FGMARCHITECTS

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ILLINOIS PROFESSIONAL DESIGN
FIRM #184-000350

PROJECT MANUAL

Project No: 26-4519.01

FOR:
GURNEE PUBLIC WORKS
FLEET GARAGE
RENOVATION PROJECT

OWNER:
Village of Gurnee
325 O'Plaine Road
Gurnee, Illinois 60031

PROJECT LOCATION:
Gurnee Public Works
1151 Kilbourne Road
Gurnee, Illinois 60031

DOCUMENTS DATED: March 3, 2026
ISSUED FOR: BID & PERMIT

TABLE OF CONTENTS

VILLAGE OF GURNEE
GURNEE PUBLIC WORKS FLEET GARAGE RENOVATION PROJECT

Bid Opening: **March 24, 2026**

Time: **10:00 A.M.**

Place: **1151 Kilbourne Rd**

Gurnee, Illinois 60031

(847) 599-6800

Table of Contents

VILLAGE OF GURNEE NOTICE TO BIDDERS	Municipality: VILLAGE OF GURNEE Road District WARREN County LAKE Project No. N/A

TIME AND PLACE OF OPENING OF BIDS:

Sealed proposals for the improvement described below will be received at the office of the **Village of Gurnee**, **Public Works, 1151 Kilbourne Road, Gurnee, Illinois 60031**, until **10:00 A.M., March 24, 2026.** Proposals will be opened and read publicly at that time.

DESCRIPTION OF WORK:

GURNEE PUBLIC WORKS FLEET GARAGE RENOVATION PROJECT

LOCATION:

The project is located at 1151 Kilbourne Road, Gurnee, Illinois 60031.

PROPOSED IMPROVEMENT:

Work will include renovation to existing public works facility, including removal of existing overhead door including exterior modifications for new wider overhead door, new mezzanine stair removal and egress door, and phased trench drain and piping replacement. Improvements include structural, mechanical, plumbing, fire protection and electrical modifications for the new plan and use.

BIDDERS INSTRUCTIONS:

1. Plans and bid documents will be online at https://www.gurnee.il.us/government/transparency-portal/bids-rfps or by request, via email to publicworks@village.gurnee.il.us.
2. It will be the bidder's responsibility to verify any addenda via the Village's website. Addenda will be posted to the Village's Transparency Portal.
3. The awarding authority reserves the right to waive technicalities and to reject any or all proposals as provided in Check Sheet LRS 6 of the "Supplemental Specifications and Recurring Special Provisions," prepared by the Illinois Department of Transportation.
4. Contractor shall not pay less than the prevailing rates of wages to all laborers, workmen and mechanics performing work under this contract, and shall comply with the requirements of the Illinois Wages of Employees on Public Works Act (820 ILCS 130/1-12).
5. The project will be awarded to the lowest qualified bidder based on the total scope of work for the project, as selected by the Owner.

By Order Of The:
Village of Gurnee
(Awarding Authority)

Andy Harris / Village Clerk

VILLAGE OF GURNEE
PROPOSAL

Municipality: **VILLAGE OF GURNEE**
Road District **WARREN**
County **LAKE**
Project No. **N/A**

1. Proposal of (Bidders Legal Name):_____ for the **Village of Gurnee Public Works, GURNEE PUBLIC WORKS FLEET GARAGE RENOVATION PROJECT,** which the contract is based on lump sum pricing for amount not to exceed $_____dollars.

2. The specifications for the proposed work are those prepared by **the Village of Gurnee Public Works, 1151 Kilbourne Road, Gurnee, Illinois 60031** in collaboration with FGM Architects.

3. The specifications referred to herein are the notes on the Plans, the General Conditions of the Contract, 2024 International Building Code, 2024 International Mechanical Code, 2024 International Fuel Gas Code, 2024 International Fire Code, 2014 International Wildland Urban Interface Code, State of Illinois Plumbing Code, 2002 National Electric Code, Illinois Accessibility Code, ADA Accessibility Guidelines for Buildings and Facilities, Village of Gurnee Zoning Ordinance and the Village of Gurnee Municipal Code, latest editions effective upon the date of the bid opening, which are made part of these documents by reference. In case of conflict between these Specifications, the most restrictive requirement shall be binding.

4. The undersigned agrees to accept, as part of the contract, the applicable Specifications, General Conditions of the Contact and any Special Provisions contained in this proposal.

5. The undersigned agrees to start work only upon receiving a "Notice to Proceed" letter from the Village of Gurnee for each year under contract.

6. The undersigned agrees to complete the work by **July 6, 2026** unless additional time is granted in accordance with the specifications.

7. The undersigned agrees to liquidated damages at a rate of **$750** per day for failure to complete the work in readiness for final payment by **July 6, 2026**.

8. The pay items shall consist of one lump sum that includes an allowance for poor soils as described in the notes on the plans.

9. The undersigned firm certifies that it has not been convicted of bribery or attempting to bribe an officer or employee of the State of Illinois, nor has the firm made an admission of guilt of such conduct which is a matter of record, nor has an official, agent or employee of the firm committed bribery or attempted bribery on behalf of the firm and pursuant to the direction or authorization of a responsible official of the firm. The undersigned firm further certifies that it is not barred from bidding on this contract as a result of a conviction for the violation of State laws prohibiting bid-rigging or bid-rotating.

10. The undersigned submits herewith the "Schedule of Unit Prices" covering the work to be performed under this contract. (Page P-3)

11. The following documents are submitted with and made a condition of this Proposal:

    a. Required Bid Security;
    b. List of Proposed Subcontractors;
    c. List of Proposed Suppliers;
    d. List of References
    e. Performance Bond
    f. Payment Bond

Schedule of Unit Prices

RETURN WITH BID PROPOSAL

(For complete information covering these items, see plans and specifications)

1	Base Bid * Including Allowance: Owner's Contingency	Lump Sum	$
2	Alternate 1: Mezzanine Stair Removal	Lump Sum	$
3	Alternate 2: Guard Rail Painting	Lump Sum	$
4	**TOTAL**		$

Total Bid Price:

Total Bid Price in Numbers $_____

Total Bid Price in Words_____

_____

	Unit Price		
1	Underground Drain Line Piping Replacement	Price / Linear Foot	$

Bidder's Acknowledgements: Acceptance Period, Instructions, and Receipt of Addenda

Bid Acceptance Period:

This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

Instructions to Bidders

Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

Receipt of Addenda

Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

VILLAGE OF GURNEE PUBLIC WORKS
Fleet Garage Renovation Project

The undersigned agrees to complete all work required by the contract as follows:

Issued for Bid	March 3, 2026
Pre-Bid Mtg & Walk Though	March 10, 2026 at 9:00 a.m.
Bids Due	March 24 2026 at 10:00 a.m.
Anticipated Board Approval	April 6, 2026
Notice to Proceed	April 7, 2026
Pre-Construction Meeting	April 14, 2026
Substantial Completion:	June 30, 2026
Final Completion:	July 6, 2026

(If an individual)

Signature of Bidder) _____

Business Address) _____

_____

(If a partnership)

Firm Name) _____

Signed By) _____

Business Address) _____

_____

Insert Names and Addresses of All Partners) _____

_____

_____

_____

_____

(If a corporation)

Corporate Name) _____

Signed By) _____

Business Address) _____

_____

Insert Names of Officers) President: _____

Secretary: _____

Treasurer: _____

Attest: _____
Secretary

VILLAGE OF GURNEE PUBLIC WORKS
Fleet Garage Renovation Project

BID BOND

Bidder Name: Address *(principal place of business)*:	**Surety** Name: Address *(principal place of business)*:
Owner Name: Village of Gurnee Public Works Address *(principal place of business)*: 1151 Kilbourne Road Gurnee, IL 60031	**Bid** Project *(name and location)*: Village of Gurnee Public Works Gurnee Public Works Fleet Garage Renovation Project Bid Due Date: March 24, 2026
Bond Penal Sum: Date of Bond:	
Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.	
Bidder *(Full formal name of Bidder)* By: _____ *(Signature)* Name: _____ *(Printed or typed)* Title: _____ Attest: _____ *(Signature)* Name: _____ *(Printed or typed)* Title:	Surety *(Full formal name of Surety) (corporate seal)* By: _____ *(Signature) (Attach Power of Attorney)* Name: _____ *(Printed or typed)* Title: _____ Attest: _____ *(Signature)* Name: _____ *(Printed or typed)* Title:
Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.	

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond will be Owner's sole and exclusive remedy upon default of Bidder.

2. Default of Bidder occurs upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation will be null and void if:

   3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

   3.2 All Bids are rejected by Owner, or

   3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions does not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.

6. No suit or action will be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety, and in no case later than one year after the Bid due date.

7. Any suit or action under this Bond will be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder must be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Postal Service registered or certified mail, return receipt requested, postage pre-paid, and will be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond will be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute governs and the remainder of this Bond that is not in conflict therewith continues in full force and effect.

11. The term “Bid” as used herein includes a Bid, offer, or proposal as applicable.

LIST OF SUBCONTRACTORS AND SUPPLIERS

If awarded this Contract, the Bidder declares their intent to employ the following Subcontractors and Suppliers for the Class of Work as indicated below:

Name of Subcontractor or Supplier	Class of Work

The above is a full and complete list of all the proposed Subcontractors and Suppliers and the Class of Work to be performed by each, which list shall not be altered, without the written consent of the Owner.

REFERENCES

The contractor certifies that the references listed below represent projects of similar type and size compared to the Material Bin Reconstruction Project demonstrating previous successful projects.

Project Name	Location	Contact Name	Contact Phone Number

PERFORMANCE BOND

Contractor	**Surety**
Name: Address *(principal place of business)*:	Name: Address *(principal place of business)*:
Owner	**Contract**
Name: Village of Gurnee Public Works Mailing address *(principal place of business)*: 1151 Kilbourne Rd Gurnee, IL 60031	Description *(name and location)*: Village of Gurnee Public Works Fleet Garage Renovation Project Contract Price: Effective Date of Contract:

Bond

Bond Amount:

Date of Bond:

(Date of Bond cannot be earlier than Effective Date of Contract)

Modifications to this Bond form:

☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

Contractor as Principal	Surety
_____ *(Full formal name of Contractor)*	_____ *(Full formal name of Surety) (corporate seal)*
By: _____ *(Signature)*	By: _____ *(Signature)(Attach Power of Attorney)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
Title: _____	Title: _____
Attest: _____ *(Signature)*	Attest: _____ *(Signature)*
Name: _____ *(Printed or typed)*	Name: _____ *(Printed or typed)*
Title: _____	Title: _____

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond will arise after:

    3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice may indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 will be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement does not waive the Owner's right, if any, subsequently to declare a Contractor Default;

    3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

    3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

    5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

    5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

    5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the

Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment, or the Surety has denied liability, in whole or in part, without further notice, the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner will not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety will not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.

12. Notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted therefrom and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

14. Definitions

    14.1. *Balance of the Contract Price*—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

    14.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

    14.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

    14.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

    14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.

16. Modifications to this Bond are as follows: [NONE]

PAYMENT BOND

Contractor	**Surety**
Name: Address *(principal place of business)*:	Name: Address *(principal place of business)*:
Owner	**Contract**
Name: Village of Gurnee Public Works Mailing address *(principal place of business)*: 1151 Kilbourne Rd Gurnee, IL 60031	Description *(name and location)*: Village of Gurnee Public Works Fleet Garage Renovation Project Contract Price: Effective Date of

Bond

Bond

Date of Bond:

(Date of Bond cannot be earlier than Effective Date of Contract)

Modifications to this Bond form:

☐ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

Contractor as Principal	Surety
(Full formal name of Contractor)	*(Full formal name of Surety) (corporate seal)*
By: _____	By: _____
(Signature)	*(Signature)(Attach Power of Attorney)*
Name: _____	Name: _____
(Printed or typed)	*(Printed or typed)*
Title: _____	Title: _____
Attest: _____	Attest: _____
(Signature)	*(Signature)*
Name: _____	Name: _____
(Printed or typed)	*(Printed or typed)*
Title: _____	Title: _____

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.

The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

1. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
2. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond will arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
3. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
4. The Surety's obligations to a Claimant under this Bond will arise after the following:
    4.1. Claimants who do not have a direct contract with the Contractor
        4.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
        4.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).
    4.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
5. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
6. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
    6.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

6.2. Pay or arrange for payment of any undisputed amounts.

6.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

7. The Surety's total obligation will not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond will be credited for any payments made in good faith by the Surety.

8. Amounts owed by the Owner to the Contractor under the Construction Contract will be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfying obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

9. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. No suit or action will be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit will be applicable.

12. Notice and Claims to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, will be sufficient compliance as of the date received.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted here from and provisions conforming to such statutory or other legal requirement will be deemed

incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

14. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. Definitions

15.1. *Claim*—A written statement by the Claimant including at a minimum:

15.1.1. The name of the Claimant;

15.1.2. The name of the person for whom the labor was done, or materials or equipment furnished;

15.1.3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;

15.1.4. A brief description of the labor, materials, or equipment furnished;

15.1.5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;

15.1.6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;

15.1.7. The total amount of previous payments received by the Claimant; and

15.1.8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

15.2. *Claimant*—An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond is to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

15.3. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

15.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

15.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.

16. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.

17. Modifications to this Bond are as follows: [NONE]

INSTRUCTIONS TO BIDDERS

SCOPE OF WORK

The CONTRACTOR shall furnish and provide all labor, materials, tools, equipment and machinery, unless otherwise specified, necessary to perform and complete, in a good and workmanlike manner, the work required for:

VILLAGE OF GURNEE PUBLIC WORKS
FLEET GARAGE RENOVATION PROJECT

SPECIFICATIONS

The Specifications for this project are the notes on the Plans, the General Conditions of the Contract, 2024 International Building Code, 2024 International Mechanical Code, 2024 International Fuel Gas Code, 2024 International Fire Code, 2014 International Wildland Urban Interface Code, State of Illinois Plumbing Code, 2002 National Electric Code, Illinois Accessibility Code, ADA Accessibility Guidelines for Buildings and Facilities, Village of Gurnee Zoning Ordinance and the Village of Gurnee Municipal Code, latest editions effective upon the date of the bid opening, which are made part of these documents by reference. In case of conflict between these Specifications, the most restrictive requirement shall be binding.

SPECIAL PROVISIONS

The Special Provisions supplement, add to or revise the Specifications. In case of conflict with any part or parts of the Standard Specifications, the Special Provisions shall take precedence and shall govern.

COORDINATION OF PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS

The Plans, Specifications and Special Provisions are intended to describe a complete scope of work and are essential parts of the Contract. A requirement occurring in any of them is binding. In case of discrepancy, measured or calculated dimensions will govern over scaled dimensions; Plans will govern over Specifications; and Special Provisions will govern over both Plans and Specifications. Detailed construction plans will govern over standard plans. The CONTRACTOR shall take no advantage of any apparent error or omission in the Plans and Specifications and the Engineer shall be permitted to make such corrections and interpretations as may be necessary for the fulfillment of the intent of the Plans and Specifications. The decision of the Engineer in the case of any errors or omissions shall be final.

