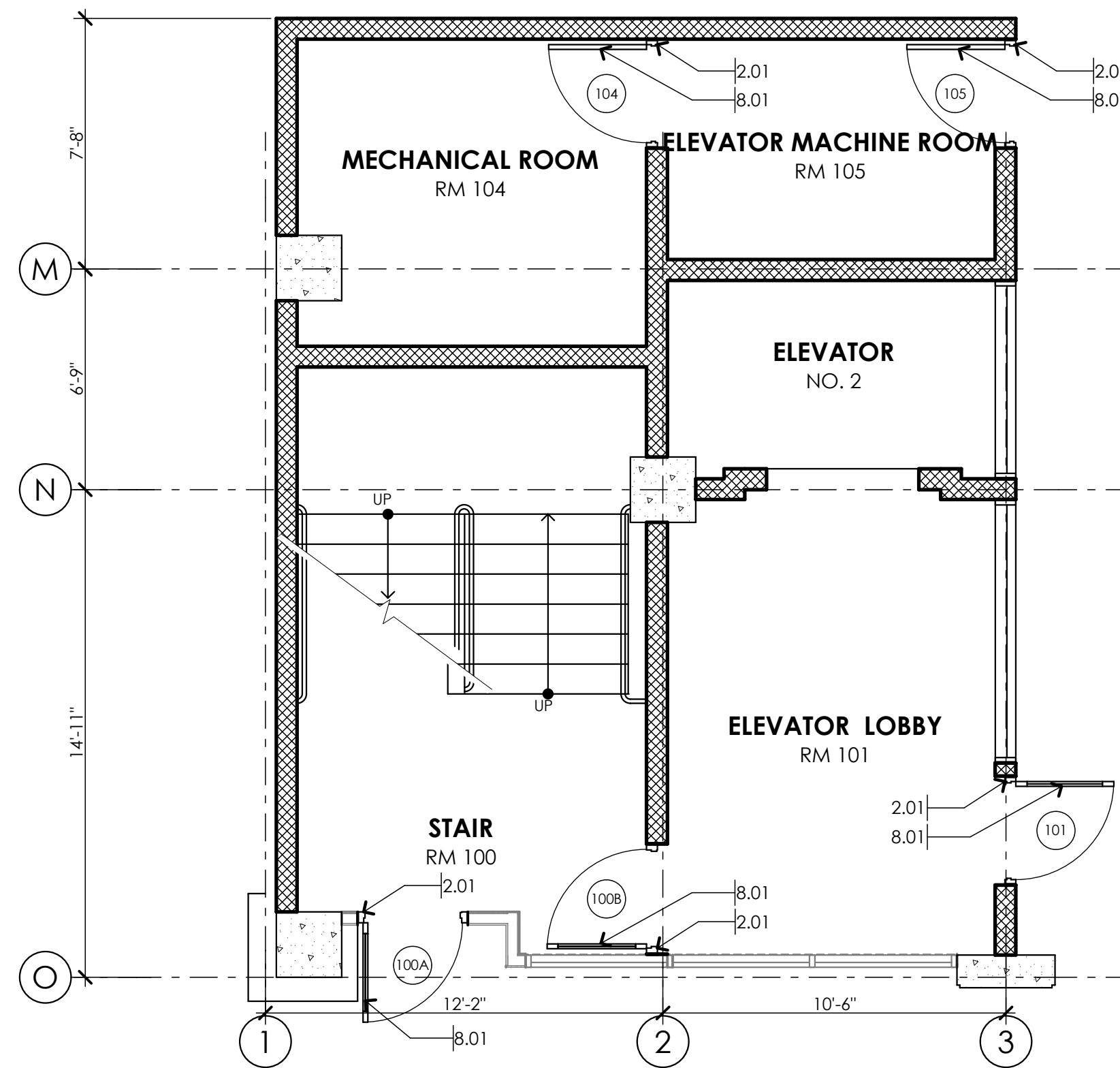
CCDC
 ParkBOI PARKING GARAGE UPGRADES
CAPITOL AND MAIN GARAGE
 770 WEST MAIN STREET
 BOISE, IDAHO 83702



6TH FLOOR



FLOORS 2 THRU 5

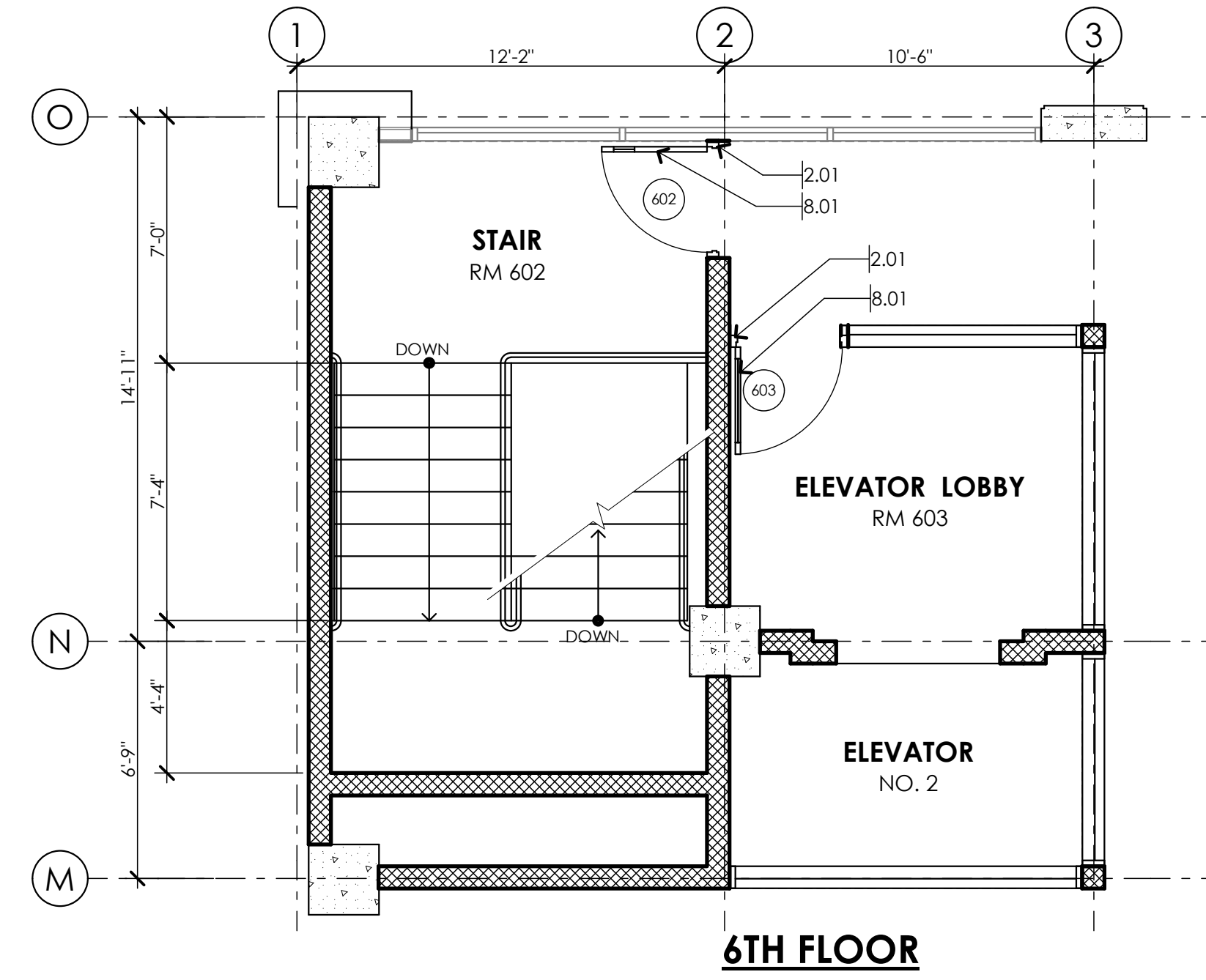


GROUND FLOOR PLAN

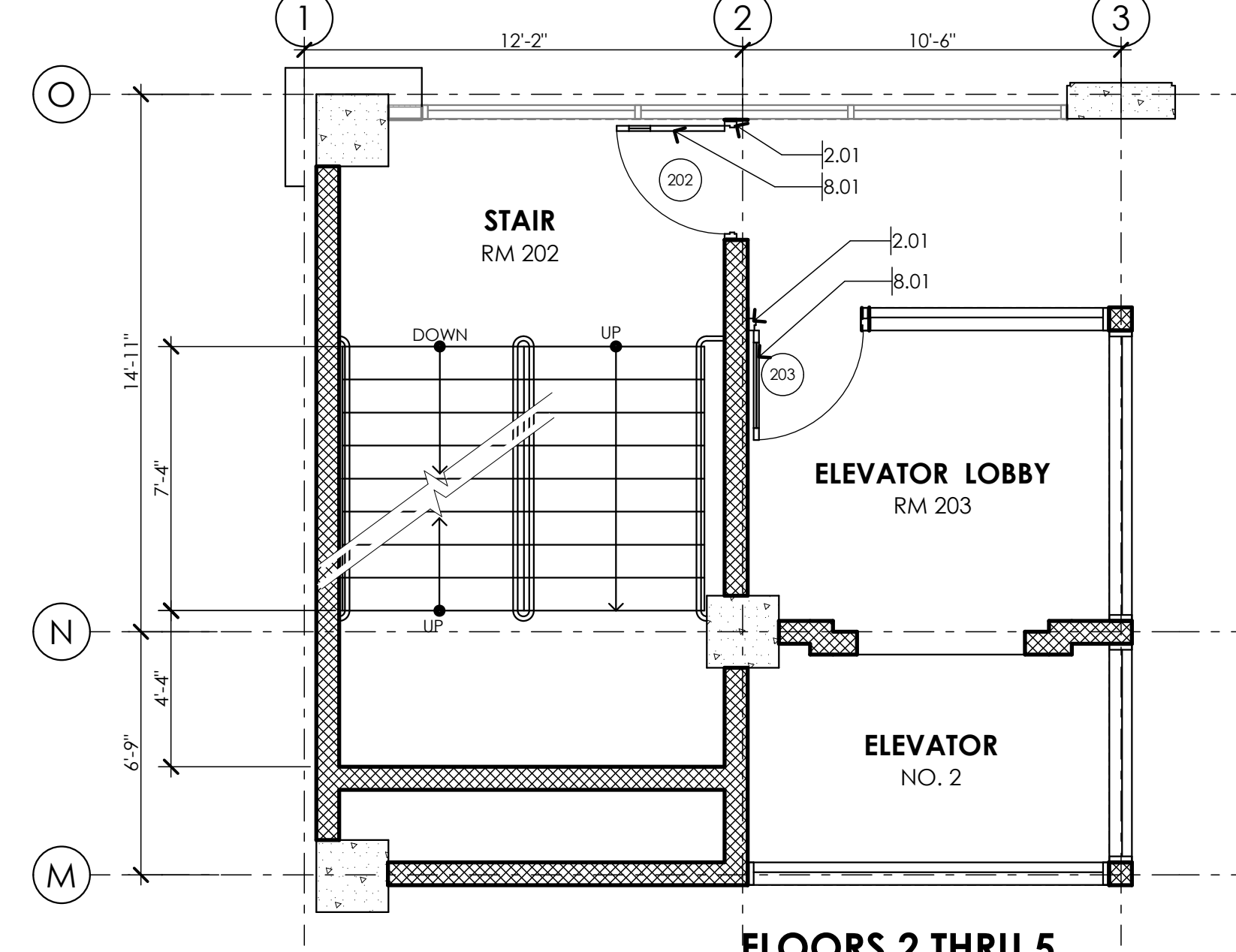
SOUTH STAIR TOWER PLANS

SCALE: 1/4" = 1'-0"

