PART 2 of 2

TECHNICAL SPECIFICATION AND DRAWINGS

BEST VALUE PROCUREMENT
PROPOSAL REQUIREMENTS

Project Name: Exterior Improvements/Restoration Project - Phase 1
Municipal Building Commission
Minneapolis City Hall/Hennepin County Courthouse
350 S 5th St.
Minneapolis, MN 55415

Contract Number: MBC 10

Project Number: MBC-1901

Release Date: July 16, 2019

PART 2 – TECHNICAL SPECIFICATIONS AND DRAWINGS

1. Project Manual
2. Project Drawings
Project Manual

For

Exterior Improvements/Restoration Project – Phase 1
Municipal Building Commission
Minneapolis City Hall/Hennepin County Courthouse
350 South 5th Street
Minneapolis, MN 55415

Bid Documents
July 16, 2019

Owner
Municipal Building Commission
Municipal Building 350 South 5th Street Minneapolis, MN 55415

Lead Architect
Miller Dunwiddie
100 S Washington Ave., Suite 500
Minneapolis, MN 55401
(612) 337-0000

Consulting Architect
Bentz/Thompson/Rietow, Inc.
900 Second Ave. So., Suite 400
Minneapolis, MN 55402
(612) 332-1234

Electrical Engineer
Michaud Cooley Erickson
333 S 7th St #1200
Minneapolis, MN 55402
(612) 339-4941
ARCHITECT

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Architect under the Laws of the State of Minnesota.

Print Name: Denita Lemmon, AIA, MILLER DUNWIDDIE

Signature: ________________________________

Date: July 16, 2019 
License # 40489

ELECTRICAL ENGINEER

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the Laws of the State of Minnesota.

Print Name: TODD A. DALY, PE, MICHAUD COOLEY ERICKSON

Signature: ________________________________

Date: July 16, 2019 
License #19588
PROCUREMENT AND CONTRACTING REQUIREMENTS

DIVISION 00 – CONTRACTING REQUIREMENTS
00 01 01 – Project Title Page
00 01 02 – Certifications
00 10 01 – Table of Contents
00 01 15 – List of Drawing Sheets
00 72 00 – General Conditions
00 73 00 – Supplementary Conditions
00 80 00 – Project Forms
  A. Monthly Employment Utilization Report
  B. Good Faith Efforts Guidelines
  C. PS Contractor’s Summary of Payment
  D. Project Safety & Environmental Checklist
  E. Hot Work Permit
  F. Confined Space Entry Permit
  G. Employee Security Background Checks
  H. Responsible Contractor Verification and Certification of Compliance (forms A, A-1, and A-2)
  I. Prevailing Wage Rates

DIVISION 01 – GENERAL REQUIREMENTS
01 10 00  Summary
01 10 00a  MBC Hot Works Rules
01 10 00b  MBC Hot Works Permit
01 10 00c  MBC Method of Procedure (Edited)-2
01 23 00  Alternates
01 25 00  Substitution Procedures
01 26 00  Contract Modification Procedures
01 29 00  Payment Procedures
01 31 00  Project Management and Coordination
01 32 00  Construction Progress Documentation
01 32 33  Photographic Documentation
01 33 00  Submittal Procedures
01 35 91  Historic Treatment Procedures
01 40 00  Quality Requirements
01 42 00  References
01 43 00  Mock-Up Assemblies
01 50 00  Temporary Facilities and Controls
01 60 00  Product Requirements
01 62 00  Product Options
01 71 23  Field Engineering
01 73 00  Execution
01 73 29  Cutting and Patching
01 74 00  Cleaning
01 74 19  Construction Waste Management and Disposal
01 77 00  Closeout Procedures
01 78 39  Project Record Documents

DIVISION 02 – EXISTING CONDITIONS
02 41 19  Selective Demolition
02 42 96  Historic Removal and Dismantling
DIVISION 03 – CONCRETE
Not Used

DIVISION 04 – MASONRY
04 01 40 Maintenance of Stone Assemblies

DIVISION 05– METALS
05 50 00 Metal Fabrications

DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES
06 10 00 Rough Carpentry

DIVISION 07 – THERMAL AND MOISTURE PROTECTION
07 92 00 Joint Sealants

DIVISION 08 – OPENINGS
08 80 00 Glass & Glazing

DIVISION 09 – FINISHES
09 91 23 Painting

DIVISION 10 – SPECIALTIES
Not Used

DIVISION 11 – EQUIPMENT
Not Used

DIVISION 12 – FURNISHINGS
Not Used

DIVISION 13 – SPECIAL CONSTRUCTION
Not Used

DIVISION 14 – CONVEYING EQUIPMENT
Not Used

DIVISION 21– FIRE SUPPRESSION SYSTEMS
Not Used

DIVISION 22 - PLUMBING
Not Used
DIVISION 23 – HEATING, VENTILATING AND AIR CONDITIONING (HVAC) SYSTEMS WORK
Not Used

DIVISION 26 – ELECTRICAL
See Electrical Drawings

DIVISION 27 – COMMUNICATIONS
Not Used

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY
Not Used

END OF TABLE OF CONTENTS
MBC-1901  Exterior Improvements/Restoration Project - Phase 1