EXAMINATION OF SITE AND SPECIFICATIONS

Bidders shall make a careful examination of the Site, Bid Documents, Specifications and Contract Form before submitting a Proposal. They shall fully inform themselves as to the quality and quantity of materials required and the character of the work. Bidder is required to visit the Site and conduct a thorough visual examination of the Site and adjacent areas. During the visit the Bidder must not

disturb any ongoing operations at the Site and shall check-in with the front desk for security purposes.

DELIVERY OF PROPOSALS

Proposals shall be delivered to the place and by the time specified in the Notice to Bidders. Bids delivered after the time stated will not be accepted nor opened. Submit each Proposal in a sealed envelope plainly marked **"VILLAGE OF GURNEE PUBLIC WORKS FLEET GARAGE RENOVATION PROJECT".**

OPENING PROPOSALS

Proposals will be publicly opened and read aloud at the time and place specified in the Notice to Bidders. Bidders, their authorized agents and interested parties are invited to be present.

PREVAILING WAGE PROVISIONS

This contract calls for the construction of "public work," within the meaning of the Illinois Prevailing Wage Act, 820 ILCS 130/.01 et seq. ("the Act"). The Act requires contractors and subcontractors to pay laborers, workers and mechanics performing services on public works projects no less than the current "prevailing rate of wages" (hourly cash wages plus amount for fringe benefits) in the county where the work is performed. The Department publishes the prevailing wage rates on its website at https://labor.illinois.gov/laws-rules/conmed/current-prevailing-rates.html. The Department revises the prevailing wage rates and the contractor/subcontractor has an obligation to check the Department's web site for revisions to prevailing wage rates. For information regarding current prevailing wage rates, please refer to the Illinois Department of Labor's website. All contractors and subcontractors rendering services under this contract must comply with all requirements of the Act, including but not limited to, all wage requirements and notice and record keeping duties.

FAIR EMPLOYMENT PRACTICES

In accordance with "An Act to Prohibit Discrimination and Intimidation on Account of Race or Color in Employment under Contracts for Public Buildings or Public Works", approved July 8, 1933, as amended, no person shall be refused or denied employment in any capacity on the grounds of race or color, nor be discriminated against in any manner by reason thereof in connection with the performance of this Contract, nor shall any unfair employment practice as defined in the "Fair Employment Practices Act", approved July 21, 1961, as amended, be committed by the CONTRACTOR, his subcontractors, suppliers of materials or services to the CONTRACTOR or his subcontractors or any labor organizations furnishing skilled or unskilled labor to the CONTRACTOR or his subcontractors.

REFERENCES, SUPERINTENDENT, SUBCONTRACTOR, SUPPLIER RESUMES REQUIRED

Prior to award, the apparent low bidder may be requested to furnish to the Owner the following information:

1. Three (3) references of completed contract work of a similar nature, including the name of the employer, the dollar value of the work and names and telephone numbers of the persons in charge of the completed contracts.

2. The Name of the Full Time Superintendent assigned to this contract to represent the CONTRACTOR.

3. A List of All Subcontractors to be employed for this contract.

4. A List of all Material Suppliers with addresses, telephone numbers and contact names.

Failure to submit any of the above items may result in disqualification of the bid as incomplete.

SELECTION OF BIDDER

The Owner reserves the right to govern selection of a bidder in accordance with the work to be done; equipment and qualified labor and superintendence to be furnished; experience; resources; and the best value to the Village of Gurnee and complete bid. The Owner reserves the right to waive any or all technicalities, to reject any or all bids and to make an award in the best interest of the Village.

EXECUTION OF CONTRACT

The individual, firm or corporation to whom or to which a Contract has been awarded shall furnish an executed Contract and Proof of Insurance to the Owner within fifteen (15) calendar days after Notice of Award has been received by them from the Owner.

FAILURE TO EXECUTE CONTRACT

Failure by the Bidder to furnish the Owner with an executed Contract or Proof of Insurance within fifteen (15) calendar days shall be just cause for annulment of the award.

INTERPRETATIONS AND ADDENDA

Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents. Bidder shall submit all questions about the meaning or intent of the Bidding Documents to the Director of Public Works in writing via email to PublicWorks@Village.Gurnee.IL.US.

Interpretations or clarifications considered necessary by the Director in response to such questions will be issued by Addenda delivered to all registered plan holders and posted on the Village's website. Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

BID SECURITY

A Bid must be accompanied by Bid security made payable to Owner in an amount of five percent (5%) of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a Bid bond issued by a surety meeting the requirements of and in the form included titled "Bid Bond"(pg BB-1).

The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited, in whole in the case of a penal sum bid bond, and to the extent of Owner's damages in the case of a damages-form bond. Such forfeiture will be Owner's exclusive remedy if Bidder defaults.

The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.

Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within 7 days after the Bid opening.

SALES AND USE TAXES

Owner is exempt from state sales and use taxes on materials and equipment to be incorporated in the Work. Said taxes must not be included in the Bid.

GENERAL CONDITIONS OF THE CONTRACT

CONTRACTOR'S INSURANCE

The CONTRACTOR shall not commence work under this Contract until all insurance required under this paragraph has been obtained and such insurance has been approved by the OWNER, nor shall the CONTRACTOR allow any subcontractor to commence work on Contract until all similar insurance required of the subcontractor has been so obtained and approved.

A. Compensation Insurance

The CONTRACTOR shall take out and maintain, during the life of this Contract, Worker's Compensation Insurance for all employees employed at the site of the project; and, in case any work is sublet, the CONTRACTOR shall require all subcontractors similarly to provide Worker's Compensation Insurance for all the latter's employees unless such employees are covered by the protection afforded by the CONTRACTOR. In case any class of employees engaged in hazardous work under this Contract at the site of the project are not protected under the Worker's Compensation Statute, the CONTRACTOR shall provide and shall cause each subcontractor to provide Worker's Compensation Insurance for the protection of employees not otherwise protected.

B. Public Liability & Property Damage Insurance

The CONTRACTOR shall take out and maintain and cause to be taken out and maintained by all subcontractors during the life of this Contract such Public Liability and Property Damage Insurance as shall protect the CONTRACTOR and all subcontractors performing work covered by this Contract from claims for damages for personal injury, including accidental death, as well as from claims for property damages, which may arise from operations under this Contract, whether such operations be by the CONTRACTOR or by a subcontractor or by anyone directly or indirectly employed by either of them and the amounts of such insurance shall be as follows:

General Liability/Property Damage/Bodily Injury	$1 million combined single limit
Automobile Bodily Injury Liability/Property Damage	$1 million combined single limit

Such insurance shall name the OWNER and the Engineer as insured along with the CONTRACTOR and shall hold harmless the OWNER and the Engineer against all suits and claims arising from or as the result of the actions of the CONTRACTOR or subcontractors.

Such policies shall not be cancelled, permitted to expire or to be changed without the written consent of the OWNER.

PROOF OF INSURANCE

The CONTRACTOR shall furnish the OWNER with sufficient documentary evidence of insurance coverage, which evidence shall consist of either such original insurance policy or a certified state-statement from the insurer listing the details of the policy including the Village as an additional insured.

CHANGES TO SCOPE OF WORK

If the Engineer deems it proper or necessary during the execution of the work to make any alteration which will increase or diminish the quantity of labor or material or the expense of the work, even to the elimination of one or more items, such alteration shall not annul or vitiate the Contract hereby entered into. The elimination of any part of the work shall not increase the unit price for any of the remaining work bid on. The value of the work so added shall be based on the rates and prices named in the Contract as bid, when such rates and prices cover the class of work added, otherwise the value shall be determined by mutual written agreement between the OWNER and the CONTRACTOR before any such work shall be commenced.

EXTRA WORK

No claim whatsoever will be allowed the CONTRACTOR for changes, extra work or material not contemplated or necessary for the completion of the work described, or for a greater amount of money than is hereby stipulated to be paid, unless the change in or addition to the work requiring additional outlay by the CONTRACTOR is first **ordered in writing** by the Engineer and the price herein stipulated to the CONTRACTOR.

QUALITY CONTROL OF WORK

The Engineer shall have power to inspect all work for compliance with the Specifications, and the CONTRACTOR shall perform all of the work herein specified to the Engineer's entire satisfaction, approval and acceptance.

The CONTRACTOR is responsible for furnishing all labor, materials and equipment to construct and complete the work in compliance with the Plans, Specifications and Special Provisions unless otherwise specified. All material to be incorporated in the work; all labor to be performed; and all equipment, tools and methods to be used shall be subject to the approval of the Engineer. It is the CONTRACTOR'S responsibility to complete the work and deliver a final product which meets all the requirements of the Plans, Specifications and Special Provisions.

The Engineer shall decide all questions relative to measurements, the materials used, the character of the work performed and as to whether the rate of progress is such as to comply with these Specifications.

If any authorized agent of the Engineer shall discover and notify to the CONTRACTOR of any neglect or disregard of the Specifications, such defects shall at once be remedied and further defective work be at once discontinued; but the right of final acceptance or condemnation of the work will not be waived by reason thereof, nor by any act of the OWNER, officers or agents.

INSPECTION

The Engineer shall at all times have access for inspection to all branches of the work, on the site of the work, at the place of manufacture or where materials are stored or to be furnished from, and the CONTRACTOR shall furnish from time to time such samples of each separate ingredient forming the materials to be used in the improvement as may be required by the Engineer.

If at any time during the progress of the work, any material is rejected or if any of the work is wholly or in part improperly constructed, then the CONTRACTOR, at their own expense, shall immediately remove all rejected material and shall reconstruct all work improperly done. In case the CONTRACTOR shall neglect or refuse, after twenty-four (24) hours written notice, to remove or replace said rejected work or material, the work shall be removed by the OWNER and the OWNER'S cost of labor, material and supervision thereof deducted from any money due the CONTRACTOR.

CONTRACTOR'S EMPLOYEES

The CONTRACTOR shall employ skilled foremen and laborers and shall, if directed by the Engineer, discharge from the site of the work any incompetent, abusive or disorderly employees. None but persons expert in their respective branches of work shall be employed by the CONTRACTOR.

EXISTING FACILITIES

The Contractor shall protect from damage all existing facilities, fixture and equipment liable to injury by his/her operations and shall, at their own expense, make good all such damages to the satisfaction of the OWNER.

The Contractor shall clean and maintain all work areas adjoining the project site free from all construction debris at all times. The Contractor is also responsible for the immediate removal of debris from adjacent work areas caused by construction traffic entering and leaving the project area. All access shall be maintained to all existing facilities including, but not limited to the salt dome, fuel island, liquids facilities, buildings, etc. within the Public Works property throughout construction. Snow and ice control operations shall not be impeded by vehicles, equipment, materials, construction activity, etc. on site.

SALVAGED MATERIAL

All material of whatever kind encountered on the site is the property of the OWNER. When approved for removal from the site of the work, said material shall become the property of the CONTRACTOR and shall be disposed of, in a timely fashion, as specified.

PERMITS

Building permits shall be obtained by the Village of Gurnee as the OWNER. The CONTRACTOR shall furnish the Village of Gurnee with all requested information to obtain permits. Additional time may be granted to the CONTRACTOR if unforeseen delays are encountered during the permit acquisition process causing delay to the proposed work schedule.

ORDINANCES

The CONTRACTOR shall observe all laws and ordinances controlling or limiting those engaged in public work, which ordinances and laws are made a part of these Specifications. The CONTRACTOR shall provide and maintain such sanitary accommodations for the use of their employees as may be necessary to comply with the State and Local Board of Health requirements. Public nuisances will not be tolerated.

DAMAGE

All loss or damage arising out of the nature of the work to be done, or from any delay or unforeseen or unusual obstructions or from difficulties which may be encountered in the prosecution of the work or arising from the action of the elements, shall be sustained at the CONTRACTOR'S expense.

The CONTRACTOR shall be held responsible for any damage to any water, gas or drain pipes, conduits, trees, sidewalks, pavements and all structures, etc., and to interruption of service to same.

The CONTRACTOR shall, without extra charge, erect, maintain and remove strong and suitable barriers which, during the night time, will prevent any accident or harm to life, limb or property in consequence of such work.

The CONTRACTOR shall protect, restore and make good, as may be necessary, all buildings, foundations and fences damaged in the progress of the work, at the CONTRACTOR'S expense. The CONTRACTOR shall protect all private and corporate property, such as gas mains, telephone lines, telephone or telegraph poles or conduits, etc. interfering with the work, notifying the several OWNER'S of the work to be done and arranging for the future disposition of their property. The CONTRACTOR agrees to hold the OWNER and the Engineer harmless from any such claims or demands of any kind, arising from their performing or as a result of the work on this Contract.

CLAIMS

The CONTRACTOR agrees to save and hold harmless the OWNER and the Engineer from all claims, demands, suits, judgment decrees, including costs, expenses and attorney fees on account of, or arising out of, the use of the Public Works facility or resulting from the excavations, openings, obstructions or defects that may be made or left within the site by the CONTRACTOR or their several agents or any other person engaged in the performance of this Contract.

The CONTRACTOR shall save the OWNER and the Engineer harmless from all claims, demands, suits, judgment decrees, including costs, expenses and attorney fees on account of, or arising out of, any infringement of any patent rights or royalties claimed by any one on account of machinery, instrument tools, materials, principals or processes used by them or about said work.

FORFEITURE

The work herein specified shall be prosecuted with such forces as the Engineer may deem adequate for its completion within the time specified for completion. If the rate at which the work is performed is, in the judgment of the Engineer, not such as to insure its progress and completion in the time and manner herein specified, or if, at any time, the CONTRACTOR refuses or neglects to prosecute the work with forces sufficient for its completion within the specified time, or if in any event, the CONTRACTOR fails to proceed with the work in accordance with the requirements and conditions of the Specifications, the OWNER shall have full right and authority after giving three (3) days written notice to the CONTRACTOR of its intention to do so, to take the work out of the hands of the CONTRACTOR and/or to re-let the same to other contractors. In so doing, the OWNER may use or authorize the use of such materials and supplies as may be the property of the CONTRACTOR, or on the ground, without rental or other charge for the use thereof, except that all such materials so used in completing the work shall be credited to said CONTRACTOR at their fair

reasonable market price, as of the date same were delivered on the work, but in no case will the CONTRACTOR be credited with more than the cost of said materials delivered to the CONTRACTOR. The cost of fully completing all the work and all expense of every kind incurred by the OWNER in connection herewith shall be charged to the CONTRACTOR and shall be deducted and paid by the OWNER out of such moneys as may be due, or may at any time thereafter become due to said CONTRACTOR under this Contract, or any part thereof, so far as the same shall suffice therefore, and any deficiency shall be paid to the OWNER by the CONTRACTOR forthwith, and the bondsmen will be held liable for any such deficiency. Should it become necessary for the OWNER to declare the work forfeited, such forfeiture shall in no case relieve the CONTRACTOR or his bondsmen of any of the conditions of the Contract. In case the CONTRACTOR shall abandon or in any manner fail to complete the work, the OWNER shall have the full right and authority to pay to any person, firm or entity who may have been employed by the CONTRACTOR upon the work, out of any fund due or unpaid the CONTRACTOR at the time the OWNER shall declare said CONTRACTOR in default, any and all sums of money which may be found to be due and owing to said CONTRACTOR under this Contract and upon giving five (5) days written notice by mail to said CONTRACTOR of the intention so to do. The OWNER shall have the full right and authority to ascertain the amount or amounts so due and owed by the CONTRACTOR to such person, firm or entity and in such manner and upon such proof as it may deem sufficient, and the amount or amounts so found by it to be due and owing to such person, firm or entity, shall be conclusive as against said CONTRACTOR, and may thereafter make payment to the said person, firm or entity.