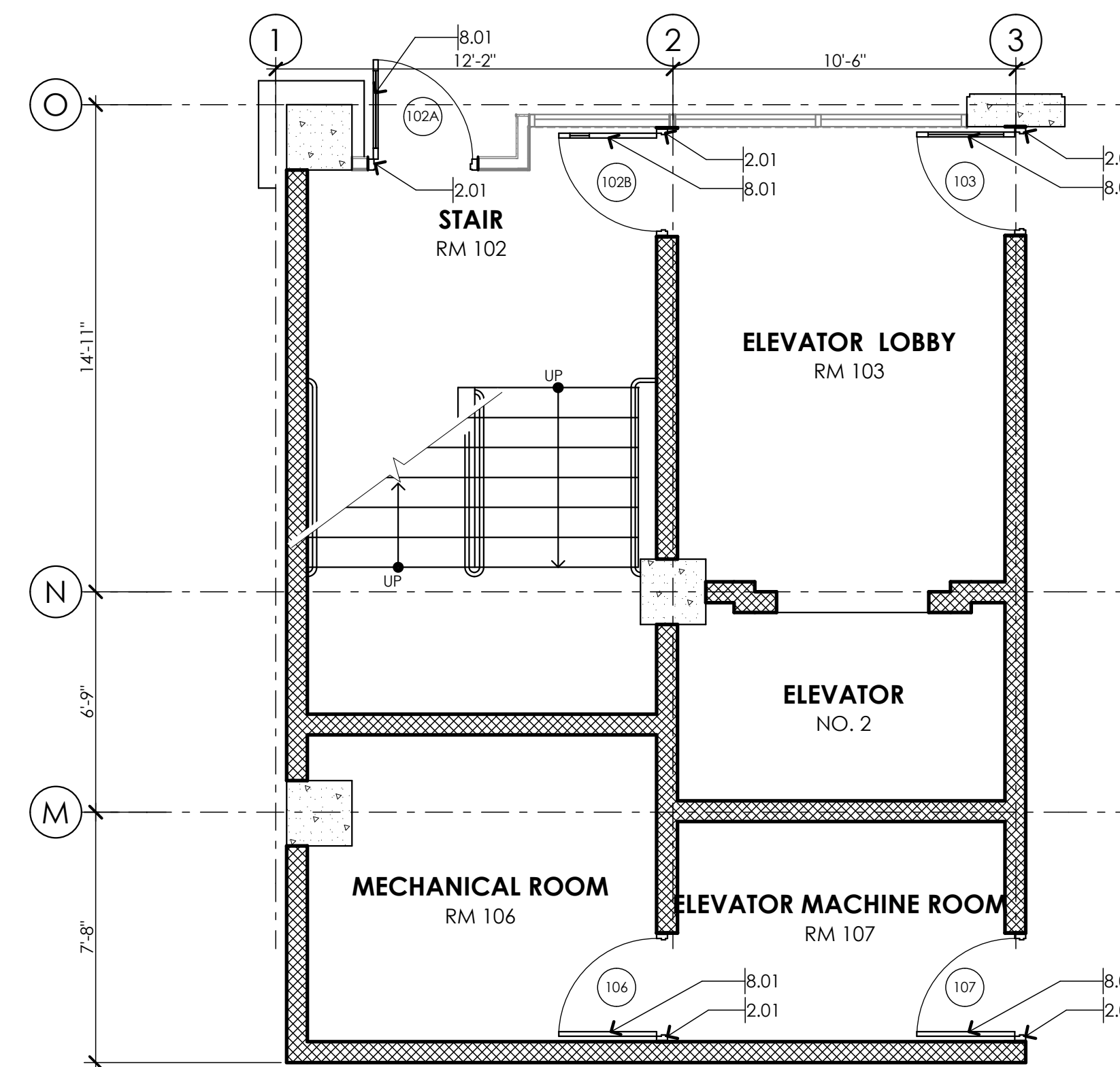
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6TH FLOOR



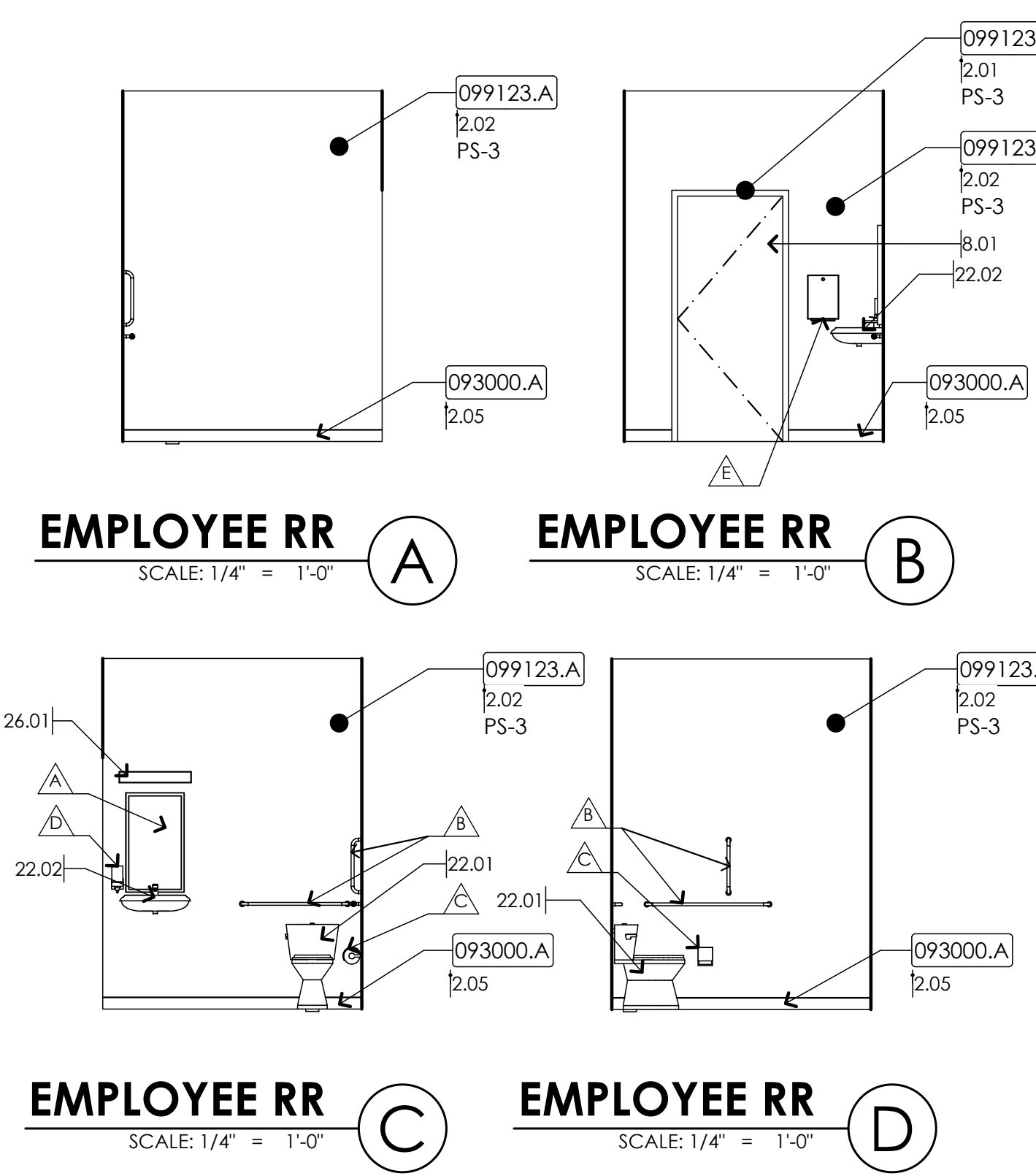
FLOORS 2 THRU 5



NORTH STAIR TOWER PLANS

SCALE: 1/4" = 1'-0"

2



EMPLOYEE RR

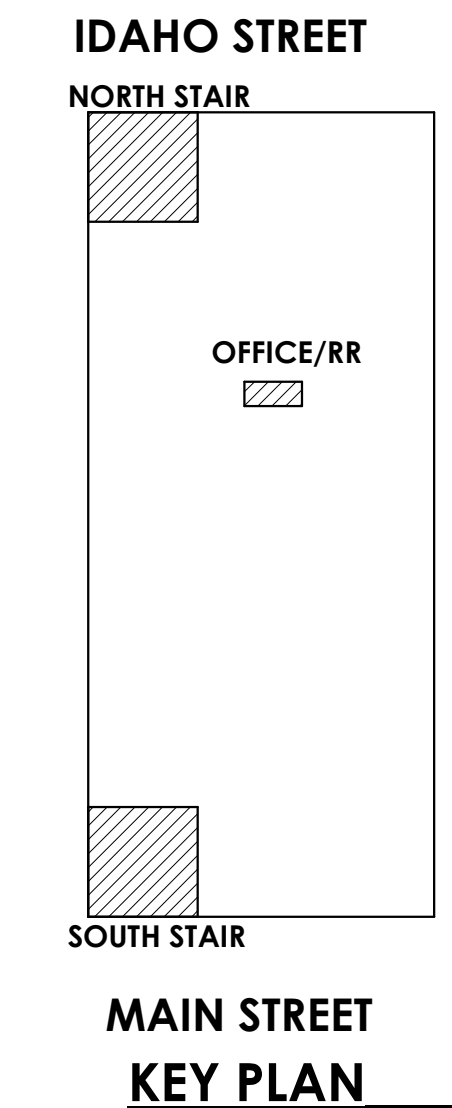
EMPLOYEE RR



EMPLOYEE OFFICE/RR PLAN

SCALE: 1/4" = 1'-0"

2



MAIN STREET KEY PLAN

KEYED/REFERENCE NOTES:

- 2.01 EXISTING DOOR FRAME TO REMAIN. PROTECT FROM DAMAGE DURING NEW WORK.
- 2.02 EXISTING CONCRETE MASONRY UNIT WALL (PAINTED)
- 2.05 EXISTING TILE FLOOR AND BASE TO REMAIN. PATCH AND REPAIR AS REQUIRED FOR REMOVAL OF EXISTING PLUMBING FIXTURES AND VANITY AND INSTALLATION OF NEW FIXTURES.
- 8.01 NEW DOOR AND HARDWARE. REFERENCE SCHEDULE.
- 22.01 CONTRACTOR TO REMOVE EXISTING WATER CLOSET AND REPLACE WITH NEW WATER CLOSET. REFERENCE PLUMBING DRAWINGS.
- 22.02 CONTRACTOR TO REMOVE EXISTING VANITY AND LAVATORY AND REPLACE WITH NEW WALL HUNG LAVATORY.
- 26.01 EXISTING LIGHTING FIXTURE TO REMAIN.

FINISHES:

- 093000.A TILING
- 099123.A INTERIOR PAINTING

DESIGN PLANNING + SUSTAINABILITY

S|U>ARCH.

SLICHTER | UGRIN > ARCHITECTURE, INC.