SHEET INDEX

TITLE SHEET

A000 Key Plan
A140 Roof Plan
A200 E1 Masonry Elevations
A201 E2 Masonry Elevations
A202 E3 Masonry Elevations
A203 E4 Masonry Elevations
A204 N1 Masonry Elevations
A205 N2 Masonry Elevations
A206 N3 Masonry Elevations
A207 North Clock Tower Masonry Elevations
A208 North Clock Tower Masonry Elevations
A209 North Clock Tower Masonry Elevations
A222 Courtard Masonry Repairs
E000 - Electrical Title Sheet
PART 1 – GENERAL

1.1 SUMMARY

A. General Conditions of the Contract, Stipulated Sum, Single Prime.

B. Owner modified General Conditions of the Contract for Construction, AIA Document A201, 2007 Edition, are incorporated into this Project Manual by reference and attachment. This document has been electronically modified by the Owner, to include Supplementary Conditions to the General Conditions of the Contract. An original copy of this Owner modified AIA A201, 2007 is also available for viewing by Proposers in the office of Hennepin County Purchasing, A1730 Government Center, 300 South Sixth Street, Minneapolis, Minnesota 55487 and the office of the Architect, Miller Dunwiddie, 100 S. Washington Ave Suite 500, Minneapolis, MN 55401, (612) 337-0000.
General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

THE OWNER:
(Name and address)

THE ARCHITECT:
(Name and address)

TABLE OF ARTICLES

1 GENERAL PROVISIONS
2 OWNER
3 CONTRACTOR
4 ARCHITECT
5 SUBCONTRACTORS
6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7 CHANGES IN THE WORK
8 TIME
9 PAYMENTS AND COMPLETION
10 PROTECTION OF PERSONS AND PROPERTY
11 INSURANCE AND BONDS
12 UNCOVERING AND CORRECTION OF WORK
13 MISCELLANEOUS PROVISIONS
14 TERMINATION OR SUSPENSION OF THE CONTRACT
15 CLAIMS AND DISPUTES

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.
INDEX
(Numbers and Topics in Bold are Section Headings)

Acceptance of Nonconforming Work
9.6.6, 9.9.3, 12.3
Acceptance of Work
9.6.6, 9.9.1, 9.9.3, 9.10.1, 9.10.3, 12.3
Access to Work
3.16, 6.2.1, 12.1
Accident Prevention
10
Acts and Omissions
3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5, 10.2.8, 13.4.2, 13.7.1, 14.1, 15.2
Addenda, Definition of
1.1.10
Addenda, Contract Documents and Site Documents
1.1.1, 3.11.1
Additional Costs, Claims for
3.7.4, 3.7.5, 6.1.1, 7.3.7.5, 10.3, 15.1.4
Additional Inspections and Testing
9.4.2, 9.8.3, 12.2.1, 13.5
Additional Insured
11.1.4
Additional Time, Claims for
3.7.4, 3.7.5, 3.10.2, 8.3.2, 15.1.5
Administration of the Contract
3.1.3, 4.2, 9.4, 9.5
Advertisement or Invitation to Bid
1.1.1
Aesthetic Effect
4.2.13
Allowances
3.8, 7.3.8
All-risk Insurance
11.2.1, 11.2.1.1
Applications for Payment
4.2.5, 7.3.9, 9.2, 9.3, 9.4, 9.5.1, 9.6.3, 9.7.1, 9.10, 11.1.3
Approvals
2.1.1, 2.2.2, 2.4, 3.1.3, 3.10.2, 3.12.8, 3.12.9, 3.12.10, 4.2.7, 9.3.2, 13.5.1
Arbitration
8.3.1, 11.2.9, 13.1.1, 15.3.2, 15.4
ARCHITECT
4
Architect, Definition of
4.1.1
Architect, Extent of Authority
2.4.1, 3.12.7, 4.1, 4.2, 5.2, 6.3.1, 7.1.2, 7.3.7, 7.4, 9.2.1, 9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1, 13.5.1, 15.2, 14.2.2, 14.2.4, 15.1.3, 15.2.1
Architect, Limitations of Authority and Responsibility
2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2, 4.2.3, 4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4.1, 9.4.2, 9.5.3, 9.6.4, 15.1.3, 15.2
Architect’s Additional Services and Expenses
2.4.1, 11.2.1.1, 12.2.1, 13.5.2, 14.2.14
Architect’s Administration of the Contract
3.1.3, 4.2, 3.7.4, 15.2, 9.4.1, 9.5
Architect’s Approvals
2.4.1, 3.1.3, 3.5.1, 3.10.2, 4.2.7
Architect’s Authority to Reject Work
3.5.1, 4.2.6, 12.12.2, 12.2.1
Architect’s Copyright
1.1.7, 1.5
Architect’s Decisions
3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3.1, 7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2.1, 9.4.1, 9.5, 9.8.4, 9.9.1, 13.5.2, 15.2, 15.3
Architect’s Inspections
3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.5
Architect’s Instructions
3.3.1, 4.2.6, 4.2.7, 13.5.2
Architect’s Interpretations
4.2.11, 4.2.12
Architect’s Project Representative
4.2.10
Architect’s Relationship with Contractor
1.1.2, 1.5, 3.1.3, 3.2.2, 3.3.1, 3.4.2, 3.5.1, 3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16, 3.18, 4.1.2, 4.1.3, 4.2.5, 6.2.2, 7.8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.2.7, 12, 13.4.2, 13.5, 15.2
Architect’s Relationship with Subcontractors
1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.2.7
Architect’s Representations
9.4.2, 9.5.1, 9.10.1
Architect’s Site Visits
3.7.4, 4.2.2, 4.2.5, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.5
Asbestos
10.3.1
Attorneys’ Fees
3.18.1, 9.10.2, 10.3.3
Award of Separate Contracts
6.1.1, 6.1.2
Award of Subcontracts and Other Contracts for Portions of the Work
5.2
Basic Definitions
1.1
Bidding Requirements
1.1.1, 5.2.1, 11.3.1
Binding Dispute Resolution
9.7.1, 11.2.9, 13.1.1, 15.2.5, 15.2.6.1, 15.3.1, 15.3.2, 15.4.1
Boiler and Machinery Insurance
11.2.2
Bonds, Lien