SUBLETTING OF CONTRACT

No part of the work herein specified shall be assigned, subcontracted or sublet without the written consent of the OWNER.

All requests to subcontract any work shall include a certified copy of the executed subcontract agreement signed by both the General CONTRACTOR and the Subcontractor. All subcontract agreements shall list and itemize what work is being subcontracted and the amounts and/or basis of payment for such work. All subcontract agreements shall contain the required Federal and State Equal Employment Opportunity provisions and Labor Compliance provisions, including contract minimum wage requirements.

All work permitted to be subcontracted is conditional upon the timeliness and satisfactory performance of the Subcontractor and coordination of the CONTRACTOR. The Engineer may order the CONTRACTOR to remove a Subcontractor who is not performing satisfactory work or who is not performing work in a timely manner. Upon the Engineer's written direction, the CONTRACTOR shall comply at once and shall not employ the Subcontractor for any further work under this contract.

TERMS OF THE CONTRACT

The CONTRACTOR shall commence the contract work upon receipt of a “Notice to Proceed” and shall complete performance of the work of this contract by April 30, 2025 (hereinafter referred to as the “CONTRACT TIME”). Failure to meet the CONTRACT TIME shall be made by the OWNER and/or Engineer upon inspection of the completed work, completion of any punch list items and after receipt of final release and waiver of liens in accordance with the requirements of the contract documents. This Contract may be terminated by the Village of Gurnee or by the CONTRACTOR for

default in the performance of the Contract duties as described in the contract documents upon thirty (30) day's written notice.

Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion or completion of the Work in readiness for final payment, are set forth in the Contract Proposal.

SUSPENSION OF WORK

Should the CONTRACTOR, with the approval of the Engineer, stop work or should the weather conditions in the opinion of the Engineer be such that the work could not be properly and safely performed, then the Engineer may suspend the work until such time as weather conditions shall permit proper construction. In case of stoppage of work, the CONTRACTOR shall, at its own expense, store and be responsible for material and protection of the work and be responsible for all accidents as though the work was in progress. Should the work be delayed or suspended with the approval of the Engineer, the time of delay or suspension may be added to the time set for completion of the work.

WAIVERS OF LIEN REQUIRED

It is expressly understood that the Engineer reserves the right to direct that no payment be made to the CONTRACTOR should there be reason to believe that said CONTRACTOR has failed for any reason to make just payment to any employee, subcontractor or material supplier used or employed by the CONTRACTOR in the prosecution of the work, until the Engineer is satisfied that full and proper payment has been made. The CONTRACTOR shall secure and file with the OWNER progress and final waivers of lien for all materials incorporated into and labor and equipment employed on the work before payment requests are processed.

PARTIAL AND FINAL ACCEPTANCE OF THE WORK

Work on this Contract is not subject to partial inspection and acceptance. The entire work shall be made in a neat and workmanlike manner and all requirements shall be complied with in detail. The mere fact that some particular part or portion of the work may have been previously inspected, cleaned and set in order will not excuse the CONTRACTOR from again cleaning any and all portions so that the entire system of work shall be in proper condition and subject to final inspection by the Engineer and complying with the use intended at the time of acceptance by the OWNER. The date of final acceptance of work on this Contract is the date that the CONTRACTOR is issued final payment by the OWNER.

PAYMENT FOR COMPLETED WORK

Any payments made to the CONTRACTOR during the progress of the work shall in no way lessen the total and final responsibility of the CONTRACTOR, nor in any manner whatsoever waive any of the terms, conditions, covenants or requirements of the Contract, nor be considered a ratification of any act on the part of the Engineer, agents or representatives of the OWNER which in any manner may contravene any of the requirements or provisions of the Contract. During the course of the improvement, if the rate of progress is satisfactory to the Engineer, and it appears that all claims for

labor and materials are satisfied, progress payments may be requested by the CONTRACTOR to the Engineer for payment by the OWNER.

The CONTRACTOR and Engineer shall certify in writing to the amounts of work completed, on forms prepared by the Engineer, prior to presentation to the OWNER for payment.

J.U.L.I.E.

The Contractor is to call J.U.L.I.E. (1-800-892-0123 or 811) forty-eight (48) hours prior to excavating for field locations of existing utilities. A minimum of forty-eight (48) hours' notice shall be given to the Public Works Director at 847-599-6800 prior to starting work.

PROTECTION OF EXISTING UTILITIES AND FACILITIES

EXISTING UTILITIES:

A. The CONTRACTOR shall have full responsibility for locating all underground facilities in work areas, whether shown or not shown on the Drawings, for coordination of the WORK with the OWNERS of such underground facilities during construction, for the safety and protection thereof, and repairing any damage thereto resulting from the WORK; the cost of which shall be included in the Contract Unit Prices for the items specified.

B. Rules, regulations, and codes governing the respective utilities which may be encountered shall be observed in executing all WORK.

EXISTING FACILITIES:

The CONTRACTOR shall protect from damage all parts of curbs, paving, catch basins, manholes, drains, pavement, utilities, landscaping, and all other improvements liable to injury by his operations and shall, at his own expense, make good all such damages to the satisfaction of the OWNER.

The CONTRACTOR shall clean and maintain all works areas at all times.

The CONTRACTOR shall restore all parts of the site that are disturbed by the construction back to the same or better condition as existed prior to construction.

CONTRACTOR'S GENERAL WARRANTY AND GUARANTEE

CONTRACTOR warrants and guarantees to OWNER that all Work will be in accordance with the Contract Documents and will not be defective. OWNER is entitled to rely on CONTRACTOR'S warranty and guarantee.

OWNER'S rights under this warranty and guarantee are in addition to, and are not limited by, OWNER'S rights under the correction period provisions. The time in which OWNER may enforce its warranty and guarantee rights under this Paragraph is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period:

1. OWNER shall give CONTRACTOR written notice of any defective Work within 60 days of the discovery that such Work is defective; and
2. Such notice will be deemed the start of an event giving rise to a Claim, such that any

related Claim must be brought within 30 days of the notice.

CONTRACTOR'S warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, or improper modification, maintenance, or operation, by persons other than CONTRACTOR, Subcontractors, Suppliers, or any other individual or entity for whom CONTRACTOR is responsible; or
2. normal wear and tear under normal usage.

CONTRACTOR'S obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of CONTRACTOR'S obligation to perform the Work in accordance with the Contract Documents, or a release of OWNER'S warranty and guarantee rights under this Paragraph:

1. Observations by ENGINEER;
2. Recommendation by ENGINEER or payment by OWNER of any progress or final payment;
3. The issuance of a certificate of Substantial Completion by ENGINEER or any payment related thereto by OWNER;
4. Use or occupancy of the Work or any part thereof by OWNER;
5. Any review and approval of a Shop Drawing or Sample submittal;
6. The issuance of a notice of acceptability by ENGINEER;
7. The end of the correction period established;
8. Any inspection, test, or approval by others; or
9. Any correction of defective Work by OWNER.

If the Contract requires the CONTRACTOR to accept the assignment of a contract entered into by OWNER, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to CONTRACTOR'S performance obligations to OWNER for the Work described in the assigned contract.

The CONTRACTOR shall warrant all work performed for a period of one (1) year from the date of final acceptance in writing by the OWNER. In case of acceptance of a part of the work for use or occupancy prior to final acceptance of the entire work, the guarantee for the part so accepted shall be for a period of one (1) year from the date of such partial acceptance, in writing, by the OWNER.

CORRECTION PERIOD

If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), OWNER gives CONTRACTOR written notice that any Work has been found to be defective, or that CONTRACTOR'S repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER'S written instructions:

1. correct the defective repairs to the Site or such adjacent areas;
2. correct such defective Work;

3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by OWNER, and
4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.

OWNER shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work.

If, after receipt of a notice of defect within 60 days and within the correction period, CONTRACTOR does not promptly comply with the terms of OWNER'S written instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. CONTRACTOR shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). CONTRACTOR'S failure to pay such costs, losses, and damages within 10 days of invoice from OWNER will be deemed the start of an event giving rise to a Claim, such that any related Claim must be brought within 30 days of the failure to pay.

In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

CONTRACTOR'S obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

PERFORMANCE AND PAYMENT BONDS

CONTRACTOR shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of CONTRACTOR'S obligations under the Contract. These bonds must remain in effect until one year after the date when final payment is authorized or until completion of the correction period, whichever is later.

CONTRACT

1. THIS AGREEMENT, made and concluded the ____ day of **_____, 2026**, between the **VILLAGE OF GURNEE**, acting by and through its **BOARD OF TRUSTEES**, known as the party of the first part, and **_____, ADDRESS, CITY, ILLINOIS ZIP** their executors, administrators, successors or assigns, known as the party of the second part.

2. Witnesseth: That for and in consideration of the payments and agreements mentioned in the Bid hereto attached, to be made and performed by the party of the first part, the party of the second part agrees with said party of the first part at their own proper cost and expense to do all the work, furnish all materials and all labor necessary to complete the work in accordance with the plans and specifications hereinafter described, and in full compliance with all of the terms of this agreement and the requirements of the Engineer under it.

3. And it is also understood and agreed that the Notice to Contractors, Instructions to Bidders, General Conditions of the Contract, Special Provisions and Proposal are hereto attached and the documents for the **VILLAGE OF GURNEE PROJECT NAME** in **GURNEE, ILLINOIS** were prepared by the Village of Gurnee.

4. IN WITNESS WHEREOF, the said parties have executed these presents on the date above mentioned.

Attest:

_____ Clerk

(Seal)

The **VILLAGE** of **GURNEE**

By _____
Party of the First Part

(If a Corporation)

Corporate Name _____

By _____
President Party of the Second Part

(If a Co-Partnership)

Attest:

_____
Secretary

_____

_____

Partners doing Business under the firm name of

_____
Party of the Second Part

(If an individual)

_____
Party of the Second Part

SECTION 011001 - GENERAL REQUIREMENTS FOR SMALL PROJECT

PART 1 - GENERAL

1.1 SUMMARY

A. Project Identification: Gurnee Public Works Fleet Garage Renovation Project. FGMA Project No. 26-4519.01.

1. Project Location: 1151 Kilbourne Road, Gurnee, Illinois 60031

B. Owner: Village of Gurnee, 325 N. O'Plaine Road, Gurnee, Illinois 60031

C. Architect: FGM Architects Inc, 1 Westbrook Corporate Center, Suite 1000, Westchester, Illinois 60154

D. Architect's Consultants:

1. MEPFP: WT Group, Hoffman Estates, Illinois 60192
2. Structural: McCluskey Engineering, Naperville, Illinois 60540

E. Project Description: The project consists of renovation to existing public works facility, including removal of existing overhead door including exterior modifications for new wider overhead door, mezzanine stair removal and egress door, and phased trench drain and piping replacement. Improvements include structural, mechanical, plumbing, fire protection and electrical modifications for the new plan and use.

F. Use of Site: Limit use of Project site to work in areas required for the scope of work. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles 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.

G. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

H. Owners facility will remain in operation and will need to keep access as much as possible during business and evening hours. As such, contractor will minimize impact and coordinate with Owner on schedule and access for any scope that would disrupt existing facility.

1.2 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Use of Premises: During the Contract Time, Contractor shall have full use of rooms indicated. Use of premises is limited only by Owner's right to perform work or to employ other contractors on portions of Project and use of premises by the public during business hours.
2. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. Building Requirements:

1. Building Regulations: Comply with building regulations. Coordinate with owner’s representative prior to start of work.
2. Public Street and Walkways: Do not block public streets and walkways. Provide protection of public street and walkways from construction activities.
3. Storage On-Site: Storage in the building is not available. Provide storage facilities for Contractor’s use, if needed.
4. Trash Container: Provide trash containers and empty on a regular basis.
5. Existing Construction: Coordinate with Owner the removal or alteration of existing construction as required for installation of new work.
6. Use of Building Services and Amenities: The building restrooms are not available for use by Contractor. Provide portable toilet facilities and locate on site. Coordinate location with the owner’s representative.
7. Use of Service Utilities: Use of building’s electrical power to run small tools will be permitted as long as the Contractor does not abuse the privilege.
8. Behavior of Contractor's Employees: Employees must conduct themselves in a socially acceptable manner. Cursing is not permitted. Playing music is not permitted.
9. Site Access Coordination: Coordinate access to building, area, rooms or floors and use of facilities with Owner’s representative.
10. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruptions to Owner occupancy with Owner.
11. Protection: Do not expose the building to the weather. Provide weather protection as required.

1.3 WORK RESTRICTIONS

A. Use of Premises: During the Contract Time, Contractor shall have partial use of rooms indicated. Use of premises is limited by Owner's right to perform work or to employ other contractors on portions of Project and use of premises by the public during business hours.

B. Phasing: Contractor shall phase work in Fleet Garage to allow Public Works operations to be maintained for half the bays in the Fleet Garage at any given time. Contractor to coordinate sequencing and phasing with Owner’s operations and schedule.

1.4 PRODUCT REQUIREMENTS

A. Specification is a Basis-of-Design Product Specification.

1. Basis-of-Design Product specification: A specific manufacturer’s product is named specified, including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for the purposed of evaluating products by other manufacturers.
2. Basis-of-Design Product: Provide the named product or a comparable product by one of the other specified manufacturers, subject to Architects’ approval. Drawings and Specifications indicate sizes, profiles, dimensions, space requirements and other characteristics that are based on the product named. Comply with provisions “Comparable Products” article for consideration of products by other manufacturers.
3. Comparable Products: If a product other than the named product is proposed by the Contractor, the Architect may review the proposed comparable product and make a recommendation to the Owner. However, the Contractor remains responsible for all building requirements for the proposed product, including space and utility requirements. Any modification to parts of the project required to accommodate the comparable product, shall be made at the expense of the Contractor.

B. Asbestos Containing Materials (ACM): Products containing any Asbestos Containing Materials, shall not be used on this project. Contractor shall provide written Certification, as part of Closeout requirements, that ACM containing products have not been used in the project.

C. Lead Paint: Lead-containing paint shall not be used on this project. Contractor shall provide written Certification, as part of Closeout requirements, that Lead containing products have not been used in the project.

1.5 ALLOWANCES

A. Contingency Allowances:

1. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
2. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.
3. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

B. Allowance Schedule:

1. ALLOWANCE NO. 1: Owner’s Contingency Allowance: Include $10,000 as a contingency allowance.

1.6 UNIT PRICES

A. An Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

B. Unit prices include all necessary material, plus cost for delivery, installation, demo haul and disposal, insurance, overhead, and profit.

C. Unit Price Schedule

1. UNIT PRICE NO. 1: Underground Drain Line Piping Replacement
   a. Description: Underground drain line replacement where pipe blockage is identified, including slab saw-cutting, removal of existing pipe, new pipe, fittings, cleanouts (if impacted), stone backfill and concrete to match existing floor. See Drawings.
   b. Unit of Measurement: Linear foot.
   c. Cost: Dollars ($) / Linear Foot

1.7 ALTERNATES

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

B. Procedures:

1. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

   a. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

2. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.