415 S. 13TH ST. BOISE, IDAHO 83702 208 658 1679

LICENSED ARCHITECT AR-92543

GREENE A. UGRIN
STATE OF IDAHO

MARCH 3, 2020

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DOCUMENTS PHASE
Print Date: February 27, 2020

CCDC
ParkBOI PARKING GARAGE UPGRADES

CAPITOL AND MAIN GARAGE

770 WEST MAIN STREET
BOISE, IDAHO 83702

Issue Date: FEB. 2020
Drawn By: JAD
Checked By: JAD

Revision ID	ChID	Issue Name	Date

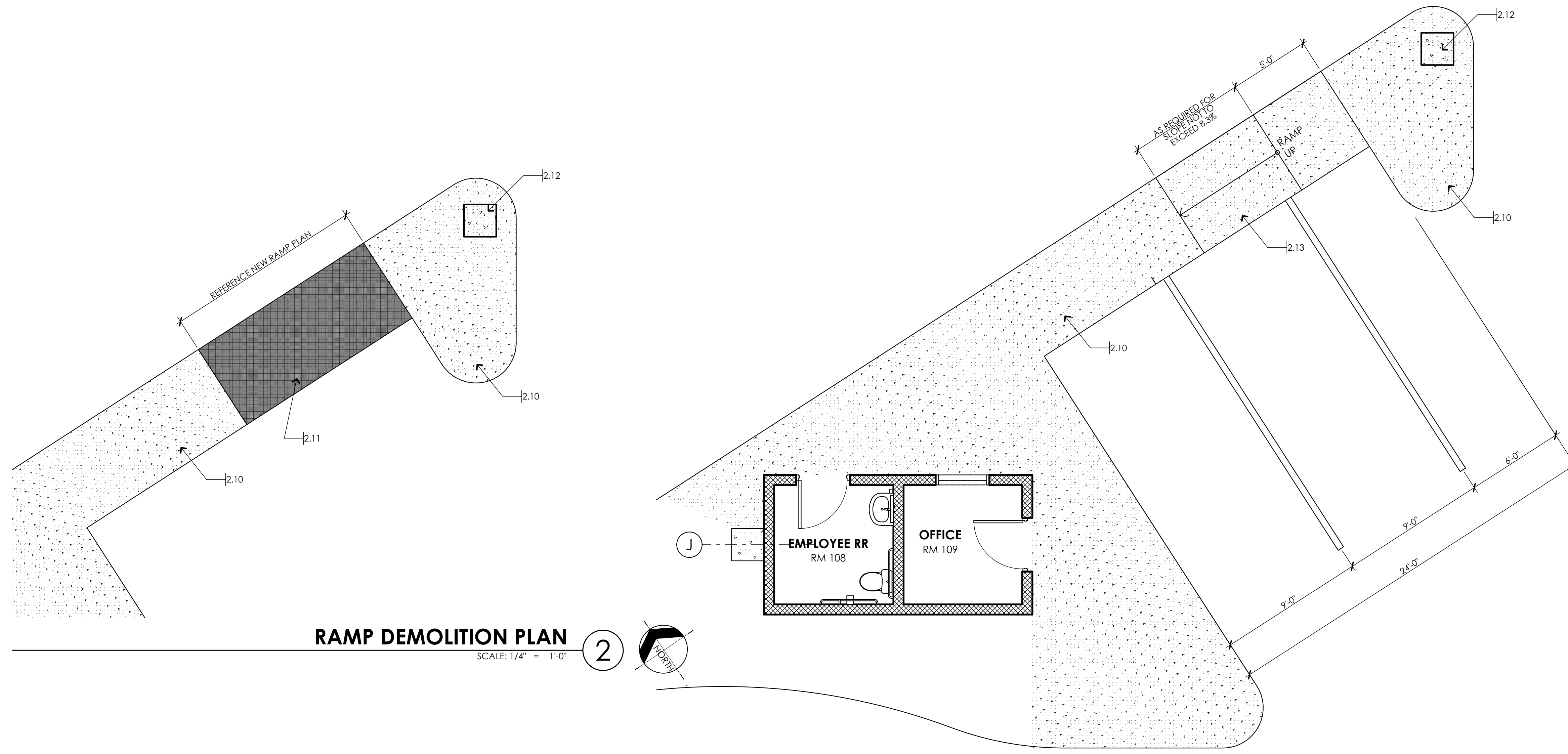
Project No. #19075

FLOOR PLANS

A2.11

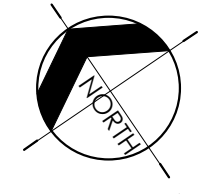
KEYED/REFERENCE NOTES:

- 2.10 EXISTING 5" CONCRETE SIDEWALK WITH 2" TURN DOWN CURB EDGE ON GRADE TO REMAIN.
- 2.11 REMOVE EXISTING 5" CONCRETE SIDEWALK WITH 2" TURN DOWN CURB EDGE ON GRADE AS REQUIRED FOR INSTALLATION OF NEW CURB RAMP.
- 2.12 EXISTING CONCRETE COLUMN TO REMAIN
- 2.13 NEW 5" THICK CONCRETE PEDESTRIAN RAMP PER ISFWC 5D-7.12S WITH YELLOW TRUNCATED DOMES AT LANDING. MAXIMUM 2% CROSS SLOPE. MAXIMUM 8.33 RUNNING SLOPE.



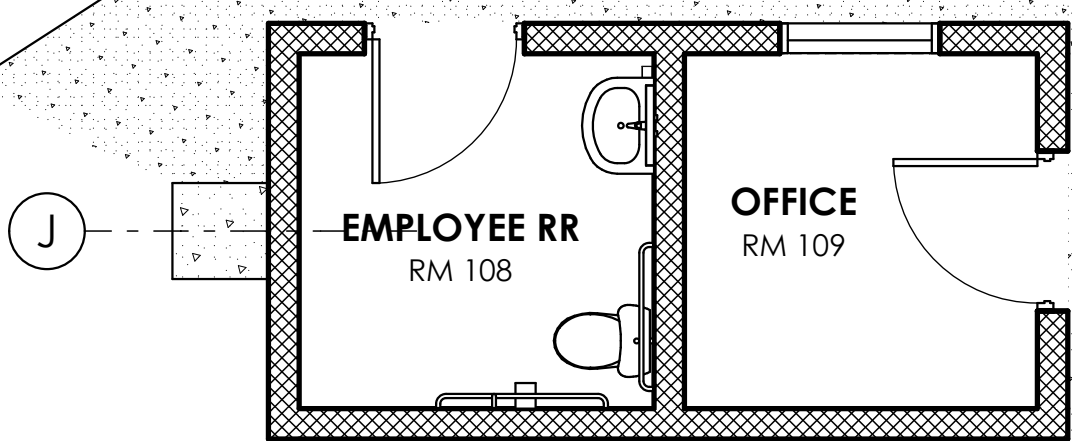
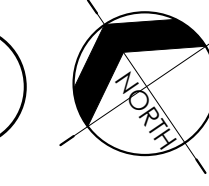
RAMP DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

2



NEW ACCESSIBLE CONCRETE RAMP PLAN
SCALE: 1/4" = 1'-0"

1



Issue Date: **FEB. 2020**
Drawn By: JAD
Checked By: JAD

Revision ID	ChID	Issue Name	Date

Project No. #19075

**HW SET: 01
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)**

Table with 5 columns: QTY, EQ, ROOM NAME, ROOM NUMBER, and QTY. Lists items like CONT. HINGE, FIRE EXIT HARDWARE, PRIMUM RIM CYLINDER, SURFACE CLOSER, KICK PLATE, GASKETING, DOOR SWEEP, THRESHOLD.

**HW SET: 02
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)**

Table with 5 columns: QTY, EQ, ROOM NAME, ROOM NUMBER, and QTY. Lists items like CONT. HINGE, PASSAGE SET, SURFACE CLOSER, KICK PLATE, WALL STOP, GASKETING.

**HW SET: 03
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)**

Table with 5 columns: QTY, EQ, ROOM NAME, ROOM NUMBER, and QTY. Lists items like CONT. HINGE, VANDL STOREROOM LOCK, WALL STOP, SILENCER.

**HW SET: 04
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)**

Table with 5 columns: QTY, EQ, ROOM NAME, ROOM NUMBER, and QTY. Lists items like CONT. HINGE, VANDL STOREROOM LOCK, OH STOP, GASKETING, DOOR SWEEP, THRESHOLD.

**HW SET: 05
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)**

Table with 5 columns: QTY, EQ, ROOM NAME, ROOM NUMBER, and QTY. Lists items like CONT. HINGE, L9486R O6A L583-363 L583-375 EV T, SURFACE CLOSER, WALL STOP, GASKETING, DOOR SWEEP, THRESHOLD, COAT AND HAT HOOK.

**HW SET: A1
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)**

Table with 5 columns: QTY, EQ, ROOM NAME, ROOM NUMBER, and QTY. Lists items like CONT. HINGE, FIRE EXIT HARDWARE, PRIMUM RIM CYLINDER, OH STOP, SURFACE CLOSER, PA MOUNTING PLATE, 5TH SCREW SUPPORT, PERIMETER SEALS, THRESHOLD.

**HW SET: A2
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)**

Table with 5 columns: QTY, EQ, ROOM NAME, ROOM NUMBER, and QTY. Lists items like CONT. HINGE, FIRE EXIT HARDWARE, PRIMUM RIM CYLINDER, OH STOP, SURFACE CLOSER, PA MOUNTING PLATE, 5TH SCREW SUPPORT, PERIMETER SEALS.

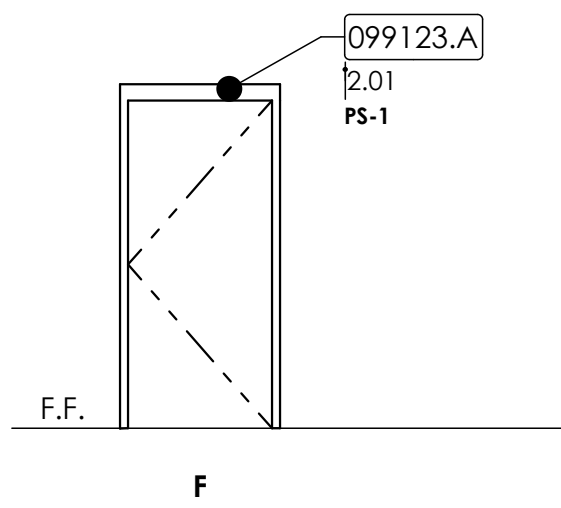
DOOR AND FRAME SCHEDULE table with columns: DOOR NUMBER, ROOM, ROOM NAME, DOOR PANEL (ID, ROOM, ROOM NAME, PANEL SIZE, DOOR TYPE, MATL, FINISH, GLAZE), FRAME (TYPE, MATL, FINISH), HDWR. GROUP, RATINGS (FIRE, STC), and SCHEDULE REMARKS.

DOOR AND FRAME SCHEDULE REMARKS:

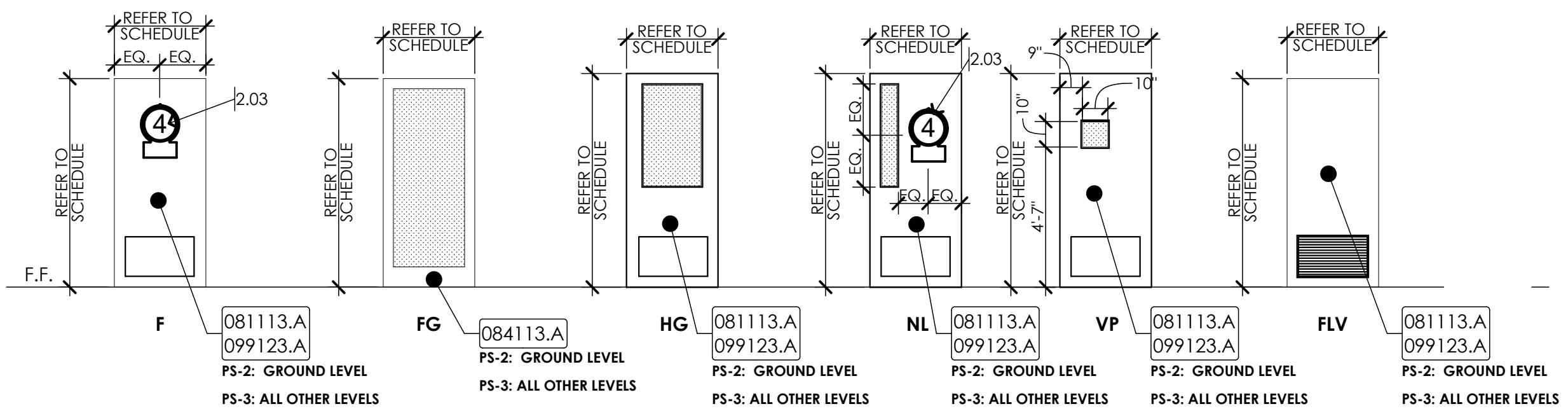
- 1. EXISTING FRAME TO REMAIN.
2. VERIFY FRAME FINISH PRIOR TO ORDERING AND INSTALLING DOOR HARDWARE.