Init.

AIA Document A201™ — 2007. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997 and 2007 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 16:14:43 on 11/16/2015 under Order No. 8467666255_1 which expires on 06/23/2016, and is not for resale.

User Notes:
COMPLETION, PAYMENTS AND
9
Completion, Substantial
4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3,
12.2, 13.7
Compliance with Laws
1.6.1, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4, 10.2.2,
11.1, 11.2, 13.1, 13.4, 13.5.1, 13.5.2, 13.6, 14.1.1,
14.2.1.3, 15.2.8, 15.4.2, 15.4.3
Concealed or Unknown Conditions
3.7.4, 4.2.8, 8.3.1, 10.3
Conditions of the Contract
1.1.1, 6.1.1, 6.1.4
Consent, Written
3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5, 9.9.1,
9.10.2, 9.10.3, 11.2.1, 13.2, 13.4.2, 15.4.4.2
Consolidation or Joiner
15.4.4
CONSTRUCTION BY OWNER OR BY
SEPARATE CONTRACTORS
1.1.4, 6
Construction Change Directive, Definition of
7.3.1
Construction Change Directives
1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, 7.3,
9.3.1.1
Construction Schedules, Contractor’s
3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2
Contingent Assignment of Subcontracts
5.4, 14.2.2.2
Continuing Contract Performance
15.1.3
Contract, Definition of
1.1.2
CONTRACT, TERMINATION OR
SUSPENSION OF THE
5.4.1.1, 11.3.9, 14
Contract Administration
3.1.3, 4, 9.4, 9.5
Contract Award and Execution, Conditions Relating to
3.7.1, 3.10, 5.2, 6.1, 11.1.3, 11.2.6, 11.3.1
Contract Documents, The
1.1.1
Contract Documents, Copies Furnished and Use of
1.5.2, 2.2.5, 5.3
Contract Documents, Definition of
1.1.1
Contract Sum
3.7.4, 3.8, 5.2.3, 7.2, 7.3, 7.4, 9.1, 9.4.2, 9.5.1.4,
9.6.7, 9.7, 10.3.2, 11.2.1, 14.2.4, 14.3.2, 15.1.4,
15.2.5
Contract Sum, Definition of
9.1
Contract Time
Employees, Contractor’s
3.3.2, 3.4.3, 3.8.1, 3.9.1, 3.18.2, 4.2.3, 4.2.6, 10.2,
10.3.3, 11.1.1, 11.2.7, 14.1, 14.2.1.1
Equipment, Labor, Materials or
1.1.3, 1.1.6, 3.4, 3.5.1, 3.8.2, 3.8.3, 3.12, 3.13.1,
3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3,
9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2
Execution and Progress of the Work
1.1.3, 1.2.1, 1.2.2, 2.2.3, 2.2.5, 3.1, 3.3.1, 3.4.1, 3.5.1,
3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.5, 8.2,
9.5.1, 9.9.1, 10.2, 10.3, 12.2, 14.2, 14.3.1, 15.1.3
Extensions of Time
3.7.4, 5.2.3, 7.2.1, 7.3, 7.4.1, 9.5.1, 9.7.1, 10.3.2,
10.4.1, 14.3, 15.1.5, 15.2.5
Failure of Payment
9.5.1.3, 9.7, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2
Faulty Work
(See Defective or Nonconforming Work)
Final Completion and Final Payment
4.2.1, 4.2.9, 9.8.2, 9.10, 11.1.2, 11.1.3, 11.2.1, 11.2.5,
12.3.1, 14.2.4, 14.4.3
Financial Arrangements, Owner’s
13.2.2
Fire and Extended Coverage Insurance
11.2.1.1
Furnish, Definition of
1.1.9
GENERAL PROVISIONS
I
Governing Law
13.1
Guarantees (See Warranty)
Hazardous Materials
10.2.4, 10.3
Identification of Subcontractors and Suppliers
5.2.1
Indemnification
3.17.1, 3.18, 9.10.2, 10.3.4, 11.2.1.2, 11.2.7
Information and Services Required of the Owner
2.1.2, 2.2, 3.2.2, 3.12.4, 3.12.10, 6.1.3, 6.1.4, 6.2.5,
9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.3, 13.5.1, 13.5.2,
14.1.1.4, 14.1.4, 15.1.3
Initial Decision
15.2
Initial Decision Maker, Definition of
1.1.8
(Paragraphs deleted)
Injury or Damage to Person or Property
10.2.8, 10.4.1
Inspections
3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3,
9.9.2, 9.10.1, 12.2.1, 13.5
Install, Definition of
1.1.9
Instructions to Bidders
1.1.1
Instructions to the Contractor
3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.5.2
Instruments of Service, Definition of
1.1.7
Insurance
3.18.1, 6.1.1, 7.3.7, 9.3.2, 9.8.4, 9.9.1, 9.10.2, 11
Insurance, Boiler and Machinery
11.2.1
Insurance, Contractor’s Liability
11.1
Insurance, Effective Date of
8.2.2, 11.1.2
Insurance, Loss of Use
11.2.2
Insurance,
(Paragraphs deleted)
Property
10.2.5, 11.2
Insurance, Stored Materials
9.3.2, 11.2.1.4
INSURANCE AND BONDS
11
Insurance Companies, Consent to Partial Occupancy
9.9.1, 11.2.1.5
Insurance Companies, Settlement with
11.2.9
Intent of the Contract Documents
1.2.1, 4.2.7, 4.2.12, 4.2.13, 7.4
Interest
13.6
Interpretation
1.2.3, 1.4.1.1, 5.1, 6.1.2, 15.1.1
Interpretations, Written
4.2.11, 4.2.12, 15.1.4
Judgment on Final Award