3. Execute accepted alternates under the same conditions as other work of the Contract.

C. Schedule of Alternates

1. ALTERNATE 1: MEZZANINE STAIR REMOVAL
   a. Based Bid. No scope.
   b. Alternate: Remove mezzanine stairs in their entirety and demolish portion of hollowcore plank, as required for installation of new guard rail. Remove and re-work existing sprinkler piping and heads beneath demolished stair, as required for new work. Prep, prime and paint portions of exposed CMU wall and modified guard rail to match existing adjacent.

2. ALTERNATE 2: GUARD RAIL PAINTING
   a. Based Bid. No scope.
   b. Alternate: In Fleet Garage, prep, prime and paint existing mezzanine guard rail and hand rail system in its entirety. Color to be selected by Architect / Owner.

1.8 SUBSTITUTION PROCEDURES

A. Substitutions after Award of Contract: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements.

1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
2. Requested substitution does not require extensive revisions to the Contract Documents.

3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
4. Requested substitution is fully documented and properly submitted.
5. Requested substitution will not adversely affect Contractor's Construction Schedule.
6. Requested substitution has received necessary approvals of authorities having jurisdiction.
7. Requested substitution is compatible with other portions of the work.
8. Requested substitution provides specified warranty.
9. Substitution Request Form: CSI Form 13.1A
10. Other Documentation: Section 01601 Data for Evaluation of Materials, Products and Systems, as applicable. Include the following information.

    a. Statement indicating why specified goods cannot be provided.
    b. Coordination information, including a list of changes or modifications needed to other part of the Work and to the work of other contractors that will be necessary to accommodate proposed substitution.
    c. Comparison of significant qualities of proposed substitution with those of goods specified.
    d. Effects of proposed substitution on Project Schedule and cost information, including a proposal of change, if any, in the Contract Sum.

1.9 PAYMENT PROCEDURES

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. Provide a separate line item in the Schedule of Values for each of the following:

    a. Materials
    b. Labor
    c. Allowances
    d. General Overhead and Profit
    e. Bonds and Insurance
    f. Submittals. Allow a maximum of 1% of the total amount applicable.
    g. Closeout documents. Allow a minimum of 1% of the total amount applicable.

B. Payment Procedures: Submit a Schedule of Values 10 days before first Application for Payment.

C. Application for Payment: Submit on the 15th of each month unless otherwise indicated in the Owner-Contractor Agreement. The period of Work covered by each Application for Payment is the period ending 15 days before date for each progress payment and starting the day after the end of the preceding period.

    a. Submit three copies of each Application for Payment.

b. Submit initial and subsequent Application for Payments based on percent of work completed.
c. Submit final Application for Payment after completion of Project closeout procedures and supporting documentation. Include consent of surety to final payment and insurance certificates.

1) Include final accounting of Owner's contingency.

d. Waiver of Mechanic's Lien: Submitted from every entity lawfully entitled to file a lien, including but not limited to subcontractors and suppliers for construction period covered by previous application with each Application.

1.10 SCHEDULE OF VALUES

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.

B. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.

1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:

a. Application for Payment forms with continuation sheets.
b. Submittal schedule.
c. Items required to be indicated as separate activities in Contractor's construction schedule.

2. Submit the schedule of values to Architect through Construction Manager at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
3. Subschedules for Separate Design Contracts: Where the Owner has retained design professionals under separate contracts who will each provide certification of payment requests, provide subschedules showing values coordinated with the scope of each design services contract as described in Section 011000 "Summary."

C. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:

a. Project name and location.
b. Name of Architect.
c. Architect's project number.
d. Contractor's name and address.

e. Date of submittal.

2. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
3. Provide separate line items for the following:

   a. General and Overhead Profit.
   b. Bond and Insurance.
   c. Submittals. Allow a maximum of 1% of the total amount applicable.
   d. 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 Contractors option.

4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. 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.

   a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.

6. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
8. Change Orders: Provide separate sub-line items in the schedule of values for each approved change order portion allocated to each main line item.

1.11 LIQUIDATED DAMAGES

A. NOTICE TO PROCEED

1. The Contractor shall commence the work within thirty (30) days of receipt of the Architects Notice to Proceed, and the work shall be completed per the noted substantial completion date, noted elsewhere in this project manual.

2. In the event the work is not substantially completed within the stipulated time, then in addition to any other remedies available to the Owner, the Contractor shall pay to the Owner the sum of Seven Hundred Fifty Dollars ($750.00) for each day in excess of the stipulated calendar days until substantial completion of the work has been achieved. This payment is for liquidated damages, in addition to any other damages that may be incurred by the owner, and not as a penalty. All such liquidated damages may be set-off against any monies that may be due the Contractor.

3. The Contractor guarantees completion of the work within the time limit stated in the Contract Documents. Because the damage and loss to the Owner, which will result from the failure of Contractor to complete the work within the stipulated time, will be significant but difficult or impossible to accurately assess, the Contractor and Owner hereby agree to quantify such damages as follows. The damages to the Owner for such delay and failure on the part of the Contractor shall be liquidated in the sum of Seven Hundred Fifty Dollars ($750.00) for each calendar day, Sundays and Holidays included, by which the Contractor shall fail to complete the work or any part thereof in accordance with the provisions hereof. Such liquidated damages shall not be considered as a penalty, but as a fair estimate of actual damages."

B. EXCUSABLE DELAYS

1. The right of the Contractor to proceed shall not be terminated nor shall the Contractor be charged with liquidated damages for any delays in the completion of the work due:

   a. To any acts of the Government, including controls or restrictions upon or requisitioning of materials, equipment, tools or labor by reason of war, National Defense, or any other national emergency.
   b. To any acts of the Owner;
   c. To causes not reasonably foreseeable by the parties to this Contract at the time of the execution of the Contract which are beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God or of the public enemy, acts of another Contractor in the performance of some other contract with the Owner, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes, and weather of unusual severity as hurricanes, tornadoes, cyclones and other extreme weather conditions; and

2. Provided, however, that the Contractor promptly notifies the Owner within ten (10) days in writing of the cause of the delay. Upon receipt of such notification the Owner shall ascertain the facts and the cause and extent of delay. If, upon the basis of the facts and the terms of this Contract, the delay is properly excusable, the Owner shall extend the time for completing the work for a period of time commensurate with the period of excusable delay.

1.12 PROJECT MANAGEMENT AND COORDINATION

A. Coordination: Coordinate Work with related construction activities.

B. Meetings: Conduct at Project site. Notify Owner and Architect of meeting dates. Each subcontractor or other entity concerned with current progress, or involved with planning or coordination of future activities, shall attend. Prepare minutes of each meeting and distribute to Owner, Architect and parties present no later than three days after meeting. Issue revised Schedule concurrently with meeting minutes.

1. Preconstruction Meetings: Schedule before starting installation that requires coordination.
2. Pre-installation Meetings: Schedule before starting installation that requires coordination.
3. Progress Meetings: Schedule bi-weekly.
4. Coordination Meetings: Schedule bi-weekly.

C. Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type Contractor's Construction Schedule for the work within 10 days from date established for commencement of Work.

1. Preparation: Indicate each significant construction activity separately, Identify first workday of the week with a continuous vertical line.
2. Prepare and update schedule every 10 days, starting 10 days from date established for commencement of Work. Revise schedule after each meeting or activity where revisions have been made. Distribute revised copies to Owner, Architect, subcontractors, and parties required to comply with dates.
3. Submittals Schedule: Submit one copy of schedule listing required submittals and review dates.
4. Preliminary Construction Schedule: Submit one copy.
5. Contractor's Construction Schedule: Submit two opaque copies of initial schedule, large enough to show entire schedule for entire construction period.

D. Requests for Information (RFI's)

1. Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.

    a. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
    b. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

2. The following RFIs will be returned without action:

    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for information already indicated in the Contract Documents.
    d. Requests for information which is discernable from the Contract Documents.
    e. Requests for information related to construction means and methods.
    f. Requests for information related to construction site safety precautions, procedures and methodology.
    g. Requests for adjustments in the Contract Time or the Contract Sum.
    h. Requests for interpretation of Architect's actions on submittals.
    i. Incomplete RFIs or RFIs with numerous errors.

3. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within **10** days of receipt of the RFI response.

    a. If a notification to the contrary is not received by the Architect in writing within 10 days of receipt of the RFI response, it shall be assumed that the Contractor accepts the response and will proceed with its implementation at no additional cost.
    b. Any project delay caused by the Architect's refusal to accept an oral RFI or an RFI which does not conform with the requirements listed above, will be attributed solely to the Contractor.
    c. The Architect's review of or responses to RFI's shall not constitute an approval, direction, or procedure related to the construction means, methods, techniques, sequences, or procedures of the Contractor.
    d. The Architect's review of or responses to RFI's shall not constitute an approval, direction or procedure related to the construction site safety precautions, procedures, or methodology of the Contractor.
    e. The use of an RFI is limited to clarification of the contract documents. The Contractor shall limit each RFI to a single issue.

1.13 QUALITY REQUIREMENTS

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

B. Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. 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.

C. 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 as specified in Division 01 Section "Submittal Procedures."

D. Retesting/Reinspecting: 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. 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.

1.14 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

B. 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.

1.15 TEMPORARY FACILITIES

A. General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, testing agencies, and authorities having jurisdiction.

B. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

C. 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.

D. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations.

E. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

F. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 01 Section "Closeout Procedures."

1.16 CONTRACT MODIFICATIONS

A. Minor Changes in the Work:

1. Architect will issue “Architect Supplemental Instructions (ASI), for minor changes in the Work, not involving adjustment to the Contract Sum or the contract Time.

B. Proposal Requests:

1. Owner initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may required adjustment to the Contract Sum or Contract Time.

    a. Proposal Requests issued by the Architect are for information in pricing only. Do not consider them instructions to either stop the work in progress or execute the proposed change.
    b. Within 14 days of receipt of Proposal Request, submit a quotation estimating the cost adjustments to the Contract Sum and the Contract Time necessary to execute the change. Include a complete breakdown of all involved material and labor.

2. Contractor Initiated Proposals: Contractor may submit a request for a change to the Architect for unforeseen conditions. Include a statement outlining reasons for the change and the effect of the change on the Work.

    a. Provide complete list of quantities required or eliminated by the change and cost of all material and labor adds and deducts.
    b. Pricing shall be complete with all applicable taxes and delivery charges. Include the cost of supervision.

C. Change Order Procedures:

1. Upon Owner's approval of Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.
2. An Change Order will be required to authorize the use of any Allowance.

D. Construction Change Directives:

1. If the normal Change Order procedure cannot be followed in a timely manner, the Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work for subsequent inclusion in a Change Order.

    a. The Construction Change Directive contains a complete description of the change and it designated method to be followed to determine change in the Contract Sum or the Contract Time.

1.17 PROGRESS CLEANING

A. Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

1.18 PROJECT CLOSEOUT

A. Closeout Submittals: Prepare and submit as follows:

1. Record Drawings: Maintain a set of Contract Drawings as Record Drawings. Mark to show installation that varies from the Work originally shown.
2. Record Specifications: Maintain one copy of Project Manual, including addenda, as Record Specifications. Mark to show Work performed that varies from the Specifications and other modifications.
3. Operation and Maintenance Data: Organize data into three-ring binders, with pocket folders for folded sheet information. Identify each binder on front and spine with title "OPERATION AND MAINTENANCE DATA," Project name, and name of furniture dealer or other vendor. Include the following:

    a. Spare parts list.
    b. Copies of warranties.
    c. Wiring diagrams.
    d. Shop Drawings and Product Data.
    e. Maintenance and appearance retention procedures.
    f. Address and phone number of maintenance supplier.

4. Warranties: Submit properly executed warranties within 15 days of the completion of the installation. Organize warranty documents into three-ring binders. Identify each binder on front and spine with title "WARRANTIES," Project name, and name of furniture dealer or other vendor. Contractor to follow warranty requirements as listed in A201 – General Conditions of the Contract for Construction

    a. Warranty protection for a repaired item shall be for twelve months after final acceptance of non-concrete work or the length of the original warranty period, whichever is longer
    b. Warranty protection for a repaired item shall be for twenty-four months after final acceptance of concrete work or the length of the original warranty period, whichever is longer. This will cover structural failures, as well as surface erosion due to spalling caused by frost popping soft aggregates within the concrete and surface erosion due to faulty workmanship. All concrete work not meeting high industry standards will be removed and replaced at no charge to the Owner.
    c. Defective materials, equipment or workmanship occurring within the Warranty period may be repaired where such produces results conforming to the Contract Documents relating to appearance, performance and reliability. Where the nature of the defective materials, equipment or workmanship is such that acceptable results cannot be obtained by repair, such defective items shall be removed and replace with new materials, equipment or workmanship complying with the Contract Documents.

B. Closeout Procedures: Request final inspection once the following actions are complete:

1. Submit Record Drawings and Specifications, maintenance manuals, warranties, and similar record information.
2. Submit Final Payment request with releases and supporting documentation not previously submitted and accepted.
3. Deliver unused materials to Owner.

4. Deliver tools, lubricants, spare parts, and similar items to Owner.
5. Changeover locks and deliver keys to Owner. Identify keys with tags.
6. Remove temporary protection.
7. Deliver extra materials to Owner packaged with protective covering and identified with labels.

C. Final Cleaning:

1. Vacuum carpeted and upholstered surfaces if any have been disturbed..
2. Clean hard surfaces with cleaners recommended in manufacturer's written instructions.
3. Touch up, repair, and restore marred, exposed finishes.

D. Demonstration: Provide instruction to Owner’s personnel. Include a detailed review of the following:

1. Maintenance manuals.
2. Spare parts, tools, and materials.
3. Lubricants.
4. Hazards.
5. Conditions of warranties.

E. Final Inspection: On request, Architect will proceed with inspection. Architect will advise Contractor of items that must be completed or corrected.

F. Reinspection Procedure: Architect will re-inspect the Work on receipt of notice that the Work has been completed.

1. If the Work is incomplete, Architect will advise Contractor of the Work that is incomplete or obligations that have not yet been fulfilled. If necessary, re-inspection will be repeated.

a. Architect's time will be assessed and charged by Owner to Contractor for more than one re-inspection.

1.19 USE OF ARCHITECT’S CAD DRAWINGS

A. The Architect may, at his sole discretion, allow use of CAD files of architectural plan backgrounds, prepared by the Architect, for the convenience of the Contractor subject to payment of the following handling fee and agreement to the following disclaimer. Architectural plan backgrounds are defined as floor plans containing room layout, room names, column centerlines, door swings, ceiling grid and light fixtures.

1. Disclaimer: Provide a written request on the user’s letterhead including the following disclaimer:

BIM AND ELECTRONIC DOCUMENTS TRANSFER TERMS AND CONDITIONS

FGM Architects Inc. (hereinafter the “Architect”) may, at its sole discretion, provide

for use to Contractor from time to time upon Contractor's request and for Contractor's convenience, Building Information Models (hereinafter referred to as "BIM") and/or CAD files, including plans, details, and schedules in electronic format, prepared by the Architect, subject to and upon the following terms and conditions which shall have full force and effect as of the date the electronic documents are provided.