TYPICAL FRAME PAINT SCHEME

SCALE: 1/4" = 1'-0"



4

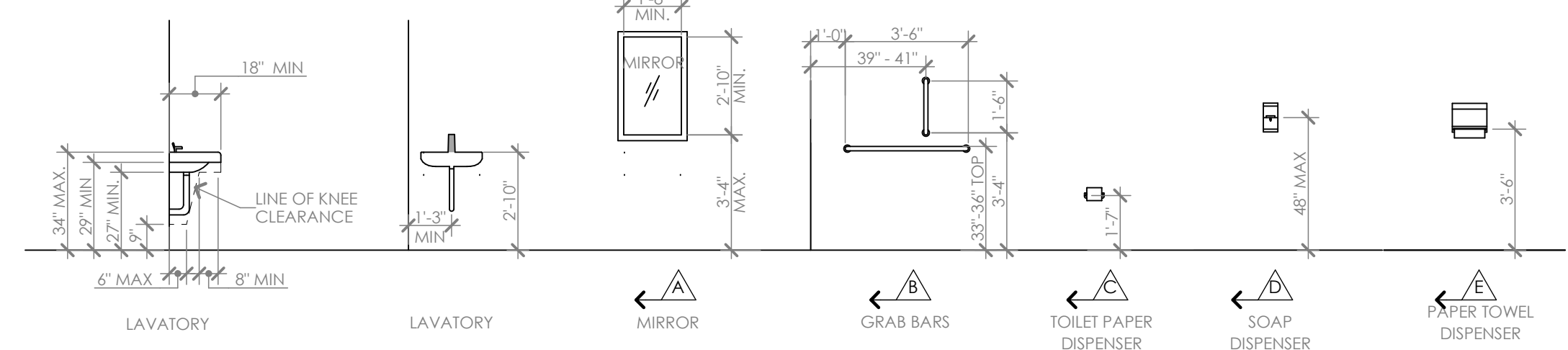


DOOR TYPES SCALE: 1/4" = 1'-0"

2

PAIN T SCHEDULE:

- PS-1: PAINT COLOR TO MATCH PMS BLACK C
PS-2: PAINT COLOR TO MATCH PMS 375C
PS-3: PAINT COLOR TO MATCH PMS BRIGHT WHITE
PS-4: PAINT COLOR TO MATCH PMS 300C
PS-5: LEVEL 1: SHERWIN WILLIAMS "CONFIDENT YELLOW", SW6911.
PS-6: LEVEL 2: SHERWIN WILLIAMS "DYNAMIC BLUE", SW6958.
PS-7: LEVEL 3: SHERWIN WILLIAMS "REAL RED", SW6868.
PS-8: LEVEL 4: SHERWIN WILLIAMS "CARNIVAL SW", SW6892.
PS-9: LEVEL 5: SHERWIN WILLIAMS "GUTSY GRAPE", SW 6980.
PS-10: LEVEL 6: SHERWIN WILLIAMS "DIRECT GREEN", SW 6924.
PS-11: LEVEL 7: SHERWIN WILLIAMS "PINK MOMENT", SW 6857.
PS-12: LEVEL 8: SHERWIN WILLIAMS BLACK MAGIC", SW6991.



ADA MOUNTING HEIGHTS

SCALE: 1/4" = 1'-0"

1

KEYED/REFERENCE NOTES:

- 2.01 EXISTING DOOR FRAME TO REMAIN. PROTECT FROM DAMAGE DURING NEW WORK.
2.03 CONTRACTOR TO REMOVE SIGNAGE FROM EXISTING DOORS AND REPLACE ON NEW DOORS AS REQUIRED

OPENINGS:

081113.A HOLLOW METAL DOOR
084113.A ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

FINISHES:

099123.A INTERIOR PAINTING

Vertical text on the right side: CCDC ParkBoi Parking Garage Upgrades, CAPITOL AND MAIN GARAGE, 770 WEST MAIN STREET, BOISE, IDAHO 83702. Includes S|U>ARCH. logo and UGRIN ARCHITECTURE, INC. logo.

DOCUMENTS PHASE
Print Date: February 27, 2020

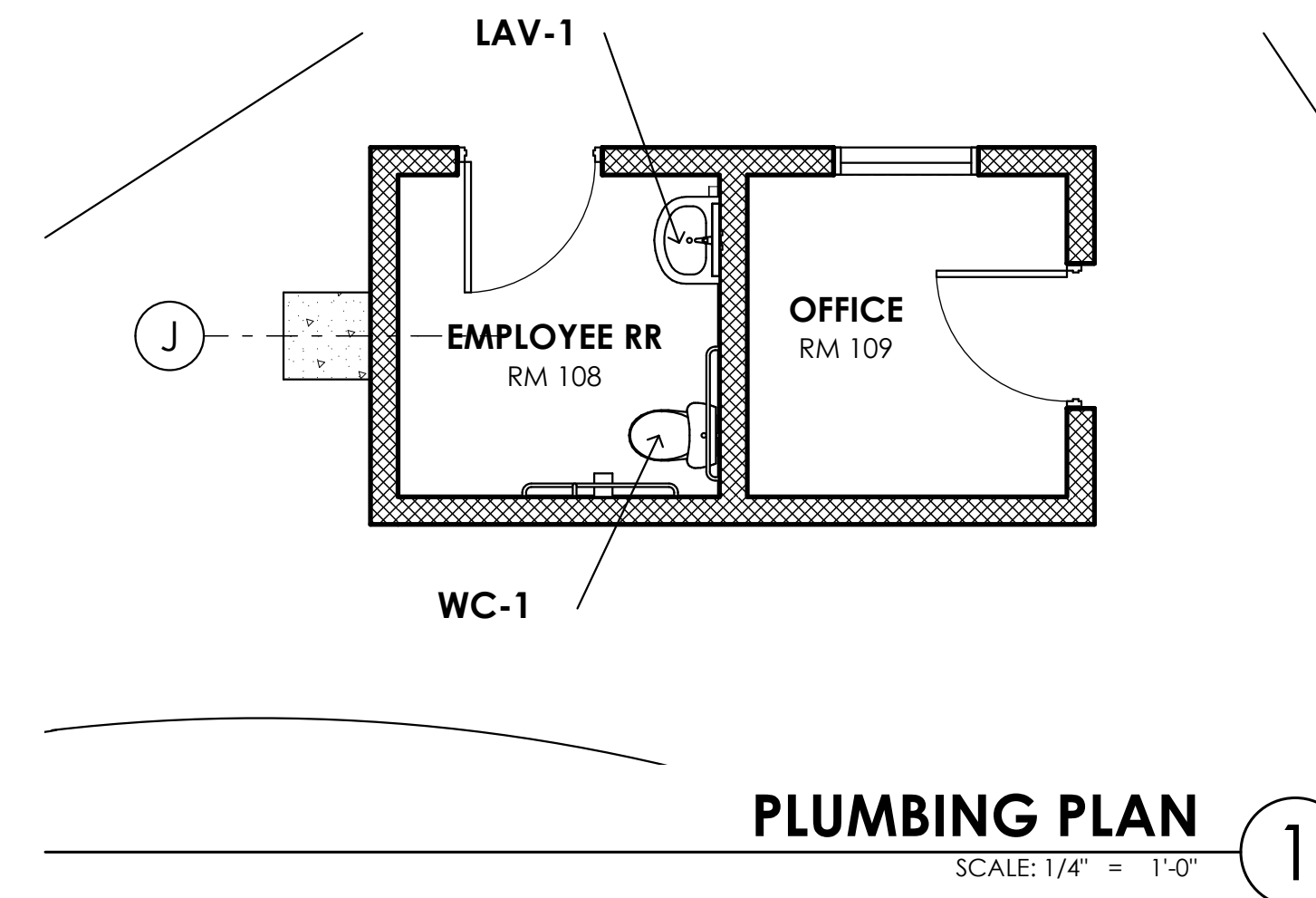
Issue Date: FEB. 2020
Drawn By: JAD
Checked By: JAD

Revision table with columns: Revision ID, ChID, Issue Name, Date.

Project No. #19075

SCHEDULES

A8.11



PLUMBING FIXTURE SCHEDULE		
SYMBOL	FIXTURE DESCRIPTION	MANUFACTURER / MODEL / DESCRIPTION
LAV-1	LAVATORY (WALL HUNG) (ADA COMPLIANT)	KOHLER KINGSTON MODEL K-2005: VITREOUS CHINA, WALL MOUNTED, HOLES ON 4" CENTERS, AND GRID STRAINER. KOHLER TRITON BOWE CENTERSET BATHROOM SINK FAUCET K-400T20-4ANA.
WC-1	WATER CLOSET (FLUSH TANK) (FLOOR MOUNTED) (ADA COMPLIANT)	KOHLER CIMARRON MODEL K-3589 (LEFT LEVER) / K-3589-RA (RIGHT LEVER), FLOOR MOUNTED, GRAVITY FLUSH TANK WITH ELONGATED BOWL. KOHLER LUSTRA MODEL K-4650 ELONGATED, OPEN FRONT SEAT WITH CHECK HINGE AND NO COVER. APPROVED ALTERNATES: AMERICAN STANDARD - CADET PRO, BRIGGS - TOILET EXPRESS 7006, TOTO -DRAKE, AND ZURN Z5551.

DESIGN PLANNING + SUSTAINABILITY

S|U>ARCH.