15.4.2
Labor and Materials, Equipment
1.1.3, 1.1.6, 3.4, 3.5.1, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,
4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3,
9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2
Labor Disputes
8.3.1
Laws and Regulations
1.5, 3.6, 3.7, 3.12.10, 3.13.1, 4.1.1, 9.6.4, 9.9.1,
10.2.2, 11.1.1, 11.2, 13.1.1, 13.4, 13.5.1, 13.5.2,
13.6.1, 14, 15.2.8, 15.4
Liens
2.1.2, 9.3.3, 9.10.2, 9.10.4, 15.2.8
Limitations, Statutes of
12.2.5, 13.7.1, 15.4.1.1
Limitations of Liability
2.3.1, 3.2.2, 3.5.1, 3.12.10, 3.17.1, 3.18.1, 4.2.6,
4.2.7, 4.2.12, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 10.2.5, 10.3.3,
11.1.2, 11.2.7, 12.2.5, 13.4.2
Limitations of Time
2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7,
5.2, 5.3.1, 5.4.1, 5.6.2, 7.3, 7.4, 8.2, 9.2.1, 9.3.1,
Loss of Use Insurance
11.2.3
Material Suppliers
1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.6, 9.10.5
Materials, Hazardous
10.2.4, 10.3
Materials, Labor, Equipment and
1.1.3, 1.1.6, 1.5.1, 3.4.1, 3.5.1, 3.8.2, 3.8.3, 3.12,
3.13.1, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2,
9.3.3, 9.5.1.3, 9.10.2, 10.2.1.2, 10.2.4, 14.2.1.1,
14.2.1.2
Means, Methods, Techniques, Sequences and
Procedures of Construction
3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2
Mechanic's Lien
15.2.8
Mediation
8.3.1, 15.2.1, 15.2.5, 15.2.6, 15.3, 15.4.1
Minor Changes in the Work
1.1.1, 3.12.8, 4.2.8, 7.1, 7.4
MISCELLANEOUS PROVISIONS
13
Modifications, Definition of
1.1.1
Modifications to the Contract
1.1.1, 1.1.2, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7.1,
10.3.2, 11.2.1
Mutual Responsibility
6.2
Nonconforming Work, Acceptance of
9.6.6, 9.9.3, 12.3
Nonconforming Work, Rejection and Correction of
2.3.1, 2.4.1, 3.5.1, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3,
9.10.4, 12.2.1
Notice
2.2.1, 2.3.1, 2.4.1, 3.3.1, 3.7.2, 3.12.9, 5.2.1, 9.7.1,
9.10, 10.2.2, 11.1.3, 11.2.6, 12.2.2.1, 13.3, 13.5.1,
13.5.2, 14.1, 14.2, 15.2.8, 15.4.1
Notice, Written
2.3.1, 2.4.1, 3.3.1, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 9.7.1,
9.10, 10.2.2, 10.3, 11.1.3, 11.2.6, 12.2.2.1, 13.3, 14,
15.2.8, 15.4.1
Notice of Claims
3.7.4, 4.5, 10.2.8, 15.1.2, 15.4
Notice of Testing and Inspections
13.5.1, 13.5.2
Observations, Contractor's
3.2, 3.7.4
Occupancy
2.2.2, 9.6.6, 9.8, 11.2.1.5
Orders, Written
1.1.1, 2.3, 3.9.2, 7, 8.2.2, 12.1, 12.2.2.1, 13.5.2,
14.3.1
OWNER
2
Owner, Definition of
2.1.1
Owner, Information and Services Required of the
2.1.2, 2.2, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2,
9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2.1, 11.2, 13.5.1,
13.5.2, 14.1.1.4, 14.1.4, 15.1.3
Owner's Authority
1.5, 2.1.1, 2.3.1, 2.4.1, 3.4.2, 3.8.1, 3.12.10, 3.14.2,
4.1.2, 4.1.3, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3.1,
7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.1, 9.3.2, 9.5.1, 9.6.4,
9.9.1, 10.1.2, 10.3.2, 11.1.3, 11.2.3, 11.3.9, 12.2.2,
12.3.1, 13.2.2, 14.3, 14.4, 15.2.7
Owner's Financial Capability
2.2.1, 13.2.2, 14.1.1.4
Owner's Loss of Use Insurance
11.2.3
Owner's Relationship with Subcontractors
1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2
Owner's Right to Carry Out the Work
2.4, 14.2.2
Owner's Right to Clean Up
6.3
Owner's Right to Perform Construction and to
Award Separate Contracts
6.1
Owner's Right to Stop the Work
2.3
Owner's Right to Suspend the Work
14.3
Owner's Right to Terminate the Contract
14.2
Ownership and Use of Drawings, Specifications
and Other Instruments of Service
1.1.1, 1.1.6, 1.1.7, 1.5, 2.2.5, 3.2.2, 3.11.1, 3.17.1,
4.2.12, 5.3.1
Partial Occupancy or Use
9.6.6, 9.9, 11.3.1.5
Patching, Cutting and
3.14, 6.2.5
Patents
3.17
Payment, Applications for
4.2.5, 7.3.9, 9.2.1, 9.3, 9.4, 9.5, 9.6.3, 9.7.1, 9.8.5,
9.10.1, 14.2.3, 14.2.4, 14.4.3
Payment, Certificates for
4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7.1, 9.10.1,
9.10.3, 13.7, 14.1.1.3, 14.2.4
Payment, Failure of
9.5.1.3, 9.7, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2
Payment, Final
4.2.1, 4.2.9, 9.8.2, 9.10, 11.1.2, 11.1.3, 11.2.1, 11.2.5,
12.3.1, 13.7, 14.2.4, 14.4.3
Payment Bond, Performance Bond and
7.3.7.4, 9.6.7, 9.10.3, 11.3
Payments, Progress
9.3, 9.6, 9.8.5, 9.10.3, 13.6, 14.2.3, 15.1.3
PAYMENTS AND COMPLETION