TERMS AND CONDITIONS

The Contractor understands and agrees that the design documents, calculations, drawings, details, schedules, specifications and other information prepared by the Architect in electronic format, whether incorporated in BIM or in CAD format (hereinafter collectively referred to as "Electronic Instruments of Service"), are instruments of professional architectural service intended for use only in connection with the construction of this Project. The Electronic Instruments of Service are and shall remain the property of FGM Architects Inc. The Contractor may use and retain copies of the Electronic Instruments of Service provided by the Architect in connection with Contractor's pre-construction and construction services for the Project. The Electronic Instruments of Service are provided for the sole purpose of communicating the state of the design to date, and Contractor acknowledges that the Electronic Instruments of Service may not be final, complete or accurate. Contractor further acknowledges and agrees that any use by Contractor of the Electronic Instruments of Service provided by the Architect is at Contractor's sole risk and responsibility. Contractor acknowledges and agrees that the official Instruments of Service are the drawings and specifications signed and sealed by the Architect and its consultants in paper format.

In the case that the Electronic Instruments of Service are provided to the Contractor or any of its subcontractors, materialmen or suppliers, or those contracting with any of them in connection with the Project (together "Contractor"), it is understood that such Electronic Instruments of Service have been furnished at the request of the Owner or Contractor, and that the Contractor has read and understood the limitations, terms and conditions governing the use of Electronic Instruments of Service as set forth in the Contract Documents and herein.

Because of the possibility that the Electronic Instruments of Service, and other information and data delivered in machine readable form may be subject to alteration, deterioration, incompatibility, translation or readability issues, whether inadvertently or otherwise, Contractor acknowledges and agrees that Architect shall have no responsibility or liability arising out of or in connection with the completeness or accuracy of the Electronic Instruments of Service, information and data, and any use by the Contractor of same is at Contractor's sole risk and responsibility. FGM Architects Inc. reserves the right to retain hard copy originals of all project documentation delivered to the Contractor in machine readable form, which originals shall be referred to and shall govern in the event of any inconsistency between the two.

The Contractor understands that the use and automated conversion of information and data in the Electronic Instruments of Service provided by FGM Architects Inc. to a derivative work, model. or alternate system or format or version by the Contractor may not be accomplished without the introduction of inexactitudes, anomalies, and errors. In

the event the Electronic Instruments of Service provided to the Contractor are so used or converted, the Contractor agrees to assume all risks associated therewith and releases FGM Architects Inc. from such responsibility and, to the fullest extent permitted by law, Contractor shall defend, and hold harmless and indemnify FGM Architects Inc. from and against all claims, liabilities, losses, damages, and costs, including but not limited to attorney's fees, arising therefrom or in connection therewith.

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Accepted by: _____(signature)

Title: _____

Company: _____

PART 2 - PRODUCTS (NA)

PART 3 - EXCECUTION (NA)

END OF SECTION 011001

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 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 011000 "Summary" for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.
2. Section 017300 "Execution" for cutting and patching procedures.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.

B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for 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.

1.3 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.

1.4 PREINSTALLATION MEETINGS

A. Predemolition 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.

1.5 INFORMATIONAL SUBMITTALS

A. 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'sandother 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. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

B.

1.6 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:

1. It is not expected that hazardous materials will be encountered in the Work.
    a. 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.

1.7 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 ANSI/ASSP 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. Perform/Engage a professional engineer to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.

1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

D. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

E. Survey of Existing Conditions: Record existing conditions by use of measured drawings, preconstruction photographs or video.

1. Inventory and record the condition of items to be removed and salvaged.
2. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 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.

3.3 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. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural

supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

C. Remove temporary barricades and protections where hazards no longer exist.

3.4 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. Comply with requirements in Section 017419 "Construction Waste Management and Disposal."

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 on-siteoff-sitedesignated by Ownerindicated on Drawings.
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.

3.5 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** 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.

3.6 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.and recycle or dispose of them according to Section 017419 "Construction Waste Management and Disposal."

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 017419 "Construction Waste Management and Disposal."

B. Burning: Do not burn demolished materials.

3.7 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.

END OF SECTION 024119

SECTION 055000 - METAL FABRICATIONS

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. Miscellaneous framing and supports.
2. Steel framing and supports for applications where framing and supports are not specified in other Sections.
3. Metal bollards.
4. Loose bearing and leveling plates for applications where they are not specified in other Sections.

B. Products furnished, but not installed, under this Section include the following:

1. Loose steel lintels.
2. Anchor bolts, steel pipe sleeves, slotted-channel inserts, and wedge-type inserts indicated to be cast into concrete or built into unit masonry.
3. Steel weld plates and angles for casting into concrete for applications where they are not specified in other Sections.

1.3 COORDINATION

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of metal fabrications that are anchored to or that receive other work. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

1.4 ACTION SUBMITTALS

A. Product Data: For the following:

1. Fasteners.
2. Grout.

B. Shop Drawings: Show fabrication and installation details. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide Shop Drawings for the following:

1. Miscellaneous framing and supports for applications where framing and supports are not specified in other sections.
2. Metal bollards.
3. Loose steel lintels.

C. Delegated-Design Submittal: For metal railing, including analysis data signed and sealed by the qualified structural engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For structural engineer.

B. Welding certificates.

C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.

D. Research/Evaluation Reports: For post-installed anchors, from ICC-ES.

1.6 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

B. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1.7 FIELD CONDITIONS

A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified structural engineer, as defined in Section 014000 "Quality Requirements," to design ladders.

B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 METALS

A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

B. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

C. Steel Tubing: ASTM A 500/A 500M, cold-formed steel tubing.

D. Steel Pipe: ASTM A 53/A 53M, Standard Weight (Schedule 40) unless otherwise indicated.

E. Slotted Channel Framing: Cold-formed metal box channels (struts) complying with MFMA-4.

1. Size of Channels: 1-5/8 by 1-5/8 inches.
2. Material: Galvanized steel, ASTM A 653/A 653M, commercial steel, Type B, with G90 coating; 0.108-inch nominal thickness.
3. Material: Cold-rolled steel, ASTM A 1008/A 1008M, commercial steel, Type B; 0.0966-inch minimum thickness; unfinished coated with rust-inhibitive, baked-on, acrylic enamel hot-dip galvanized after fabrication.

2.3 FASTENERS

A. General: Unless otherwise indicated, provide Type 304 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.

1. Provide stainless-steel fasteners for fastening aluminum.
2. Provide stainless-steel fasteners for fastening stainless steel.

B. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A; with hex nuts, ASTM A 563; and, where indicated, flat washers.

C. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 325, Type 3; with hex nuts, ASTM A 563, Grade C3; and, where indicated, flat washers.

D. Anchor Bolts: ASTM F 1554, Grade 36, of dimensions indicated; with nuts, ASTM A 563; and, where indicated, flat washers.

1. Hot-dip galvanize or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.

E. Anchors, General: Anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.

F. Cast-in-Place Anchors in Concrete: Either threaded type or wedge type unless otherwise indicated; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F 2329.

G. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors.

1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, unless otherwise indicated.
2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 stainless-steel bolts, ASTM F 593, and nuts, ASTM F 594.

H. Slotted-Channel Inserts: Cold-formed, hot-dip galvanized-steel box channels (struts) complying with MFMA-4, 1-5/8 by 7/8 inches by length indicated with anchor straps or studs not less than 3 inches long at not more than 8 inches o.c. Provide with temporary filler and tee-head bolts, complete with washers and nuts, all zinc-plated to comply with ASTM B 633, Class Fe/Zn 5, as needed for fastening to inserts.

2.4 MISCELLANEOUS MATERIALS

A. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.

1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.

B. Shop Primer for Galvanized Steel: Primer formulated for exterior use over zinc-coated metal and compatible with finish paint systems indicated.

C. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

D. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

E. Concrete: Comply with requirements in Section 033000 "Cast-in-Place Concrete" for normal-weight, air-entrained, concrete with a minimum 28-day compressive strength of 3000 psi.

2.5 FABRICATION, GENERAL

A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

D. Form exposed work with accurate angles and surfaces and straight edges.

E. Weld corners and seams continuously to comply with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.

G. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

H. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.

I. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.

J. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors, 1/8 by 1-1/2 inches, with a minimum 6-inch embedment and 2-inch hook, not less than 8 inches from ends and corners of units and 24 inches o.c., unless otherwise indicated.

2.6 MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.

B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.

1. Fabricate units from slotted channel framing where indicated.
2. Furnish inserts for units installed after concrete is placed.

2.7 METAL BOLLARDS

A. Fabricate metal bollards from Schedule 40 steel pipe 1/4-inch wall-thickness rectangular steel tubing.

2.8 LOOSE BEARING AND LEVELING PLATES

A. Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction. Drill plates to receive anchor bolts and for grouting.

B. Prime plates with zinc-rich primer. primer specified in Section 099600 "High-Performance Coatings."

2.9 LOOSE STEEL LINTELS

A. Fabricate loose steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated. Fabricate in single lengths for each opening unless otherwise indicated. Weld adjoining members together to form a single unit where indicated.

B. Size loose lintels to provide bearing length at each side of openings equal to 1/12 of clear span, but not less than 8 inches unless otherwise indicated.

C. Galvanize loose steel lintels located in exterior walls.

2.10 STEEL WELD PLATES AND ANGLES

A. Provide steel weld plates and angles not specified in other Sections, for items supported from concrete construction as needed to complete the Work. Provide each unit with no fewer than two integrally welded steel strap anchors for embedding in concrete.

2.11 FINISHES, GENERAL

A. Finish metal fabrications after assembly.

B. Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.

2.12 STEEL AND IRON FINISHES

A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.

1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.

B. Preparation for Shop Priming Galvanized Items: After galvanizing, thoroughly clean railings of grease, dirt, oil, flux, and other foreign matter, and treat with metallic phosphate process.

C. Shop prime iron and steel items not indicated to be galvanized unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.

1. Shop prime with universal shop primer primers specified in Section 099113 "Exterior Painting" primers specified in Section 099123 "Interior Painting" unless zinc-rich primer is primers specified in Section 099600 "High-Performance Coatings" are indicated.

D. Preparation for Shop Priming: Prepare surfaces to comply with SSPC-SP 3, "Power Tool Cleaning."

1. Exterior Items: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
2. Items Indicated to Receive Zinc-Rich Primer: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
3. Items Indicated to Receive Primers Specified in Section 099600 "High-Performance Coatings": SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
4. Other Items: SSPC-SP 3, "Power Tool Cleaning."

E. Shop Priming: Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.

1. Stripe paint corners, crevices, bolts, welds, and sharp edges.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.

C. Field Welding: Comply with the following requirements:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.

E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

3.2 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.

3.3 INSTALLING METAL BOLLARDS

A. Fill metal-capped bollards solidly with concrete and allow concrete to cure seven days before installing.

B. Anchor bollards in concrete in formed or core-drilled holes not less than 8 inches deep and 3/4 inch larger than OD of bollard. Fill annular space around bollard solidly with nonshrink grout; mixed and placed to comply with grout manufacturer's written instructions. Slope grout up approximately 1/8 inch toward bollard.

C. Fill bollards solidly with concrete, mounding top surface to shed water.

3.4 INSTALLING BEARING AND LEVELING PLATES

A. Clean concrete and masonry bearing surfaces of bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of plates.

B. Set bearing and leveling plates on wedges, shims, or leveling nuts. After bearing members have been positioned and plumbed, tighten anchor bolts. Do not remove wedges or shims but, if protruding, cut off flush with edge of bearing plate before packing with nonshrink grout. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

3.5 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

1. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.

B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780/A 780M.

END OF SECTION

SECTION 079200 - 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. Silicone joint sealants.
2. Latex joint sealants.

B. Related Sections:

1. Section 042000 "Unit Masonry" for masonry control and expansion joint fillers and gaskets.

1.3 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. 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. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.

B. Warranties: Sample of special warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.

1.6 PROJECT 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.
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: Manufacturer's standard form in which 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's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those 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.

C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:

1. Movement of the structure caused by structural settlement or errors attributable to design or construction resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
2. Disintegration of joint substrates from natural causes exceeding design specifications.
3. Mechanical damage caused by individuals, tools, or other outside agents.
4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 MATERIALS, 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. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

C. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

D. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

A. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, for Use NT.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Dow Corning Corporation; 790.
b. Pecora Corporation; 301 NS.
c. Sika Corporation, Construction Products Division; Sikasil-WS 290

B. Single-Component, Nonsag, Traffic-Grade, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, for Use T.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Dow Corning Corporation; 790.
b. Pecora Corporation; 301 NS.

C. Mildew-Resistant, Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Pecora Corporation; 898.
b. Sika Corporation, Construction Products Division; Sikasil N Plus.

2.3 LATEX JOINT SEALANTS

A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

1. Products: Subject to compliance with requirements, provide one of the following:

a. BASF Building Systems; Sonolac.
b. Bostik, Inc.; Chem-Calk 600.
c. Pecora Corporation; AC-20+.
d. Schnee-Morehead, Inc.; SM 8200.
e. Tremco Incorporated; Tremflex 834.

2.4 JOINT SEALANT BACKING

A. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) Type O (open-cell material) Type B (bicellular material with a surface skin) or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

2.5 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 joint-sealant performance.

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 C 1193 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 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.

E. 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 C 1193, unless otherwise indicated.

3.4 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.

3.5 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 and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.

1. Joint Locations:

a. Isolation and contraction joints in cast-in-place concrete slabs.

2. Silicone Joint Sealant: Single component, nonsag, traffic grade, neutral curing.

3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:

a. Construction joints in cast-in-place concrete.
b. Control and expansion joints in unit masonry.
c. Joints in dimension stone cladding.
d. Joints between different materials listed above.
e. Perimeter joints between materials listed above and frames of doorswindows and louvers.

2. Silicone Joint Sealant: Single component, nonsag, neutral curing, Class 100/50**.**
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces .

1. Joint Locations:

a. Isolation joints in cast-in-place concrete slabs.
b. Control and expansion joints in tile flooring.

2. Silicone Joint Sealant: Single component, nonsag, traffic grade, neutral curing.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:

a. Control and expansion joints on exposed interior surfaces of exterior walls.
b. Perimeter joints of exterior openings where indicated.
c. Tile control and expansion joints.
d. Vertical joints on exposed surfaces of interior unit masonry concretewalls and partitions.
e. Joints on underside of plant-precast structural concrete planks.
f. Perimeter joints between interior wall surfaces and frames of interior doors windows and elevator entrances.

2. Joint Sealant: Latex.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION

SECTION 081113 - 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 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Standard and custom hollow metal doors and frames.
2. Steel sidelight, borrowed lite and transom frames.
3. Light frames and glazing installed in hollow metal doors.

B. Related Sections:

1. Division 04 Section "Unit Masonry" for embedding anchors for hollow metal work into masonry construction.
2. Division 08 Section "Door Hardware".
3. Division 09 Sections "High Performance Coatings"

C. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI/SDI A250.8 - Recommended Specifications for Standard Steel Doors and Frames.
2. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames, Frames Anchors and Hardware Reinforcing.
3. ANSI/SDI A250.6 - Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames.
4. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.
5. ANSI/SDI A250.11 - Recommended Erection Instructions for Steel Frames.
6. ASTM A1008 - Standard Specification for Steel Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
7. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
8. ASTM A924 - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.
9. ASTM C 1363 - Standard Test Method for Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus.
10. ANSI/BHMA A156.115 - Hardware Preparation in Steel Doors and Frames.