SLICHTER | UGRIN > ARCHITECTURE, INC.
415 S. 13TH ST. BOISE, IDAHO 83702 208 658 1679

LICENSED ARCHITECT
AR-92543

GREGORY A. UGRIN
STATE OF IDAHO

MARCH 3, 2020

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DOCUMENTS PHASE
Print Date: February 27, 2020

CCDC
ParkBOI PARKING GARAGE UPGRADES
CAPITOL AND MAIN GARAGE
770 WEST MAIN STREET
BOISE, IDAHO 83702

Issue Date: **FEB. 2020**
Drawn By: JAD
Checked By: JAD

Revision ID	ChID	Issue Name	Date

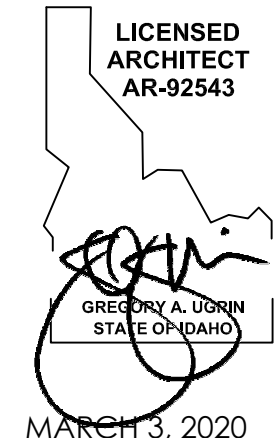
Project No. #19075

PLUMBING PLAN

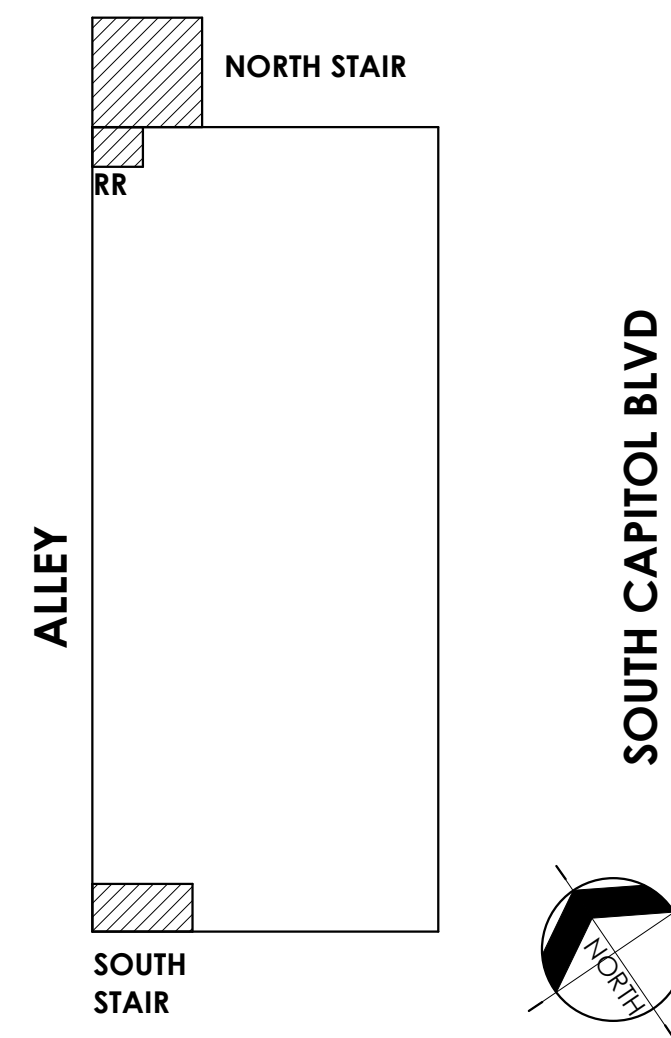
P1.0

CCDC CAPITOL AND MYRTLE PARKING GARAGE UPGRADES

401 SOUTH CAPITOL BLVD BOISE, IDAHO 83702
CONSTRUCTION DOCUMENTS - MARCH 3, 2020



KEY PLAN:



SCOPE OF WORK:

DOOR AND DOOR HARDWARE REPLACEMENT IN ELEVATOR AND STAIR TOWERS OF PUBLIC PARKING GARAGES. ACCESSIBILITY UPGRADES TO PARKING ATTENDANT RESTROOMS INCLUDING NEW FIXTURES, ACCESSORIES, AND PAINTING.

PROJECT RECAP:

BUILDING CODE DATA:
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2015 INTERNATIONAL EXISTING BUILDING CODE
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2012 INTERNATIONAL MECHANICAL CODE
2012 INTERNATIONAL FUEL GAS CODE
2017 IDAHO STATE PLUMBING CODE
2017 NATIONAL ELECTRICAL CODE
2017 ICC/ANSI A117.1

SITE ADDRESS:
401 SOUTH CAPITOL BLVD
BOISE, ID 83702

PARCEL: R1150420020 **ZONE:** C-SDD

CONSTRUCTION TYPE: - **OCCUPANCY TYPE:** S-2

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G0.01	COVER
G0.02	DRAWING INFORMATION
FLOOR PLANS	
A2.11	FLOOR PLANS
INTERIORS	
A8.11	SCHEDULES
PLUMBING	
P1.0	PLUMBING PLAN

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CONSTRUCTION DOCUMENTS
Print Date: February 27, 2020

PROJECT DIRECTORY:

OWNER/TENANT:
CCDC
121 NORTH 9TH STREET
BOISE, IDAHO 83702
Contact: KARL WOODS
Phone: 208-384-4264



STRUCTURAL:
NIC

MECHANICAL:
NIC

ELECTRICAL:
NIC

ARCHITECT:
Slichter/Ugrin Architecture
415 South 13th Street
Boise, Idaho 83702
208.658.1679 phone
Contact: JOHN DAY

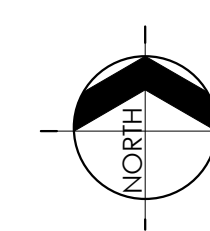


CIVIL/LANDSCAPE:
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VICINITY MAP:



PROJECT LOCATION
401 SOUTH CAPITOL BLVD



Revision ID	ChID	Issue Name	Date

Issue Date: FEB. 2019
Drawn By: JD
Checked By: JD

Revision ID	ChID	Issue Name	Date

Project No. #19074

COVER

CAPITOL AND MYRTLE PARKING GARAGE
 401 SOUTH CAPITOL BLVD
 BOISE, IDAHO 83702
 CCDC
 ParkBOI PARKING GARAGE UPGRADES

KEYED/REFERENCE NOTES:

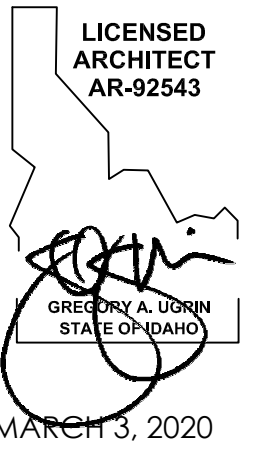
- 2.01 EXISTING DOOR FRAME TO REMAIN. PROTECT FROM DAMAGE DURING NEW WORK.
- 8.01 NEW DOOR AND HARDWARE. REFERENCE SCHEDULE
- 9.01 NEW MOLD/MOISTURE RESISTANT GYPSUM WALLBOARD. REFERENCE SPECIFICATION SECTION 092900
- 22.01 NEW WATER CLOSET
- 22.02 CONTRACTOR TO REMOVE EXISTING LAVATORY AND REPLACE WITH NEW WALL HUNG LAVATORY
- 26.01 CONTRACTOR TO REPLACE EXISTING LIGHT FIXTURE WITH SIMILAR 1X4 STRIP LIGHT.

FINISHES:

- 092900.B INTERIOR GYPSUM MOISTURE BOARD
- 095113.A ACOUSTICAL PANEL CEILINGS
- 096513.A RESILIENT BASE
- 099123.A PAINTING

SPECIALTIES:

- 102600.A GLASS FIBER REINFORCED PANELING (FRP)



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CONSTRUCTION DOCUMENTS
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CCDC
ParkBOI PARKING GARAGE UPGRADES
CAPITOL AND MYRTLE PARKING GARAGE
401 SOUTH CAPITOL BLVD
BOISE, IDAHO 83702

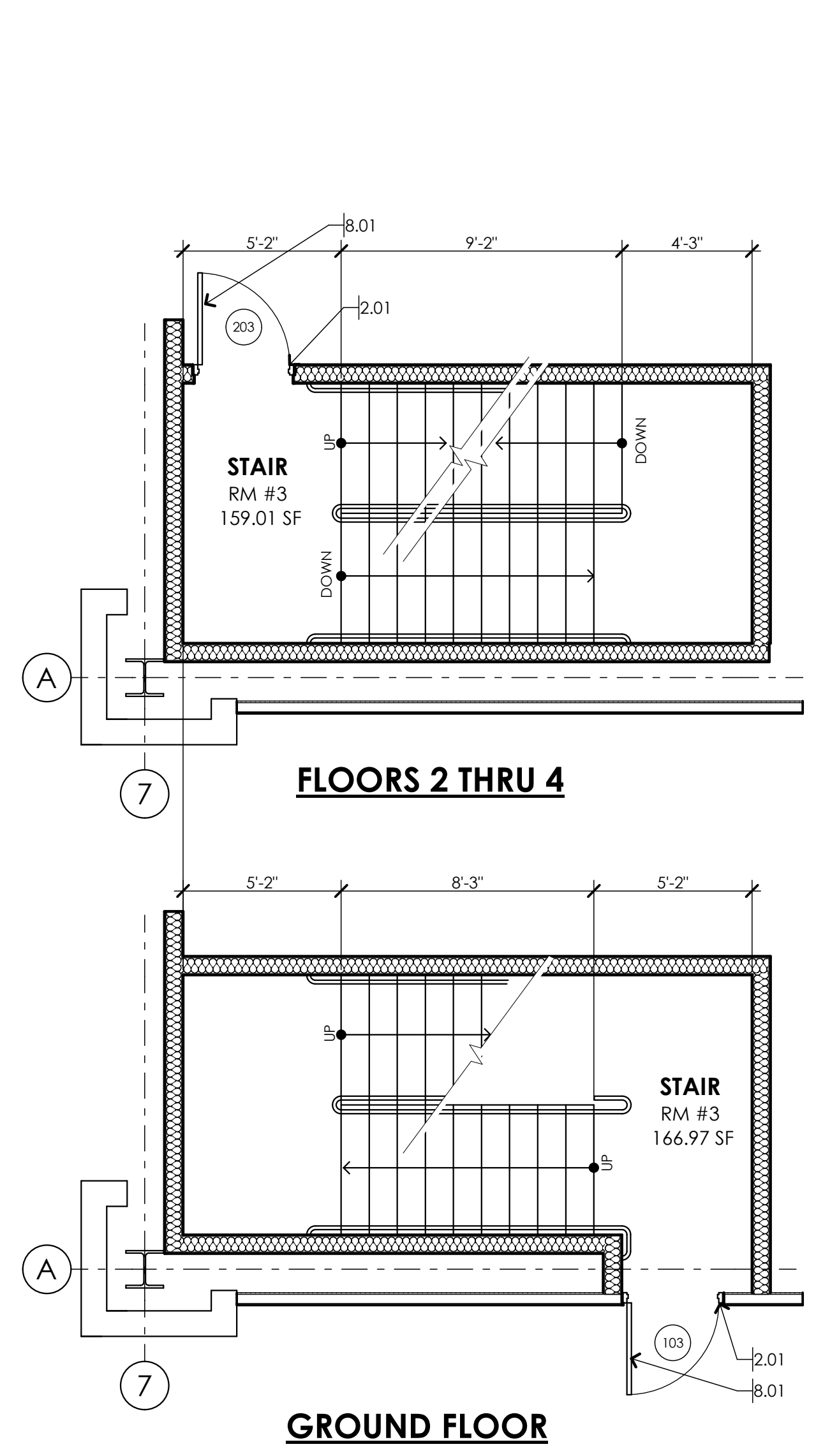
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Drawn By: JD
Checked By: JD