Init.  

AIA Document A201™ – 2007, Copyright ©1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1997 and 2007 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 10:14:43 on 11/16/2015 under Order No. 8469766255_1 which expires on 06/23/2016, and is not for resale.

User Notes:
Payments to Subcontractors
5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 11.2.8, 14.2.1.2
PCB
10.3.1
Performance Bond and Payment Bond
7.3.7.4, 9.6.7, 9.10.3, 11.3
Permits, Fees, Notices and Compliance with Laws
2.2.2, 3.7, 3.13, 7.3.7.4, 10.2.2
PERSONS AND PROPERTY, PROTECTION
OF
10
Polyclorinated Biphenyl
10.3.1
Product Data, Definition of
3.12.2
Product Data and Samples, Shop Drawings
3.11, 3.12, 4.2.7
Progress and Completion
4.2.2, 8.2, 9.8, 9.9.1, 14.1.4, 15.1.3
Progress Payments
9.3, 9.6, 9.8.5, 9.10.3, 13.6, 14.2.3, 15.1.3
Project, Definition of the
1.1.4
Project Representatives
4.2.10
Property Insurance
10.2.5, 11.2
PROTECTION OF PERSONS AND PROPERTY
10
Provide, Definition of
1.1.9
Regulations and Laws
1.5, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4, 9.9.1, 10.2.2, 11.1, 11.3, 13.1, 13.4, 13.5.1, 13.5.2, 13.6, 14, 15.2.8, 15.4
Rejection of Work
3.5.1, 4.2.6, 12.2.1
Releases and Waivers of Liens
9.10.2
Representations
3.2.1, 3.5.1, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.4.2, 9.5.1, 9.8.2, 9.10.1
Representatives
2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.1, 4.2.2, 4.2.10, 5.1.1, 5.1.2, 13.2.1
Responsibility for Those Performing the Work
3.3.2, 3.18, 4.2.3, 5.3.1, 6.1.3, 6.2, 6.3, 9.5.1, 10
Retainage
9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3
Review of Contract Documents and Field Conditions by Contractor
3.2, 3.12.7, 6.1.3
Review of Contractor's Submittals by Owner and Architect
3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2
Review of Shop Drawings, Product Data and Samples by Contractor
3.12
Rights and Remedies
1.1.2, 2.3, 2.4, 3.5.1, 3.7.4, 3.15.2, 4.2.6, 4.5, 5.3, 5.4, 6.1, 6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.2, 12.2.4, 13.4, 14, 15.4
Royalties, Patents and Copyrights
3.17
Rules and Notices for Arbitration
15.4.1
Safety of Persons and Property
10.2, 10.4
Safety Precautions and Programs
3.3.1, 4.2.2, 4.2.7, 5.3.1, 10.1, 10.2, 10.4
Samples, Definition of
3.12.3
Samples, Shop Drawings, Product Data and Samples at the Site, Documents and Schedule of Values
9.2, 9.3.1
Schedules, Construction
1.4.1.2, 3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2
Separate Contracts and Contractors
1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 11.2.7, 12.1.2
Shop Drawings, Definition of
3.12.1
Shop Drawings, Product Data and Samples
3.11, 3.12, 4.2.7
Site, Use of
3.13, 6.1.1, 6.2.1
Site Inspections
3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.4.2, 9.10.1, 13.5
Site Visits, Architect's
3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.5
Special Inspections and Testing
4.2.6, 12.2.1, 13.5
Specifications, Definition of the
1.1.6
Specifications, The
1.1.1, 1.1.6, 1.2.2, 1.5, 3.11, 3.12.10, 3.17, 4.2.14
Statute of Limitations
13.7, 15.4.1.1
Stopping the Work
2.3, 9.7, 10.3, 14.1
Stored Materials
6.2.1, 9.3.2, 10.2.1.2, 10.2.4, 11.2.1.4
Subcontractor, Definition of
5.1.1
SUBCONTRACTORS
5
Subcontractors, Work by
1.2.2, 3.3.2, 3.12.1, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2, 9.6.7