11. ANSI/SDI 122 - Installation and Troubleshooting Guide for Standard Steel Doors and Frames.
12. ANSI/NFPA 80 - Standard for Fire Doors and Fire Windows; National Fire Protection Association.
13. ANSI/NFPA 105: Standard for the Installation of Smoke Door Assemblies.
14. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; National Fire Protection Association.
15. UL 10C - Positive Pressure Fire Tests of Door Assemblies.
16. UL 1784 - Standard for Air Leakage Tests of Door Assemblies.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, hardware reinforcements, profiles, anchors, fire-resistance rating, and finishes.

B. Door hardware supplier is to furnish templates, template reference number and/or physical hardware to the steel door and frame supplier in order to prepare the doors and frames to receive the finish hardware items.

C. Shop Drawings: Include the following:

1. Elevations of each door design.
2. Details of doors, including vertical and horizontal edge details and metal thicknesses.
3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
4. Locations of reinforcement and preparations for hardware.
5. Details of anchorages, joints, field splices, and connections.
6. Details of accessories.
7. Details of moldings, removable stops, and glazing.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain hollow metal doors and frames through one source from a single manufacturer wherever possible.

B. Quality Standard: In addition to requirements specified, furnish SDI-Certified manufacturer products that comply with ANSI/SDI A250.8, latest edition, "Recommended Specifications for Standard Steel Doors and Frames".

C. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to UL10C (neutral pressure at 40” above sill) or UL 10C.

1. Temperature-Rise Limit: Where indicated and at vertical exit enclosures (stairwell openings) and exit passageways, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F above ambient after 30 minutes of standard fire-test exposure.
2. Smoke Control Door Assemblies: Comply with NFPA 105.

    a. Smoke "S" Label: Doors to bear “S” label, and include smoke and draft control gasketing applied to frame and on meeting stiles of pair doors.

D. Fire-Rated, Borrowed-Light Frame Assemblies: Assemblies complying with NFPA 80 that are listed and labeled, by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 257. Provide labeled glazing material.

E. Pre-Submittal Conference: Conduct conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier, Installer, and Contractor to review proper methods and procedures for installing hollow metal doors and frames and to verify installation of electrical knockout boxes and conduit at frames with electrified or access control hardware.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and Project site storage. Do not use non-vented plastic.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow metal work under cover at Project site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4-inch high wood blocking. Do not store in a manner that traps excess humidity.

1. Provide minimum 1/4-inchspace between each stacked door to permit air circulation. Door and frames to be stacked in a vertical upright position.

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

1.7 COORDINATION

A. Coordinate installation of anchorages for hollow metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.8 WARRANTY

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

B. Warranty includes installation and finishing that may be required due to repair or replacement of defective doors.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide steel doors and frames from a SDI Certified manufacturer:

1. CECO Door Products (C).
2. Curries Company (CU).
3. Pioneer Industries (PI).

2.2 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 A60 metallic coating.

C. Frame Anchors: ASTM A 653/A 653M, Commercial Steel (CS), Commercial Steel (CS), Type B; with minimum G60 A60 metallic coating.

2.3 HOLLOW METAL DOORS

A. General: Provide 1-3/4 inch 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 and ANSI/NAAMM HMMA 867.

B. Interior Doors: Face sheets fabricated of commercial quality cold rolled steel that complies with ASTM A 1008/A 1008M. 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. Design: Flush panel.

a. Fire Door Core: As required to provide fire-protection and temperature-rise ratings indicated.

2. Level/Model: Level 2 and Physical Performance Level B (Heavy Duty), Minimum 18 gauge (0.042-inch - 1.0-mm) thick steel, Model 2.
3. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet.
4. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9" or minimum 14 gauge continuous channel with pierced holes, drilled and tapped.
5. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.

C. Manufacturers Basis of Design:

1. Curries Company (CU)

2.4 HOLLOW METAL FRAMES

A. General: Comply with ANSI/SDI A250.8 and with details indicated for type and profile.

B. Interior Frames: Fabricated from cold-rolled steel sheet that complies with ASTM A 1008/A 1008M.

1. Fabricate frames with mitered or coped corners. Profile as indicated on drawings.
2. Manufacturers Basis of Design:

a. Curries Company (CU) - M Series.

C. Fire rated frames: Fabricate frames in accordance with NFPA 80, listed and labeled by a qualified testing agency, for fire-protection ratings indicated.

D. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 Table 4 with reinforcement plates from same material as frames.

2.5 FRAME ANCHORS

A. Jamb Anchors:

1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, formed from metallic coated material, not less than 0.042 inchthick, with corrugated or perforated straps not less than 2 incheswide by 10 incheslong; or wire anchors not less than 0.177 inchthick.
2. Stud Wall Type: Designed to engage stud and not less than 0.042 inchthick.
3. Compression Type for Drywall Slip-on (Knock-Down) Frames: Adjustable compression anchors.

B. Floor Anchors: Floor anchors to be provided at each jamb, formed from metallic coated material, not less than 0.042 inchesthick.

C. Mortar Guards: Formed from same material as frames, not less than 0.016 inches thick.

2.6 LIGHT OPENINGS AND GLAZING

A. Stops and Moldings: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints at fabricator's shop. Fixed and removable stops to allow multiple glazed lites each to be removed independently. Coordinate frame rabbet widths between fixed and removable stops with the type of glazing and installation indicated.

B. Moldings for Glazed Lites in Doors and Loose Stops for Glazed Lites in Frames: Minimum 20 gauge thick, fabricated from same material as door face sheet in which they are installed.

C. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch high unless otherwise indicated. Provide fixed frame moldings and stops on outside of exterior and on secure side of interior doors and frames.

D. Preformed Metal Frames for Light Openings: Manufacturer's standard frame formed of 0.048-inch-thick, cold rolled steel sheet; with baked enamel or powder coated finish; and approved for use in doors of fire protection rating indicated. Match pre-finished door paint color where applicable.

2.7 ACCESSORIES

A. Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.

B. Grout Guards: Formed from same material as frames, not less than 0.016 inches thick.

2.8 FABRICATION

A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. When shipping limitations so dictate, frames for large openings are to be fabricated in sections for splicing or splining in the field by others.

B. Tolerances: Fabricate hollow metal work to tolerances indicated in ANSI/SDI A250.8.

C. Hollow Metal Doors:
1. Glazed Lites: Factory cut openings in doors with applied trim or kits to fit. Factory install glazing where indicated.
2. Astragals: Provide overlapping astragals as noted in door hardware sets in Division 08 Section "Door Hardware" on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch beyond edge of door on which astragal is mounted.
3. Continuous Hinge Reinforcement: Provide welded continuous 12 gauge strap for continuous hinges specified in hardware sets in Division 08 Section "Door Hardware".

D. Hollow Metal Frames:

1. Shipping Limitations: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
2. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.

    a. Welded frames are to be provided with two steel spreaders temporarily attached to the bottom of both jambs to serve as a brace during shipping and handling. Spreader bars are for bracing only and are not to be used to size the frame opening.

3. Sidelight and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
4. High Frequency Hinge Reinforcement: Provide high frequency hinge reinforcements at door openings 48-inches and wider with mortise butt type hinges at top hinge locations.
5. Continuous Hinge Reinforcement: Provide welded continuous 12 gauge straps for continuous hinges specified in hardware sets in Division 08 Section "Door Hardware".
6. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated for removable stops, provide security screws at exterior locations.
7. Mortar Guards: Provide guard boxes at back of hardware mortises in frames at all hinges and strike preps regardless of grouting requirements.
8. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
9. Jamb Anchors: Provide number and spacing of anchors as follows:

    a. Masonry Type: Locate anchors not more than 18 inchesfrom top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:

        1) Two anchors per jamb up to 60 incheshigh.
        2) Three anchors per jamb from 60 to 90 incheshigh.
        3) Four anchors per jamb from 90 to 120 incheshigh.
        4) Four anchors per jamb plus 1 additional anchor per jamb for each 24 inchesor fraction thereof above 120 inches high.

10. Door Silencers: Except on weatherstripped or gasketed doors, drill stops to receive door silencers. Silencers to be supplied by frame manufacturer regardless if specified in Division 08 Section "Door Hardware".
11. Bituminous Coating: Where frames are fully grouted with an approved Portland Cement based grout or mortar, coat inside of frame throat with a water based bituminous or asphaltic emulsion coating to a minimum thickness of 3 mils DFT, tested in accordance with UL 10C and applied to the frame under a 3rd party independent follow-up service procedure.

E. Hardware Preparation: Factory prepare hollow metal work to receive template mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."

1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
2. Reinforce doors and frames to receive non-template, mortised and surface mounted door hardware.
3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 26 Sections.

2.9 STEEL FINISHES

A. Prime Finishes: Doors and frames to be cleaned, and chemically treated to insure maximum finish paint adhesion. Surfaces of the door and frame exposed to view to receive a factory applied coat of rust inhibiting shop primer.

1. Shop Primer: Manufacturer's standard, fast-curing, lead and chromate free primer complying with ANSI/SDI A250.10 acceptance criteria; recommended by primer manufacturer for substrate; and compatible with substrate and field-applied coatings.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. General Contractor to verify the accuracy of dimensions given to the steel door and frame manufacturer for existing openings or existing frames (strike height, hinge spacing, hinge back set, etc.).

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove welded in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

B. Prior to installation, adjust and securely brace welded hollow metal frames for square, level, twist, and plumb condition.

C. Tolerances shall comply with SDI-117 "Manufacturing Tolerances Standard Steel Doors and Frames."

D. Drill and tap doors and frames to receive non-template, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.

B. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11 and NFPA 80 at fire rated openings.

1. Set frames accurately in position, plumbed, leveled, aligned, and braced securely until permanent anchors are set. After wall construction is complete and frames properly set and secured, remove temporary braces, leaving surfaces smooth and undamaged. Shim as necessary to comply with installation tolerances.
2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with post-installed expansion anchors.
3. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with mortar.
4. Grout Requirements: Do not grout head of frames unless reinforcing has been installed in head of frame. Do not grout vertical or horizontal closed mullion members.

C. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.

1. Non-Fire-Rated Standard Steel Doors:

   a. Jambs and Head: 1/8 inch plus or minus 1/16 inch.
   b. Between Edges of Pairs of Doors: 1/8 inchplus or minus 1/16 inch.
   c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.
   d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch.

2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.

D. Field Glazing: Comply with installation requirements in Division 08 Section "Glazing" and with hollow metal manufacturer's written instructions.

3.4 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.

B. Remove grout and other bonding material from hollow metal work immediately after installation.

C. Prime-Coat and Painted Finish Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat, or painted finishes, and apply touchup of compatible air drying, rust-inhibitive primer, zinc rich primer (exterior and galvanized openings) or finish paint.

END OF SECTION 081113

SECTION 083613 - SECTIONAL DOORS

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 electrically operated sectional doors.

B. Related Sections:

1. Division 05 Section "Metal Fabrications" for miscellaneous steel supports.

1.3 PERFORMANCE REQUIREMENTS

A. General Performance: Sectional doors shall meet performance requirements specified without failure due to defective manufacture, fabrication, installation, or other defects in construction and without requiring temporary installation of reinforcing components.

B. Single-Source Responsibility: Provide doors, tracks, motors, and accessories from one manufacturer for each type of door. Provide secondary components from source acceptable to manufacturer of primary components.

C. Delegated Design: Design sectional doors, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

D. Structural Performance: Exterior sectional doors shall withstand the effects of gravity loads, and the following loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.

1. Wind Loads: As indicated on Drawings.

2. Deflection Limits: Design sectional doors to withstand design wind loads without evidencing permanent deformation or disengagement of door components. Deflection of door in horizontal position (open) shall not exceed 1/120 of the door width.

E. Air Infiltration: Maximum rate not more than indicated when tested according to ASTM E 283.

1. Air Infiltration: Maximum rate of 0.08 cfm/sq. ft. at 15 and 25 mph.

F. Operation Cycles: Provide sectional door components and operators capable of operating for not less than number of cycles indicated for each door. One operation cycle is complete when a door is opened from the closed position to the fully open position and returned to the closed position.

1.4 SUBMITTALS

A. Product Data: For each type and size of sectional door and accessory. Include the following:

1. Construction details, material descriptions, dimensions of individual components, profile door sections, and finishes.
2. Rated capacities, operating characteristics, electrical characteristics, and furnished accessories.

B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data. Include plans, elevations, sections, details, and attachments to other work.

1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
2. Wiring Diagrams: For power, signal, and control wiring.

C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:

1. Flat Door Sections: 6 inches square.

D. Qualification Data: For qualified Installer.

E. Maintenance Data: For sectional doors to include in maintenance manuals.

F. Warranties: Sample of special warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for both installation and maintenance of units required for this Project.

B. Source Limitations: Obtain sectional doors from single source from single manufacturer.

1. Obtain operators and controls from sectional door manufacturer.

C. 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.

D. Standard for Sectional Doors: Fabricate sectional doors to comply with DASMA 102 unless otherwise indicated.

E. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities" and the State of Illinois Accessibility Code, the latest edition.

1.6 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of sectional doors 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. Faulty operation of hardware.
c. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use; rust through.
d. Delamination of exterior or interior facing materials.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 STEEL DOOR SECTIONS

A. Exterior Section Faces and Frames: Fabricate from zinc-coated (galvanized), cold-rolled, commercial steel (CS) sheet, complying with ASTM A 653/A 653M, with indicated zinc coating and thickness.

1. Fabricate section faces from single sheets to provide sections not more than 24 inches high and of indicated thickness. Roll horizontal meeting edges to a continuous, interlocking, keyed, rabbeted, shiplap, or tongue-in-groove weathertight seal, with a reinforcing flange return.
2. For insulated doors, provide sections with continuous thermal-break construction, separating the exterior and interior faces of door.

B. Section Ends and Intermediate Stiles: Enclose open ends of sections with channel end stiles formed from galvanized-steel sheet not less than 0.064-inch- nominal coated thickness and welded to door section. Provide intermediate stiles formed from not less than 0.064-inch- thick galvanized-steel sheet, cut to door section profile, and welded in place. Space stiles not more than 48 inches apart.

C. Reinforce bottom section with a continuous channel or angle conforming to bottom-section profile and allowing installation of astragal.

D. Reinforce sections with continuous horizontal and diagonal reinforcement, as required to stiffen door and for wind loading. Provide galvanized-steel bars, struts, trusses, or strip steel, formed to depth and bolted or welded in place. Ensure that reinforcement does not obstruct vision lites.

E. Provide reinforcement for hardware attachment.

F. Board Thermal Insulation: Insulate interior of steel sections with door manufacturer's standard CFC-free polystyrene or polyurethane board insulation, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, according to ASTM E 84; or with glass-fiber-board insulation. Secure insulation to exterior face sheet. Enclose insulation completely within steel sections that incorporate the following interior facing material, with no exposed insulation:

1. Interior Facing Material: Zinc-coated (galvanized), cold-rolled, commercial steel (CS) sheet, complying with ASTM A 653/A 653M, with indicated thickness.

G. Fabricate sections so finished door assembly is rigid and aligned, with tight hairline joints and free of warp, twist, and deformation.