Revision ID	ChID	Issue Name	Date

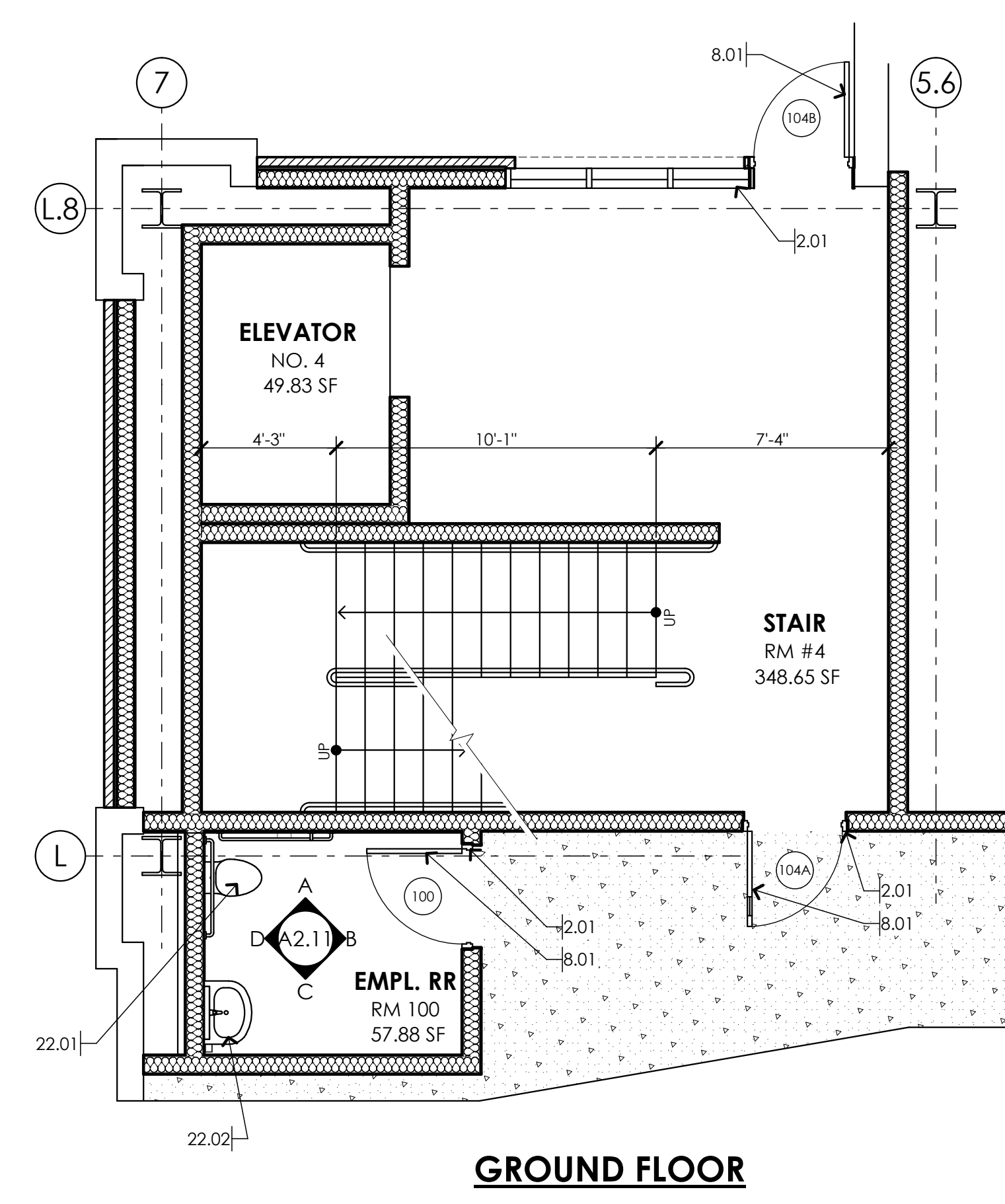
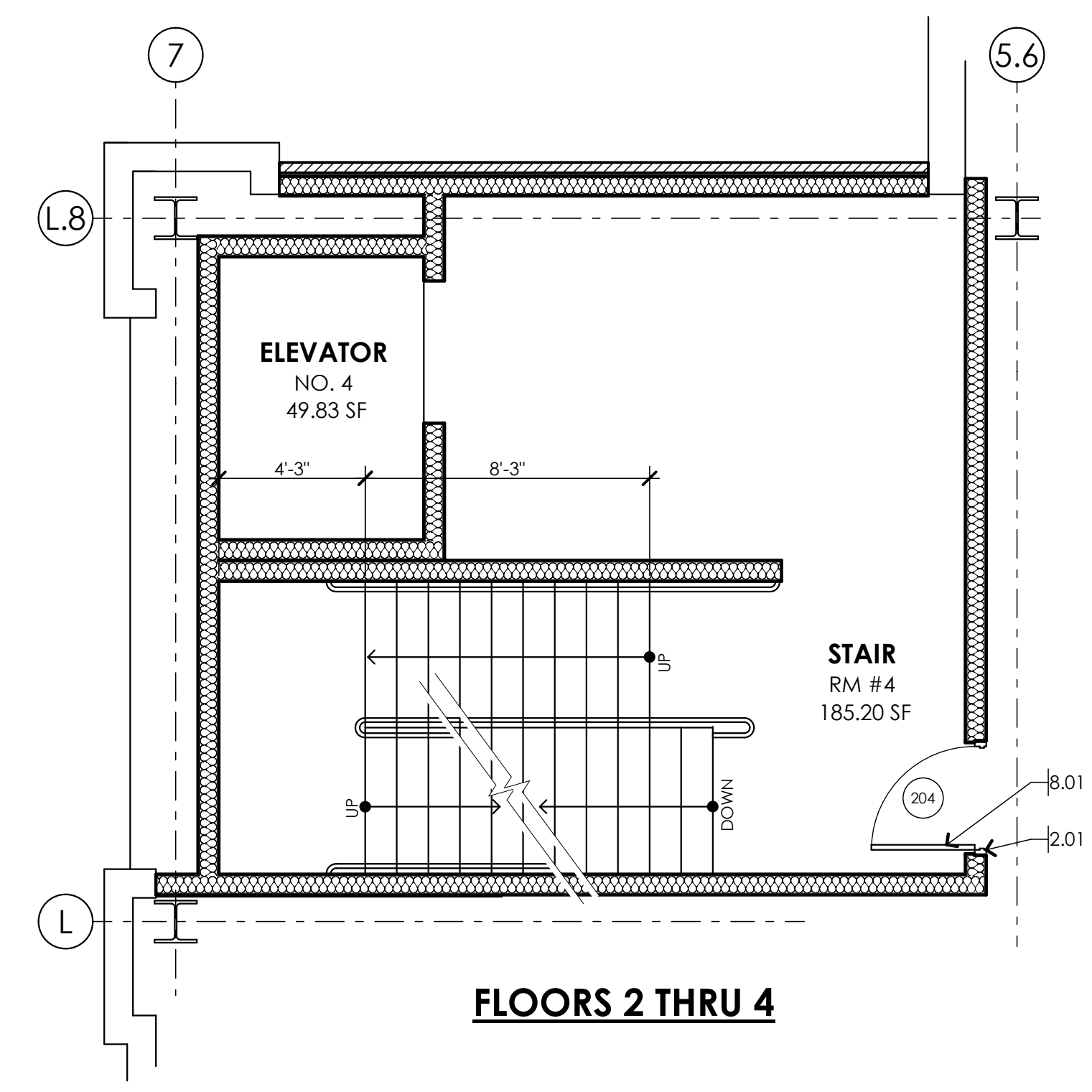
Project No. **#19074**

FLOOR PLANS

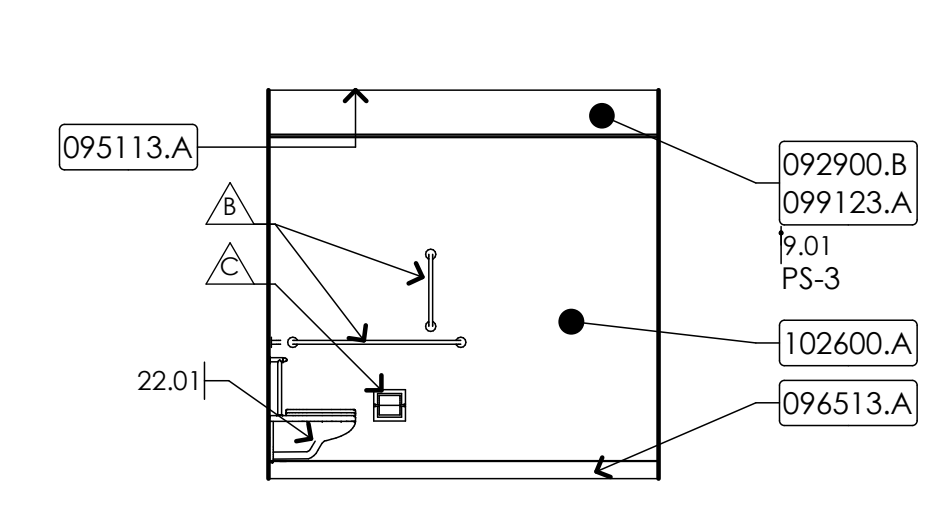
A2.11



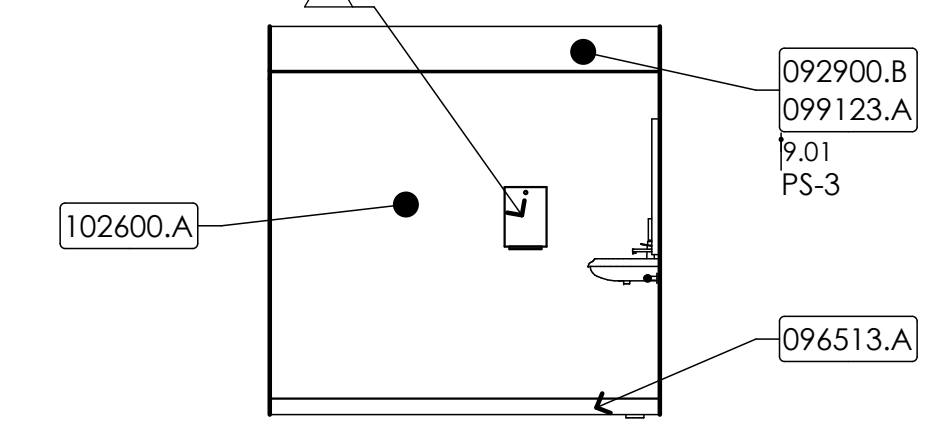
SOUTH STAIR TOWER
SCALE: 1/4" = 1'-0" **3**



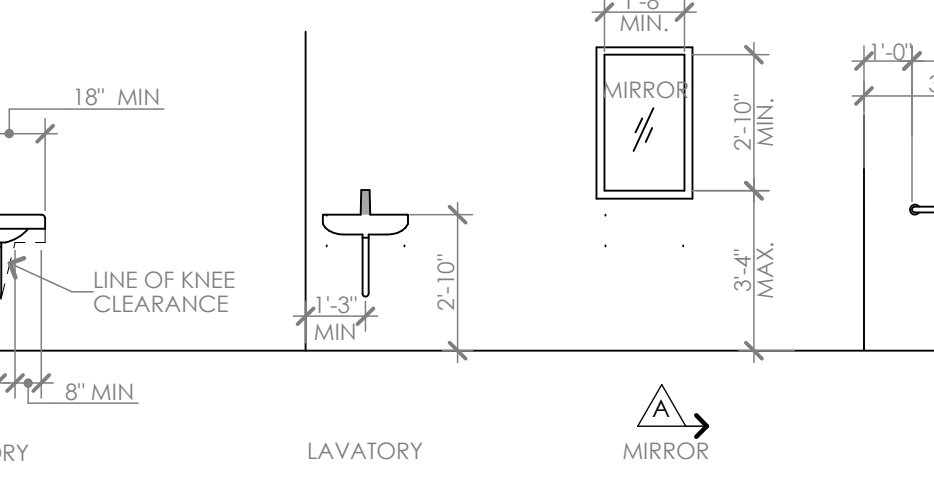
NORTH STAIR TOWER PLANS
SCALE: 1/4" = 1'-0" **2**