Init.

AIA Document A201™ – 2007. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997 and 2007 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 16:14:43 on 11/16/2015 under Order No.9469766258_1 which expires on 06/23/2016, and is not for resale.

User Notes:
Subcontractual Relations
5.3, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 11.2.7, 11.2.8, 14.1, 14.2.1
Submittals
3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.7, 9.2, 9.3,
9.8, 9.9.1, 9.10.2, 9.10.3, 11.1.3
Submittal Schedule
3.10.2, 3.12.5, 4.2.7
Subrogation, Waivers of
6.1.1, 11.2.5, 11.2.7
Substantial Completion
4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3,
12.2, 13.7
Substantial Completion, Definition of
9.8.1
Substitution of Subcontractors
5.2.3, 5.2.4
Substitution of Architect
4.1.3
Substitutions of Materials
3.4.2, 3.5.1, 7.3.8
Sub-subcontract, Definition of
5.1.2
Subsurface Conditions
3.7.4
Successors and Assigns
13.2
Superintendent
3.9, 10.2.6
Supervision and Construction Procedures
1.2.2, 3.3.3, 4.12, 4.2.2, 4.2.7, 6.1, 6.2.4,
7.1.3, 7.3.7, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.3
Surety
5.4.1.2, 9.8.5, 9.10.2, 9.10.3, 14.2.2, 15.2.7
Surety, Consent of
9.10.2, 9.10.3
Surveys
2.2.3
Suspension by the Owner for Convenience
14.3
Suspension of the Work
5.4.2, 14.3
Suspension or Termination of the Contract
5.4.1.1, 14
Taxes
3.6, 3.8.2.1, 7.3.7.4
Termination by the Contractor
14.1, 15.1.6
Termination by the Owner for Cause
5.4.1.1, 14.2, 15.1.6
Termination by the Owner for Convenience
14.4
Termination of the Architect
4.1.3
Termination of the Contractor
14.2.2

TERMINATION OR SUSPENSION OF THE CONTRACT
14
Tests and Inspections
3.1.3, 3.3.3, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2,
9.10.1, 10.3.2, 11.2.1.1, 12.2.1, 13.5
TIME
8
Time, Delays and Extensions of
3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4.1, 8.3, 9.5.1, 9.7.1,
10.3.2, 10.4.1, 14.3.2, 15.1.5, 15.2.5
Time Limits
2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2,
4.4, 4.5, 5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1,
9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3,
11.2.1.5, 11.2.6, 11.2.9, 12.2, 13.5, 13.7, 14, 15.1.2,
15.4
Time Limits on Claims
3.7.4, 10.2.8, 13.7, 15.1.2
Title to Work
9.3.2, 9.3.3
Transmission of Data in Digital Form
1.6
UNCOVERING AND CORRECTION OF WORK
12
Uncovering of Work
12.1
Unforeseen Conditions, Concealed or Unknown
3.7.4, 8.3.1, 10.3
Unit Prices
7.3.3.2, 7.3.4
Use of Documents
1.1.1, 1.5, 2.2.5, 3.12.6, 5.3
Use of Site
3.13, 6.1.1, 6.2.1
Values, Schedule of
9.2, 9.3.1
Waiver of Claims by the Architect
13.4.2
Waiver of Claims by the Contractor
9.10.5, 11.2.7, 13.4.2, 15.1.6
Waiver of Claims by the Owner
9.9.3, 9.10.3, 9.10.4, 11.2.3, 11.2.5, 11.2.7, 12.2.2.1,
13.4.2, 14.2.4, 15.1.6
Waiver of Consequential Damages
14.2.4, 15.1.6
Waiver of Liens
9.10.2, 9.10.4
Waivers of Subrogation
6.1.1, 11.2.5, 11.2.7
Warranty
3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.4, 12.2.2, 13.7.1
Weather Delays
15.1.5.2
Work, Definition of
1.1.3
Writing, Definition of
1.1.11
Written Consent
1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5,
9.9.1, 9.10.2, 9.10.3, 11.2.1, 13.2, 13.4.2, 15.4.4.2
Written Interpretations
4.2.11, 4.2.12