2.2 ALUMINUM DOOR SECTIONS

A. Full-Vision Sections: Manufacturer's standard, tubular, aluminum-framed section fully glazed with 6-mm-thick, clear acrylic glazing set in vinyl, rubber, or neoprene glazing channel and with removable extruded-vinyl or aluminum stops.

2.3 TRACKS, SUPPORTS, AND ACCESSORIES

A. Tracks: Manufacturer's standard, galvanized-steel track system of configuration indicated, sized for door size and weight, designed for lift type indicated and clearances shown on Drawings, and complying with ASTM A 653/A 653M for minimum G60 zinc coating. Provide complete track assembly including brackets, bracing, and reinforcement for rigid support of ball-bearing roller guides for required door type and size. Slot vertical sections of track spaced 2 inches apart for door-drop safety device. Slope tracks at proper angle from vertical or design tracks to ensure tight closure at jambs when door unit is closed.

B. Track Reinforcement and Supports: Galvanized-steel track reinforcement and support members, complying with ASTM A 36/A 36M and ASTM A 123/A 123M. Secure, reinforce, and support tracks as required for door size and weight to provide strength and rigidity without sag, sway, and vibration during opening and closing of doors.

1. Vertical Track Assembly: Track with continuous reinforcing angle attached to track and attached to wall with jamb brackets.
2. Horizontal Track Assembly: Track with continuous reinforcing angle attached to track and supported at points from curve in track to end of track by laterally braced attachments to overhead structural members.

C. Weatherseals: Replaceable, adjustable, continuous, compressible weather-stripping gaskets of flexible vinyl, rubber, or neoprene fitted to bottom and top of sectional door unless otherwise indicated.

D. Windows: Provide Full-Vision Sections, as indicated in drawings, composed of aluminum frame, compatible with the insulated steel door specified.

2.4 HARDWARE

A. General: Provide heavy-duty, corrosion-resistant hardware, with hot-dip galvanized, stainless-steel, or other corrosion-resistant fasteners, to suit door type.

B. Hinges: Heavy-duty, galvanized-steel hinges of not less than 0.079-inch- nominal coated thickness at each end stile and at each intermediate stile, according to manufacturer's written recommendations for door size. Attach hinges to door sections through stiles and rails with bolts and lock nuts or lock washers and nuts. Use rivets or self-tapping fasteners where access to nuts is not possible. Provide double-end hinges where required, for doors over 16 feet wide unless otherwise recommended by door manufacturer.

C. Rollers: Heavy-duty rollers with steel ball-bearings in case-hardened steel races, mounted with varying projections to suit slope of track. Extend roller shaft through both hinges where double hinges are required. Provide 3-inch- diameter roller tires for 3-inch- wide track.

D. Push/Pull Handles: For push-up or emergency-operated doors, provide galvanized-steel lifting handles on each side of door.

2.5 COUNTERBALANCE MECHANISM

A. Torsion Spring: Counterbalance mechanism consisting of adjustable-tension torsion springs fabricated from steel-spring wire complying with ASTM A 229/A 229M, mounted on torsion shaft made of steel tube or solid steel. Provide springs designed for number of operation cycles indicated.

1. Provide extra-heavy duty spring spacers within torsion spring to resist damage and settling of torsion spring resulting from operation.

B. Cable Drums and Shaft for Doors: Cast-aluminum or gray-iron casting cable drums mounted on torsion shaft and grooved to receive door-lifting cables as door is raised. Mount counterbalance mechanism with manufacturer's standard ball-bearing brackets at each end of torsion shaft. Provide one additional midpoint bracket for shafts up to 16 feet long and two additional brackets at one-third points to support shafts more than 16 feet long unless closer spacing is recommended by door manufacturer.

C. Cables: Galvanized-steel lifting cables with cable safety factor of at least 7 to 1.

D. Cable Safety Device: Include a spring-loaded steel or spring-loaded bronze cam mounted to bottom door roller assembly on each side and designed to automatically stop door if either lifting cable breaks.

E. Bracket: Provide anchor support bracket as required to connect stationary end of spring to the wall and to level the shaft and prevent sag.

F. Provide a spring bumper at each horizontal track to cushion door at end of opening operation.

2.6 ELECTRIC DOOR OPERATORS

A. General: Electric door operator assembly of size and capacity recommended and provided by door manufacturer for door and "operation cycles" requirement specified, with electric motor and factory-prewired motor controls, starter, gear-reduction unit, solenoid-operated brake, clutch, remote-control stations, control devices, integral gearing for locking door, and accessories required for proper operation.

1. Comply with NFPA 70.
2. Provide control equipment complying with NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6; with NFPA 70, Class 2 control circuit, maximum 24-V ac or dc.

B. Usage Classification: Electric operator and components capable of operating for not less than number of cycles per hour indicated for each door.

C. Door-Operator Type: Unit consisting of electric motor, gears, pulleys, belts, sprockets, chains, and controls needed to operate door and meet required usage classification.

1. Jackshaft, Side Mounted: Jackshaft operator mounted on the inside front wall on right or left side of door and connected to torsion shaft with an adjustable coupling or drive chain.
2. Provide necessary pushers and other items to maintain proper operation via jackshaft motor.

D. Electric Motors: Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements specified in Division 11 Section "Common Motor Requirements for Equipment" unless otherwise indicated.

1. Electrical Characteristics:

a. Phase: Polyphase.
b. Volts: 208.
c. Hertz: 60.

2. Motor Type and Controller: Reversible motor and controller (disconnect switch) for motor exposure indicated.

3. Motor Size: Minimum size as indicated. If not indicated, large enough to start, accelerate, and operate door in either direction from any position, at a speed not less than 10 in./sec.and not more than 12 in./sec.without exceeding nameplate ratings or service factor.
4. Operating Controls, Controllers (Disconnect Switches), Wiring Devices, and Wiring: Manufacturer's standard unless otherwise indicated.
5. Coordinate wiring requirements and electrical characteristics of motors and other electrical devices with building electrical system and each location where installed.
6. Use adjustable motor-mounting bases for belt-driven operators.

E. Limit Switches: Equip each motorized door with adjustable switches interlocked with motor controls and set to automatically stop door at fully opened and fully closed positions.

F. Obstruction Detection Device: Equip motorized door with indicated external automatic safety sensor capable of protecting full width of door opening. Activation of device immediately stops and reverses downward door travel.

1. Photoelectric Sensor: Manufacturer's standard system designed to detect an obstruction in door opening without contact between door and obstruction.

a. Self-Monitoring Type: Designed to interface with door operator control circuit to detect damage to or disconnection of sensor device. When self-monitoring feature is activated, door closes only with sustained pressure on close button.
b. Provide industry standard eyes (to meet NFPA) & light curtain for each door.
c. Liftmaster LC36M monitored light curtain

G. Remote-Control Station: Momentary-contact, three-button control station with push-button controls labeled "Open," "Close," and "Stop."

1. Interior units, full-guarded, recessed, heavy-duty type, with general-purpose NEMA I #LCE-3, Type 1 enclosure.

H. Emergency Manual Operation: Equip each electrically powered door with capability for emergency manual operation. Design manual mechanism so required force for door operation does not exceed 25 lbf.

I. Emergency Operation Disconnect Device: Equip operator with hand-operated disconnect mechanism for automatically engaging manual operator and releasing brake for emergency manual operation while disconnecting motor without affecting timing of limit switch. Mount mechanism so it is accessible from floor level. Include interlock device to automatically prevent motor from operating when emergency operator is engaged.

J. Motor Removal: Design operator so motor may be removed without disturbing limit-switch adjustment and without affecting emergency manual operation.

K. Radio-Control System: Consisting of the following:

1. Three-channel universal coaxial receiver to open, close, and stop door; three per operator.
2. Multifunction remote control.
3. Remote antenna and mounting kit.

2.7 DOOR ASSEMBLY

A. Steel Sectional Door: Insulated Steel Sectional Door formed with rabbeted meeting rails to provide full-width interlocking structural rigidity.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Overhead Door Corp. “Model 422” or comparable product by one of the following:

a. Clopay Building Products; a Griffon company.
b. Raynor.
c. Wayne-Dalton Corp.

B. Panels: Steel construction with exterior sheet, interior sheet, and core reinforcement.

C. Operation Cycles: Not less than 100,000.

D. Installed R-Value: 7.35 deg F x h x sq. ft./Btu.

E. Steel Sections: Zinc-coated (galvanized) steel sheet with G60 zinc coating.

1. Section Thickness: 2 inches.
2. Exterior-Face, Steel Sheet Thickness: 20 gauge, 0.0236 inch

a. Surface: Manufacturer's standard, ribbed, to match existing.

3. Insulation: Foamed in Place.
4. Interior Facing Material: Zinc-coated (galvanized) steel sheet of manufacturer's recommended thickness to meet performance requirements nominal coated thickness.

F. Track Configuration: To match existing 3” track with double end stiles as indicated on the drawings.

G. Weatherseals: Fitted to bottom and top and around entire perimeter of door. Provide combination bottom weatherseal and sensor edge.

H. Windows: Approximately 24 by 7 inches as indicated on the drawings to match existing, with curved corners, and spaced apart the approximate distance as indicated on Drawings to match existing installed with insulated double strength billet (DSB) vision glazing of the following type:

1. Insulating Glass: 1/8” inch tempered double strength billet glass.

I. Roller-Tire Material: Case-hardened steel.

J. Counterbalance Type: Torsion spring.

K. Electric Door Operator:

1. Usage Classification: Standard duty, up to 60 cycles per hour.
2. Operator Type: Jackshaft, side mounted.
3. Motor Exposure: Interior, clean, and dry.
4. Emergency Manual Operation: Push-up type.
5. Obstruction-Detection Device: Automatic photoelectric sensor.

6. Remote-Control Station: Interior.
7. Cycle Counter: On operator.
8. Door Timer: On each door.

L. Door Operation Warning Lights: Provide a red/green LED safety light for each overhead door. Warning lights by Action Industries 102-0021 LED Illuminated Garage Door Safety Kit – both sides of opening at full height of opening – DSK15-2 Double Sided or approved equal. Provide appropriate wiring and limit switches for the operation of safety lights as follows:

1. Door closed (on down limit switch) No Signal.
2. Door moving (not on either switch) Light Red.
3. Door open (on upper limit switch)Light Green.

M. Door Finish:

1. Factory Prime Finish: Manufacturer's full range of standard colors for job site finish.

   a. Color to match existing from manufacturer’s full range of standard colors.

2. Finish of Interior Facing Material: Manufacturer's full range of standard colors for job site finish. - White.

2.8 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

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.

2.9 ALUMINUM FINISHES

A. Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker.

1. To match finish on adjacent panels

2.10 STEEL AND GALVANIZED-STEEL FINISHES

A. Factory Prime Finish: Manufacturer's standard primer, compatible with field-applied finish. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry film thickness.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrate construction and other conditions affecting performance of the Work.

B. Examine locations of electrical connections.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install sectional doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.

B. Tracks:

1. Fasten vertical track assembly to opening jambs and framing, spaced not more than 24 inches apart.
2. Hang horizontal track assembly from structural overhead framing with angles or channel hangers attached to framing by welding or bolting, or both. Provide sway bracing, diagonal bracing, and reinforcement as required for rigid installation of track and door-operating equipment.
3. Repair galvanized coating on tracks according to ASTM A 780.

C. Accessibility: Install sectional doors, switches, and controls along accessible routes in compliance with regulatory requirements for accessibility.

3.3 STARTUP SERVICES

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.
2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.4 ADJUSTING

A. Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion.

B. Lubricate bearings and sliding parts as recommended by manufacturer.

C. Adjust doors and seals to provide weathertight fit around entire perimeter.

D. Align and adjust motors, pulleys, belts, sprockets, chains, and controls according to manufacturer's written instructions.

E. Touch-up Painting: Immediately after welding galvanized materials, clean welds and abraded galvanized surfaces and repair galvanizing to comply with ASTM A 780.

3.5 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain sectional doors.

END OF SECTION

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

1. Mechanical door hardware

B. Section excludes:

1. Overhead doors

C. Related Sections:

1. Division 01 "General Requirements" sections for Allowances, Alternates, Owner Furnished Contractor Installed, Project Management and Coordination.
2. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
3. Division 08 "Metal Doors and Frames"

1.02 REFERENCES

A. UL LLC

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies

B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Keying Systems and Nomenclature
4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association

1. NFPA 70 – National Electric Code
2. NFPA 80 – 2016 Edition – Standard for Fire Doors and Other Opening Protectives
3. NFPA 101 – Life Safety Code
4. NFPA 105 – Smoke and Draft Control Door Assemblies
5. NFPA 252 – Fire Tests of Door Assemblies

D. ANSI - American National Standards Institute

1. ANSI A117.1 – 2017 Edition – Accessible and Usable Buildings and Facilities

2. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties
3. ANSI/BHMA A156.28 - Recommended Practices for Keying Systems
4. ANSI/WDMA I.S. 1A - Interior Architectural Wood Flush Doors
5. ANSI/SDI A250.8 - Standard Steel Doors and Frames

E. Local applicable codes

1.03 SUBMITTALS

A. Action Submittals:

1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Door Hardware Schedule:
   a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.

B. Informational Submittals:

1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
2. Provide Product Data:
   a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
   b. Include warranties for specified door hardware.

C. Inspection and Testing:

1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:
   a. Fire door assemblies, in compliance with NFPA 80.
   b. Required egress door assemblies, in compliance with NFPA 101.

1.04 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

1. Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project's vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.

2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
3. Architectural Hardware Consultant: Person 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 meets these requirements:
   a. For door hardware: DHI certified AHC or DHC.
   b. Can provide installation and technical data to Architect and other related subcontractors.
   c. Can inspect and verify components are in working order upon completion of installation.
   d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.

4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

1. Fire-Rated Door Openings:
   a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.
   b. Provide only items of door hardware that are listed products tested by UL LLC, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

2. Smoke and Draft Control Door Assemblies:
   a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
   b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

3. Accessibility Requirements:
   a. Comply with governing accessibility regulations cited in "REFERENCES" article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping.

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.

C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.

D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.06 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

1.07 WARRANTY

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

1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.
    a. Mechanical Warranty
        1) Locks
            a) 10 years
        2) Closers
            a) 30 years

1.08 MAINTENANCE

A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

B. Turn over unused materials to Owner for maintenance purposes.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. The Owner requires use of certain products for their unique characteristics and project suitability to ensure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: "No Substitute."

1. Where "No Substitute" is noted, submittals and substitution requests for other products will not be considered.

B. Approval of products from manufacturers other than those listed as “Scheduled Manufacturer”, or “Acceptable Manufacturers” shall require an Architect approved substitution request.

1. Where “Alternates by substitution request only” is noted, requests for other products shall not be considered without an Architect approved substitution request.

C. C. Approval of manufacturers and/or products other than those listed as “Scheduled Manufacturer” or “Acceptable Manufacturers” in the individual article for the product category shall be in accordance with QUALITY ASSURANCE article, herein.

D. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.

E. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.02 MATERIALS

A. Fabrication

1. Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer’s recognized installation standards for application intended.
2. Finish exposed screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners wherever possible for hardware units exposed when door is closed. Coordinate with “Metal Doors and Frames”, “Flush Wood Doors”, “Stile and Rail Wood Doors” to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.