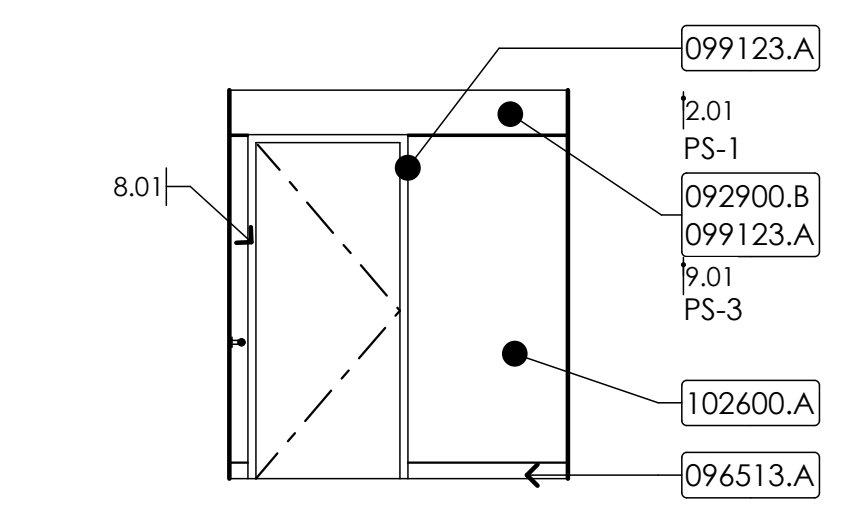
EMPLOYEE RR A
SCALE: 1/4" = 1'-0"



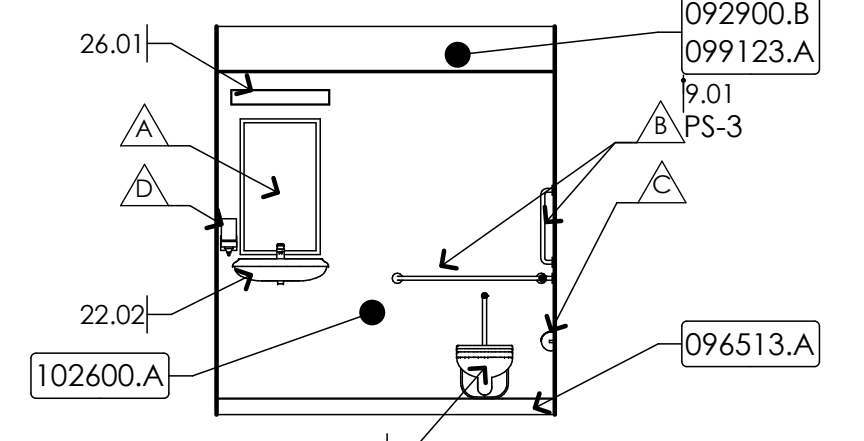
EMPLOYEE RR B
SCALE: 1/4" = 1'-0"



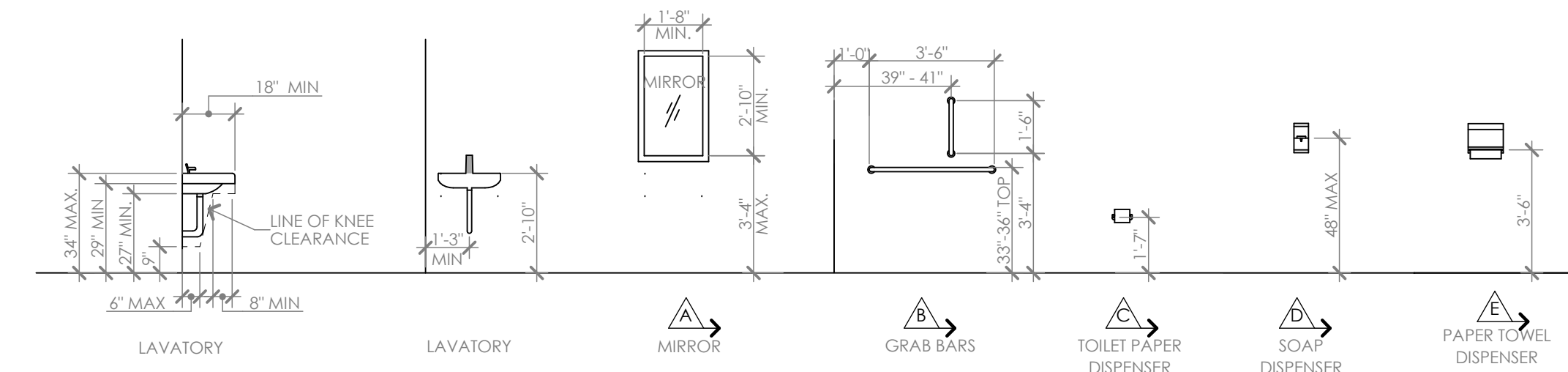
EMPLOYEE RR C
SCALE: 1/4" = 1'-0"



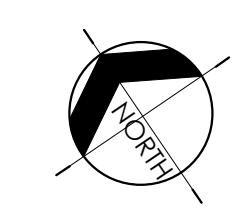
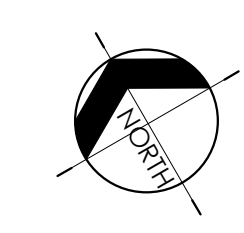
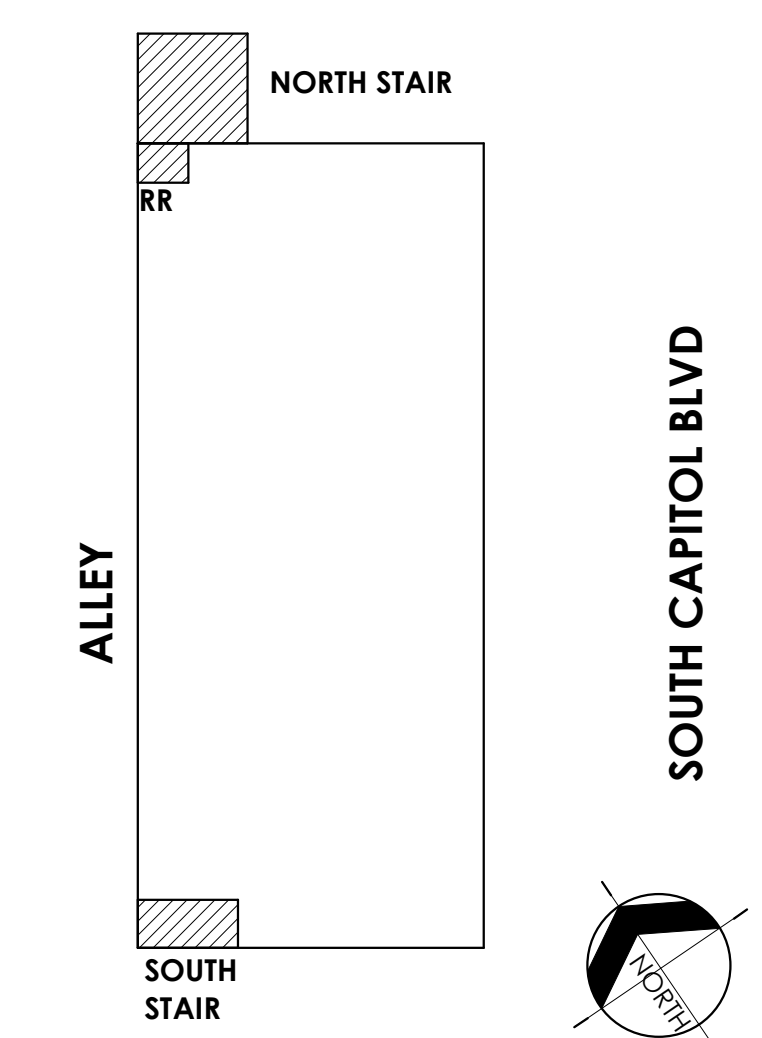
EMPLOYEE RR D
SCALE: 1/4" = 1'-0"



EMPLOYEE RR E
SCALE: 1/4" = 1'-0"



ADA MOUNTING HEIGHTS
SCALE: 1/4" = 1'-0" **1**



HW SET: 01
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)
 103

1	EA	CONT. HINGE	700	630	IVE
1	EA	PANIC HARDWARE	CD-98-NL	626	VON
1	EA	PRIMUS RIM CYLINDER	20-757 EV29 T	626	SCH
1	EA	PRIMUS MORT. CYL.	20-763 X B502-191 XB11-475 EV29 T 36-083 (DOGGING)	626	SCH
1	EA	SURFACE CLOSER	4111 AVB SCUSH MC SRI TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A-223	A	ZER

HW SET: 02
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)
 104A

1	EA	CONT. HINGE	700	630	IVE
1	EA	FIRE EXIT HARDWARE	98-L-F-06	626	VON
1	EA	PRIMUS RIM CYLINDER	20-757 EV29 T	626	SCH
1	EA	SURFACE CLOSER	4111 AVB SCUSH MC SRI TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A-223	A	ZER

HW SET: 03
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)
 204 304 404

1	EA	CONT. HINGE	700	630	IVE
1	EA	PASSAGE SET	ND105 RHO	626	SCH
1	EA	SURFACE CLOSER	4050 CUSH MC TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK	IVE
1	EA	GASKETING	429AA-S	AA	ZER

HW SET: 04
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)
 203 303 403

1	EA	CONT. HINGE	700	630	IVE
1	EA	PASSAGE SET	ND105 RHO	626	SCH
1	EA	SURFACE CLOSER	4050 CUSH MC TBWMS	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK	IVE
3	EA	SILENCER	SR64	GRY	IVE

HW SET: 05
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)
 100

1	EA	CONT. HINGE	700	630	IVE
1	EA	L9486R 06A L583-363 L583-375 EV T	L9486R 06A L583-363 L583-375	626	SCH
1	EA	SURFACE CLOSER	4050 RW/PA MC TBWMS	689	LCN
1	EA	WALL STOP	FS18S (TO BE MOUNTED ON WALL)	BLK	IVE
1	EA	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	655A-223	A	ZER
1	EA	COAT AND HAT HOOK	507	626	IVE

HW SET: A1
DOOR NUMBER: (INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING DOORS)
 104B

1	EA	CONT. HINGE	700	630	IVE
1	EA	PANIC HARDWARE	CD-98-NL	626	VON
1	EA	PRIMUS RIM CYLINDER	20-757 EV29 T	626	SCH
1	EA	PRIMUS MORT. CYL.	20-763 X B502-191 XB11-475 EV29 T 36-083 (DOGGING)	626	SCH
1	EA	OH STOP	100S ADJ	630	GLY
1	EA	SURFACE CLOSER	4040XP EDW/62G MC SRI	689	LCN
1	EA	PA MOUNTING PLATE	4040XP-18PA SRI	689	LCN
1	EA	5TH SCREW SUPPORT	4040XP-30 SRI	689	LCN
1	SET	PERIMETER SEALS	DOOR MFG STD	AL	B/O
1	EA	THRESHOLD	DOOR MFG STD	AL	B/O