Written Notice
2.3, 2.4, 3.3.1, 3.9, 3.12.9, 3.12.10, 5.2.1, 8.2.2, 9.7,
9.10, 10.2.2, 10.3, 11.1.3, 11.2.6, 12.2.2, 12.2.4, 13.3,
14, 15.4.1
Written Orders
1.1.1, 2.3, 3.9, 7, 8.2.2, 12.1, 12.2, 13.5.2, 14.3.1,
15.1.2
ARTICLE 1 GENERAL PROVISIONS
§ 1.1 BASIC DEFINITIONS
§ 1.1.1 THE CONTRACT DOCUMENTS
The Contract Documents consist of the Agreement between the Owner and Contractor (hereinafter the Agreement), Project Manual, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, Bidding Requirements (Advertisement or Invitation to Bid), Instructions to Bidders and Supplementary Instructions to Bidders, the Contractor’s Bid, and portions of Addenda relating to the Bidding Requirements, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. The Project Manual is a volume assembled for the Work which may include the Bidding Requirements, sample forms, Conditions of the Contract, Specifications, and other Contract Documents.

§ 1.1.2 THE CONTRACT
The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect’s consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect’s consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect’s duties.

§ 1.1.3 THE WORK
The term “Work” means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor’s obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT
The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS
The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS
The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE
Instruments of Service are representations, in any medium of expression now known or later developed, of tangible and intangible creative work performed by the Architect and the Architect’s consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER
The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2.

§ 1.1.9 FURNISH OR INSTALL OR PROVIDE
Unless specifically limited in context, the words “furnish” or “install” or any combination thereof, shall mean to furnish and incorporate in the Work, including all necessary labor, materials, equipment and other items required to perform the Work indicated.
The term "provide" means to furnish and install all labor, materials, equipment, transportation services, anchorage or suspension, fastening or other connection devices, connections to utilities or services, controls, trim, supports, standard accessories, finishes, tests, adjustments for proper operation and other items needed for complete and properly functioning portions of the Work.

§ 1.1.10 ADDENDA
Addenda shall be written and/or graphic instruments issued by the Architect prior to execution of the Contract that modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections. Addenda shall become part of the Contract Documents when the Contract is executed.

§ 1.1.11 WRITING
A writing shall include any communications reduced to a written form, including letters, facsimiles, emails, memorandums, meeting minutes, Project website postings, or other written forms generally accepted for communication purposes on the Project and transmitted electronically or delivered hardcopy.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS
§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated and intended results.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.4 Where a reference in the Contract Documents to a federal specification, American National Standards Institute standard, American Society of Testing Materials standard or other standard does not include the edition or date of the standard, the edition and amendments current as of the date of the Project Manual shall apply.

§ 1.2.5 Detailed Specifications take priority over general Specifications. More detailed Drawings take precedence over less detailed Drawings. In case of disagreement between Drawings and Specifications, or within either document itself, the Contractor shall immediately bring the discrepancy to the Architect’s attention for clarification. At the Architect’s request, the Contractor shall provide a written estimate for completing the Work as provided both in the Specification and in the Drawing, and in any case, shall comply with the Architect’s instruction on how to proceed.

§ 1.2.6 In the case of an inconsistency between Drawings and Specifications or within any Contract Document not clarified by addendum, the better quality or greater quantity of Work shall be provided in accordance with the Architect’s interpretation without change in the Contract Sum.

§ 1.2.7 In the case of discrepancy, figured dimensions shall govern over scaled dimensions.

§ 1.3 CAPITALIZATION
Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION
In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.
§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 Except to the extent the Architect and the Architect’s consultants retain rights to reuse component information from their respective Instruments of Service as provided in the Agreement between the Owner and the Architect, the Owner shall be deemed the author and owner of the Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Owner’s reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect’s consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner may designate in writing a representative who shall have express authority to bind the Owner with respect to matters requiring the Owner’s approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner’s authorized representative.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.2 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.3 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner’s control, which are reasonably requested by the Contractor and relevant to the Contractor’s performance of the Work, with reasonable promptness after receiving the Contractor’s written request for such information or services.

§ 2.2.4 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3 OWNER’S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part...
of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4 OWNER’S RIGHT TO CARRY OUT THE WORK
If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner’s expenses and compensation for the Architect’s additional services made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

§ 2.5 USE OF PREMISES BY OWNER
§ 2.5.1 The Owner reserves the right to occupy the whole or any portion of the Project at any time prior to completion of the Work. It is understood and agreed that the right to use the Project is part of the Contract and the Contractor shall proceed with the Work in such a manner as may be directed and shall cooperate with the Owner to endeavor to limit the interruptions to the Owners’ normal operations and routine as much as possible.