B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.

1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

2.03 HINGES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. As indicated on drawings.

2. Acceptable Manufacturers and Products:
   a. Alternates by substitution request only.

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. Provide five knuckle, ball bearing hinges.
3. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
   a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
   b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high

4. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
   a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

5. 2 inches or thicker doors:
   a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

6. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
7. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
8. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
   a. Steel Hinges: Steel pins
   b. Non-Ferrous Hinges: Stainless steel pins
   c. Out-Swinging Exterior Doors: Non-removable pins
   d. Out-Swinging Interior Lockable Doors: Non-removable pins
   e. Interior Non-lockable Doors: Non-rising pins

9. Provide hinges with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component. Provide mortar guard for each electrified hinge specified.

2.04 MORTISE LOCKS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. As indicated on drawings.

2. Acceptable Manufacturers and Products:
   a. Alternates by substitution request only.

B. Requirements:

1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1, and UL Listed for 3-hour fire doors.
2. Indicators: Where specified, provide indicator window measuring a minimum 2-3/5-inch x 3/5 inch with 180-degree visibility. Provide messages color-coded using ANSI Z535 Safety Red with full text and/or symbols, as scheduled, for easy visibility. When applicable allows for lock status indication on both sides of the door.
3. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
4. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to "KEYING" article, herein.
5. 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.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
7. 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. Lever Design: Longitude.

2.05 CYLINDERS

A. Manufacturers:

1. Scheduled Manufacturer and Product:
   a. Contractor to verify and match existing keying system

2. Acceptable Manufacturers and Products:
   a. No Substitute

B. Requirements:

1. Provide cylinders/cores to match Owner’s existing key system, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer’s series as indicated. Refer to “KEYING” article, herein.

2.06 KEYING

A. Scheduled System:

1. Existing factory registered system:

a. Provide cylinders/cores keyed into Owner's existing factory registered keying system. Comply with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

B. Requirements:

1. Permanent Keying:
   a. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.
      1) Master Keying system as directed by the Owner.
   b. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
   c. Provide keys with the following features:
      1) Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
      2) Patent Protection: Keys and blanks protected by one or more utility patent(s).
   d. Identification:
      1) Mark permanent cylinders/cores and keys with applicable blind code for identification. Do not provide blind code marks with actual key cuts.
      2) Identification stamping provisions must be approved by the Architect and Owner.
      3) Stamp cylinders/cores and keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE" along with the "PATENTED" or patent number to enforce the patent protection.
      4) Failure to comply with stamping requirements will be cause for replacement of keys involved at no additional cost to Owner.
      5) Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.
   e. Quantity: Furnish in the following quantities.
      1) Master Keys: 6.
      2) Change (Day) Keys: 3 per cylinder/core that is keyed differently
      3) Key Blanks: Quantity as determined in the keying meeting.

2.07 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. As indicated on drawings.

2. Acceptable Manufacturers and Products:
   a. Alternates by substitution request only.

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.

2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
3. Cylinder Body: 1-1/2-inch (38 mm) diameter piston with 5/8-inch (16 mm) diameter double heat-treated pinion journal. QR code with a direct link to maintenance instructions.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards. Provide snap-on cover clip, with plastic covers, that secures cover to spring tube.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck. Provide graphically labelled instructions on the closer body adjacent to each adjustment valve. Provide positive stop on reg valve that prevents reg screw from being backed out.
7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
8. Pressure Relief Valve (PRV) Technology: Not permitted.
9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.
11. Closers shall be capable of being upgraded by adding modular mechanical or electronic components in the field.

2.08 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer:
   a. As indicated on drawings.

2. Acceptable Manufacturers:
   a. Alternates by substitution request only.

B. Requirements:

1. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

2.09 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. As indicated on drawings.

2. Acceptable Manufacturers:
   a. Alternates by substitution request only.

B. Requirements:

1. Provide protection plates with a minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
3. At fire rated doors, provide protection plates over 16 inches high with UL label.

2.10 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers:
   a.

2. Acceptable Manufacturers:
   a. Alternates by substitution request only.

B. Requirements:

1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.

2.11 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Zero International

2. Acceptable Manufacturers:
   a. Alternates by substitution request only.

B. Requirements:

1. Provide thresholds, weather-stripping, and gasketing systems as specified and per architectural details. Match finish of other items.
2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.

4. Size thresholds 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width unless otherwise specified in the hardware sets or detailed in the drawings.

2.12 FINISHES

A. FINISH: BHMA 626/652 (US26D); EXCEPT:

1. Hinges at Exterior Doors: BHMA 630 (US32D)
2. Aluminum Geared Continuous Hinges: BHMA 628 (US28)
3. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
4. Protection Plates: BHMA 630 (US32D)
5. Overhead Stops and Holders: BHMA 630 (US32D)
6. Door Closers: Powder Coat to Match
7. Wall Stops: BHMA 630 (US32D)
8. Latch Protectors: BHMA 630 (US32D)
9. Weatherstripping: Clear Anodized Aluminum
10. Thresholds: Mill Finish Aluminum

PART 3 - EXECUTION

3.01 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.

B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

C. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.
3. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
4. Installation Guide for Doors and Hardware: DHI TDH-007-20

B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.

C. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.

I. Lock Cylinders:

1. Install construction cores to secure building and areas during construction period.
2. Replace construction cores with permanent cores as indicated in keying section.
3. Furnish permanent cores to Owner for installation.

J. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

K. Continuous Hinges: Re-locate the door and frame fire rating labels where they will remain visible so that the hinge does not cover the label once installed.

L. Door Closers & Auto Operators: Mount closers/operators on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers/operators so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

M. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

N. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

O. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

P. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

3.03 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. Spring Hinges: Adjust to achieve positive latching when door can close freely from an open position of 30 degrees.
2. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
3. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.04 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items per manufacturer's instructions to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.05 DOOR HARDWARE SCHEDULE

A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

B. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.

C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.

D. Hardware Sets: As indicated on drawings.

END OF SECTION

SECTION 099600 - HIGH-PERFORMANCE COATINGS

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 surface preparation and application of high-performance coating systems

1. Interior and Exterior Substrates:

a. Concrete masonry units (CMU).
b. Steel.
c. Galvanized Steel.

1.3 DEFINITIONS

A. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

B. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.

C. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include preparation requirements and application instructions.

B. Samples for Verification: For each type of coating system and in each color and gloss of topcoat indicated.

1. Submit Samples on rigid backing, 8 inches square.
2. Step coats on Samples to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.

C. Product List: For each product indicated, include the following:

1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.

2. Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.

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. Coatings: 5 percent, but not less than 1 gal. of each material and color applied.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

A. Apply coatings only when temperature of surfaces to be coated and surrounding air temperatures are between 50 and 95 deg F.

B. Do not apply coatings when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

C. Do not apply exterior coatings in snow, rain, fog, or mist.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

1. Benjamin Moore & Co.
2. Tnemec Company, Inc.
3. Duron, Inc.
4. ICI Paints.
5. Kelly-Moore Paints.
6. M.A.B. Paints.
7. PPG Architectural Finishes, Inc.
8. Sherwin-Williams Company (The).

2.2 HIGH-PERFORMANCE COATINGS, GENERAL

A. MPI Standards: Provide products that comply with MPI standards indicated and are listed in "MPI Approved Products List."

B. Material Compatibility:

1. Provide materials for use within each coating 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 coating system, provide products recommended in writing by manufacturers of topcoat for use in coating system and on substrate indicated.
3. Provide products of same manufacturer for each coat in a coating system.

C. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction.

1. Flat Paints and Coatings: 50 g/L.
2. Nonflat Paints and Coatings: 150 g/L.
3. Primers, Sealers, and Undercoaters: 200 g/L.
4. Anti-Corrosive and Anti-Rust Paints Applied to Ferrous Metals: 250 g/L.
5. Zinc-Rich Industrial Maintenance Primers: 340 g/L.
6. Pre-Treatment Wash Primers: 420 g/L.
7. Floor Coatings: 100 g/L.
8. Shellacs, Clear: 730 g/L.
9. Shellacs, Pigmented: 550 g/L.

D. Colors: As indicated in color schedule.

2.3 BLOCK FILLERS

A. Block Filler, Latex, Interior/Exterior: MPI #4.

1. SW ProIndustrial Heavy Duty Block Filler, B42W150

B. Block Filler, Epoxy: MPI #116

1. SW Kem Cati-Coat HS Epoxy Filler/Sealer, B42W400/B42V401

2.4 INTERIOR PRIMERS/SEALERS

A. Primer Sealer, Latex, Interior: MPI #50.

1. SW ProIndustrial Interior Latex Primer, B28 Series.

2.5 METAL PRIMERS

A. Primer, Rust-Inhibitive, Water Based: MPI #107.

1. SW ProIndustrial ProCryl Universal Primer, B66-1300 Series.

B. Primer, Rust-Inhibitive, Solvent

1. SW Kembond HS Universal Primer, B50 Series.

C. Primer, Rust-Inhibitive Universal Shop Primer

1. SW Steel Spec 3002 Universal Primer

D. Primer, Polyamide Epoxy: MPI# 108

1. SW Macropoxy / Macropoxy 646-100

E. Primer, Organic Zinc, Polyamide Epoxy

1. SW Zinc Clad 4100

2.6 WATER-BASED, LIGHT-INDUSTRIAL COATINGS

A. Products: Subject to compliance with requirements, provide one of the following:

1. Benjamin Moore & Co.; (Canada), Latex, M28-08.
2. ICI Paints; Devoe/Fuller, Mirrolac-WB, DP 84-XX.
3. Sherwin-Williams Company (The); Industrial & Marine, Sher-Cryl HPA
4. Semi-Gloss, B66W351. / ProIndustrial PreCatalyzed Urethane

2.7 SOLVENT-BASED, HIGH PERFORMANCE COATINGS

A. Solvent-Based, Direct Water Contact – Epoxy

1. SW Macropoxy 646 / Macropoxy 646-100

B. Solvent-Based, Direct Water Contact, Polysiloxane

1. SW Sherloxane 800

C. Solvent Based, Fluoropolymer Urethane

1. SW Fluorokem HS 100

2.8 WATER-BASED, HIGH PERFORMANCE COATINGS

A. Water-Based, Moderate Moisture – Epoxy

1. SW ProIndustrial Waterbased Epoxy, B73 Series

B. Water-Based, Acrylic Urethane

1. SW ProIndustrial Acrolon 100

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.

1. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

a. Concrete: 12 percent.
b. Masonry (Clay and CMU): 12 percent.
c. Gypsum Board: 12 percent.

B. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.

C. Plaster Substrates: Verify that plaster is fully cured.

D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

E. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification 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.

C. Clean substrates of substances that could impair bond of coatings, 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 coating systems indicated.

D. Masonry Substrates: Remove efflorescence and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions.

E. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer.

F. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

G. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied coatings.

3.3 APPLICATION

A. Apply high-performance coatings according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."

1. Use applicators and techniques suited for coating and substrate indicated.
2. Coat surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, coat surfaces behind permanently fixed equipment or furniture with prime coat only.
3. Coat back sides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
4. Do not apply coatings over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of the same material are to be applied. Tint undercoats to match color of finish coat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through final coat, apply additional coats until cured film has a uniform coating finish, color, and appearance.

D. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections. Produce sharp glass lines and color breaks.

3.4 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from coating operation. Correct damage by cleaning, repairing, replacing, and recoating, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

3.5 EXTERIOR HIGH-PERFORMANCE COATING SCHEDULE

A. Steel Substrates

1. Epoxy System with Waterbasesd Urethane

a. Prime Coat: Primer, epoxy, anti-corrosive for metal, MPI #108

1) SW Macropoxy 646 / SW Macropoxy 646-100

b. Intermediate Coat: Epoxy high build low gloss, MPI #108

1) SW Macropoxy 646 / SW Macropoxy 646-100

c. Topcoats: Urethane

1) S-W ProIndustrial Waterbased Acrolon, B65 Series

2. ALTNERATE Topcoats: S-W ProIndustrial Waterbased Acrolon, B65 Series + SW Flurokem HS 100, B65 Series

B. Galvanized-Metal Substrates

1. Epoxy System with Waterbased Urethane

a. Prime Coat-1: Primer, epoxy, anti-corrosive for metal, MPI #108

1) SW Macropoxy 646 / SW Macropoxy 646-100

b. Intermediate Coat-1: Epoxy high build low gloss, MPI #108

1) SW Macropoxy 646 / SW Macropoxy 646-100

c. Topcoats-1: Urethane

1) SW ProIndustrial Waterbased Acrolon, B65 Series

2. ALTNERATE Topcoats-1: S-W ProIndustrial Waterbased Acrolon, B65 Series + SW Flurokem HS 100, B65 Series

3.6 INTERIOR HIGH-PERFORMANCE COATING SCHEDULE

A. Cement Board Substrates:

1. Epoxy Urethane Waterbased System:

a. Prime Coat: Block Filler, Latex, Interior/Exterior.

1) SW ProIndustrial Heavy Duty Block Filler, B42W150

b. Intermediate Coat: Waterbased Epoxy.

1) SW ProIndustrial Waterbased Epoxy, B73 Series

c. Topcoat: Waterbased Urerthane

1) SW ProIndustrial Acrolon 100

B. CMU Substrates:

1. Wet Areas - Epoxy System MPI INT 4.2G:

a. Block Filler: Block filler, epoxy, MPI #116.

1) SW Kem Cati-Coat HS Epoxy Filler/Sealer, B42W400/B42V401

b. Intermediate Coat: Epoxy, matching topcoat.

1) SW Macropoxy 646 / SW Macropoxy 646-100

c. Topcoat: Epoxy, gloss, MPI #77.

2. ALTNERATE Topcoats-1: S-W Sherloxane 800

3. Dry Areas - Epoxy-Modified Latex System:

a. Block Filler: Block filler, latex, interior/exterior, MPI #4.

1) SW ProIndustrial Heavy Duty Block Filler, B42W150

b. Intermediate Coat: Waterbased Epoxy.

1) SW ProIndustrial Waterbased Epoxy, B73 Series

c. Topcoat: Waterbased Urethane

1) SW ProIndustrial Acrolon 100

d. .

C. Steel Substrates:

1. Epoxy-Modified Latex System:

a. Prime Coat: Primer, rust inhibitive, water based, MPI #107.

1) SW ProIndustrial ProCryl Universal Primer, B66-1300 Series.

b. Intermediate Coat: Epoxy-modified latex, interior, matching topcoat.

1) SW ProIndustrial Waterbased Epoxy, B73 Series

c. Topcoat: Epoxy-modified latex, semi-gloss (MPI Gloss Level 5),.

1) SW ProIndustrial Acrolon 100

D. Galvanized-Metal Substrates:

1. Epoxy over Epoxy Primer System:

a. Prime Coat: Primer, epoxy, anti-corrosive, for metal,.

1) SW Macropoxy 646 / Macropoxy 646-100

b. Intermediate Coat: Epoxy, matching topcoat.

1) SW Macropoxy 646 / Macropoxy 646 100

c. Topcoat: Epoxy, gloss,.

1) S-W Sherloxane 800

3.7 COLOR SCHEDULE

A. Refer to drawings for color selections

END OF SECTION