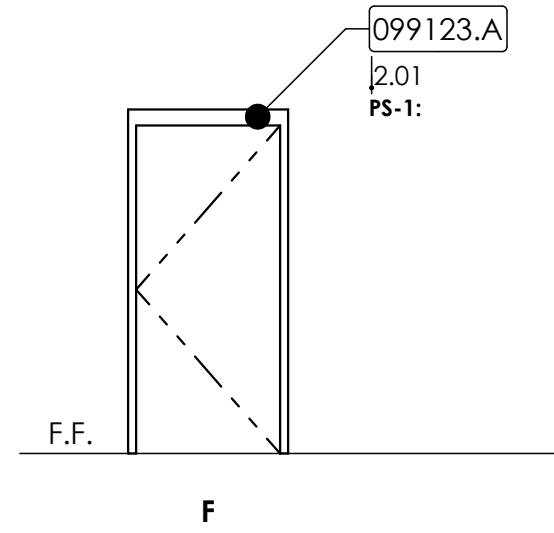
DOOR NUMBER	ROOM	ROOM NAME	DOOR PANEL				FRAME			HDWR. GROUP	RATINGS		SCHEDULE REMARKS			
			PANEL SIZE			DOOR TYPE	MATL	FINISH	GLAZE		TYPE	MATL		FINISH	FIRE	STC
			WIDTH	HEIGHT	THICKNESS											
100	RM 100	EMPL.RR	3'-0"	7'-0"	1 3/4"	F	HM	PNT	-	HM	PNT	05	Unrated	1.		
103	RM #3	STAIR	3'-0"	8'-0"	1 3/4"	VP	HM	PNT	FR GL	HM	PNT	01	Unrated	1.		
104A	RM #4	STAIR	3'-0"	6'-8"	1 3/4"	VP	HM	PNT	FR GL	HM	PNT	02	90 min.	1.		
104B	RM #4	STAIR	3'-0"	7'-0"	1 3/4"	FGL	AL	AAL-CLR	TMPD	AL	AAL-CLR	A1	Unrated	1.; 2.		
203	RM #3	STAIR	3'-0"	6'-8"	1 3/4"	VP	HM	PNT	FR GL	HM	PNT	04	Unrated	1.		
204	RM #4	STAIR	3'-0"	6'-8"	1 3/4"	VP	HM	PNT	FR GL	HM	PNT	03	90 min.	1.		
303	RM #4	STAIR	3'-0"	6'-8"	1 3/4"	VP	HM	PNT	FR GL	HM	PNT	04	Unrated	1.		
304	RM #4	STAIR	3'-0"	6'-8"	1 3/4"	VP	HM	PNT	FR GL	HM	PNT	03	90 min.	1.		
403	RM #4	STAIR	3'-0"	6'-8"	1 3/4"	VP	HM	PNT	FR GL	HM	PNT	04	Unrated	1.		
404	RM #4	STAIR	3'-0"	6'-8"	1 3/4"	VP	HM	PNT	FR GL	HM	PNT	03	90 min.	1.		

DOOR AND FRAME SCHEDULE REMARKS:

- EXISTING FRAME TO REMAIN.
- VERIFY FRAME FINISH PRIOR TO ORDERING AND INSTALLING DOOR HARDWARE.

DOOR AND FRAME SCHEDULE

SCALE: 1" = 1'-0"

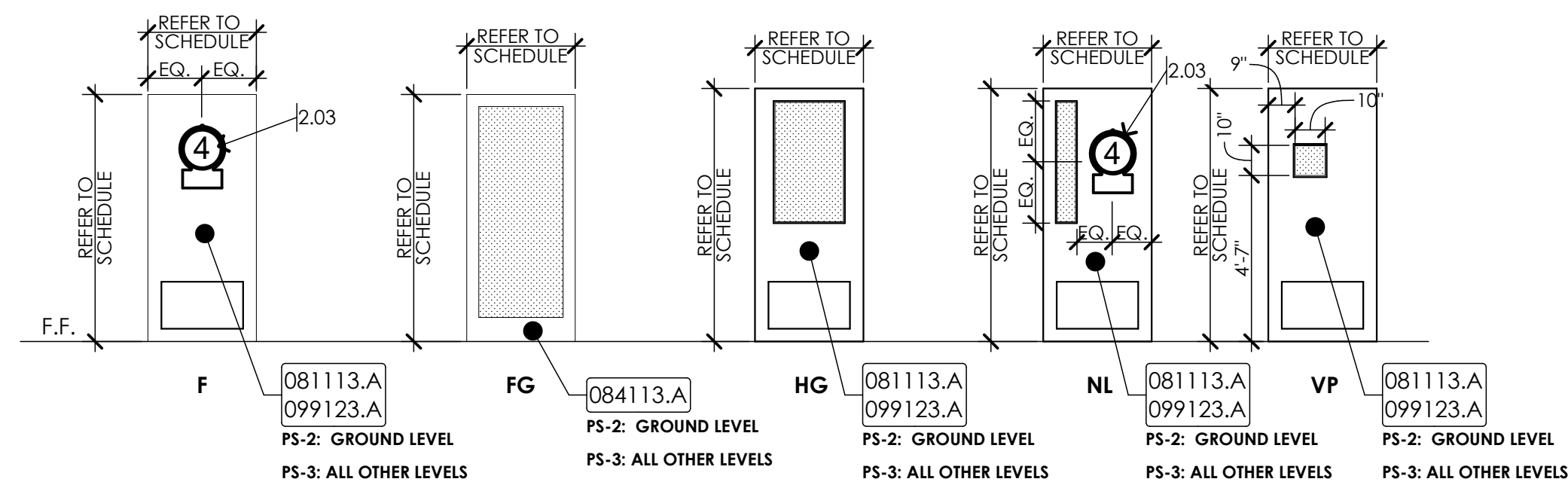


TYPICAL FRAME PAINT SCHEME

SCALE: 1/4" = 1'-0"

PAINT SCHEDULE:

- PS-1:** PAINT COLOR TO MATCH PMS BLACK C
- PS-2:** PAINT COLOR TO MATCH PMS 375C
- PS-3:** PAINT COLOR TO MATCH PMS BRIGHT WHITE
- PS-4:** PAINT COLOR TO MATCH PMS 300C
- PS-5:** LEVEL 1: SHERWIN WILLIAMS "CONFIDENT YELLOW", SW6911.
- PS-6:** LEVEL 2: SHERWIN WILLIAMS "DYNAMIC BLUE", SW6958.
- PS-7:** LEVEL 3: SHERWIN WILLIAMS "REAL RED", SW6868.
- PS-8:** LEVEL 4: SHERWIN WILLIAMS "CARNIVAL SW", SW6892.
- PS-9:** LEVEL 5: SHERWIN WILLIAMS "GUTSY GRAPE", SW 6980.
- PS-10:** LEVEL 6: SHERWIN WILLIAMS "DIRECT GREEN", SW 6924.
- PS-11:** LEVEL 7: SHERWIN WILLIAMS "PINK MOMENT", SW 6857.
- PS-12:** LEVEL 8: SHERWIN WILLIAMS BLACK MAGIC", SW6991.



DOOR TYPES

SCALE: 1/4" = 1'-0"

KEYED/REFERENCE NOTES:

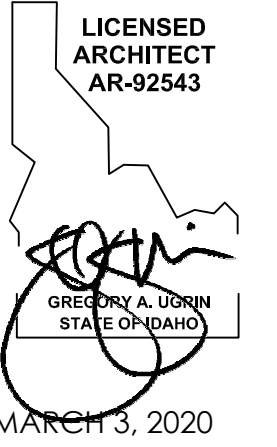
- EXISTING DOOR FRAME TO REMAIN. PROTECT FROM DAMAGE DURING NEW WORK.
- CONTRACTOR TO REMOVE SIGNAGE FROM EXISTING DOORS AND REPLACE ON NEW DOORS AS REQUIRED.

OPENINGS:

- 081113.A HOLLOW METAL DOOR
- 084113.A ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

FINISHES:

- 099123.A PAINTING



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CONSTRUCTION DOCUMENTS

Print Date: February 27, 2020

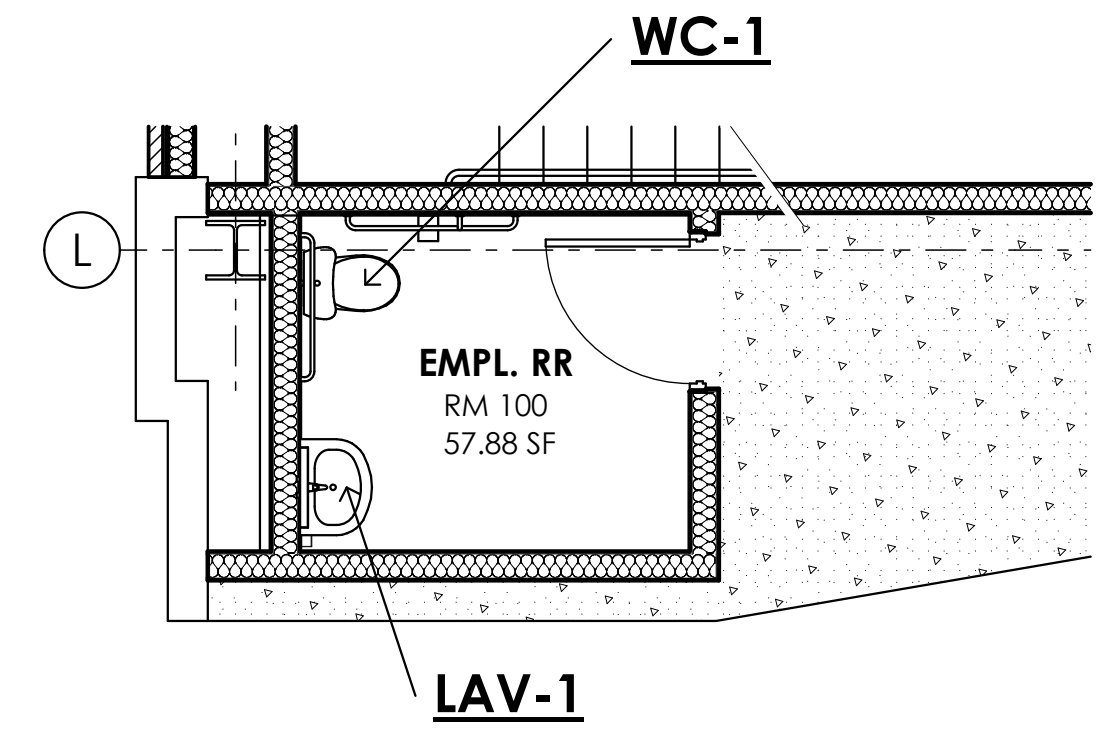
CCDC
 ParkBOI Parking Garage Upgrades
CAPITOL AND MYRTLE PARKING GARAGE
 401 SOUTH CAPITOL BLVD
 BOISE, IDAHO 83702

Issue Date: **FEB. 2019**
 Drawn By: JD
 Checked By: JD

Revision ID	ChID	Issue Name	Date

Project No. **#19074**

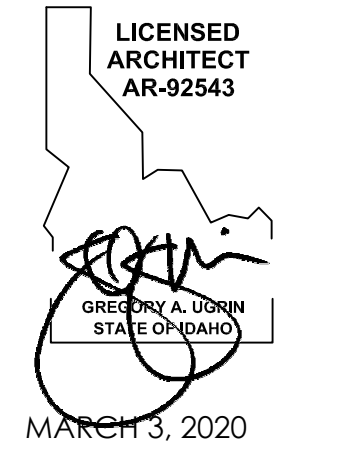
SCHEDULES



PLUMBING PLAN
SCALE: 1/4" = 1'-0"

1

PLUMBING FIXTURE SCHEDULE		
SYMBOL	FIXTURE DESCRIPTION	MANUFACTURER / MODEL / DESCRIPTION
LAV-1	LAVATORY (WALL HUNG) (ADA COMPLIANT)	KOHLER KINGSTON MODEL K-2005; VITREOUS CHINA, WALL MOUNTED, HOLES ON 4" CENTERS, AND GRID STRAINER. KOHLER TRITON BOWE CENTERSET BATHROOM SINK FAUCET K-400T20-4ANA.
WC-1	WATER CLOSET (FLUSH VALVE) (WALL HUNG) (ADA COMPLIANT)	KOHLER KINGSTON MODEL K-4325 , WALL MOUNTED, FLUSHOMETER.



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CCDC
ParkBOI PARKING GARAGE UPGRADES
CAPITOL AND MYRTLE PARKING GARAGE
401 SOUTH CAPITOL BLVD
BOISE, IDAHO 83702

Issue Date: **FEB. 2019**
Drawn By: JD
Checked By: JD

Revision ID	ChID	Issue Name	Date

Project No. #19074

PLUMBING PLAN