§ 2.6 OWNER’S RIGHT TO AUDIT BOOKS AND RECORDS
§ 2.6.1 The Contractor agrees that the Owner, the State Auditor, the Legislative Auditor and/or any of their duly authorized representatives shall at any time during normal business hours, and as often as they may reasonably deem necessary, have access to and the right to examine, excerpt, and transcribe any books, documents, papers, records, etc., which involve transactions relating to this Agreement. Such material must be retained by the Contractor for the longer of (1) six years after Final Payment; or (2) such additional period as may be necessary to comply with specific Contract Conditions (including without limitation any period covered by a written warranty). The Contractor’s accounting practices and procedures relevant to this Contract shall also be subject to examination by any of aforesaid persons as often as and during such times as aforesaid.

ARTICLE 3 CONTRACTOR
§ 3.1 GENERAL
§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term “Contractor” means the Contractor or the Contractor’s authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents and shall comply with all applicable laws, codes, ordinances, rules, regulations and industry standards.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect’s administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR
§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

(Paragraphs deleted)
§ 3.2.2 The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by the Owner, and shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. The Contractor shall at once report to the Architect and Owner any errors, inconsistencies or omissions discovered. The Contractor shall not be liable to the Owner or Architect for damage resulting from errors, inconsistencies or omissions in the Contract Documents unless the Contractor or its Subcontractors, recognized, or should have recognized such error, inconsistency, or omission and failed to report
it to the Architect. If the Contractor performs any construction activity involving such error, inconsistency or omission in the Contract Documents without notice to the Architect and Owner, the Contractor shall assume responsibility for such performance and shall be liable for the amount of the attributable costs for correction and any other resulting damages.

§ 3.2.3 The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect for the Architect to evaluate and respond to the Contractor’s requests for information when such information was available to the Contractor by reviewing and comparing the Contract Documents, field conditions, or prior Project communications or documentation.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor’s best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor’s employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 The Contractor shall perform the Work in accordance with the Contract Documents, submittals approved pursuant to Section 3.12, and general design intent reasonably inferable from the Contract Documents. The Contractor shall review and coordinate construction and installation procedures (including those recommended by manufacturers) prior to implementation, and shall advise the Architect in writing if the Contractor has knowledge that the specified products deviate from good construction practice, or that following the specified procedures will affect warranties, or if the Contractor has any objections to the procedures.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. Should the Contract Documents require work to be performed after regular working hours or should the Contractor elect to perform work after regular working hours, the additional cost of such work shall be borne by the Contractor.

(Paragraph deleted)

§ 3.4.2 The Contractor shall be responsible for the costs of additional work and changes required to incorporate substitute materials, products or equipment approved during the bidding period into the Project.

After award of the Contract, a request for substitution of a material, product or piece of equipment at no change in the Contract Sum will not be approved by the Owner or the Architect, unless the specified item is no longer manufactured, the specified item is unavailable as a result of an act of government (such as declaration of a national emergency), or delivery of the specified items is substantially delayed as a result of labor disputes affecting the manufacturer, unusual delay in transportation, or any other cause beyond control of the Contractor or a Subcontractor or material supplier which the Architect determines justifies the delay. Requests will not be approved where the delay in delivery results from failure to promptly place subcontracts and material orders. Requests for substitution shall be submitted in writing to the Architect and shall clearly describe the proposed substitution, state the reason for the unavailability of the specified item and be accompanied by such additional data and information as may be necessary to establish the acceptability of the proposed substitution.
§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 WARRANTY
§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. Manufacturers' product warranties shall not relieve the Contractor of general warranty obligations.

§ 3.5.2 To ensure, wherever practical and appropriate, that materials with recycled content are given reasonable consideration for incorporation in construction of Hennepin County facilities:

§ 3.5.2.1 Performance standards and specifications for products used in construction or remodeling of County facilities or public works shall not prohibit the use of products with recycled content, except as set forth in Section 3.5.2.2.

§ 3.5.2.2 Specifications shall allow use of materials and products with recycled content wherever practical and appropriate except when the Architect determines that either the performance requirements for the product will be compromised by the use of recycled materials, or when a product with recycled content is impractical or will otherwise negatively affect health, safety, or operational efficiency.

§ 3.6 TAXES
The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS
§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by laws, ordinances, codes, rules, regulations, decrees and orders of public authorities, bodies and/or tribunals bearing on performance or nonperformance of the Work. The aforesaid requirements shall apply fully to the requirements referenced in Section 10.2.2 hereof. Contractor shall defend, indemnify and hold the County, its officers, elected officials, employees and agents harmless from any and all claims, liability, costs, penalties, damages, and/or attorneys' fees or any other costs or expense whatsoever arising from or based on violations committed by the Contractor, any Subcontractor and their employees or agents.

§ 3.7.3 If the Contractor performs Work and the Contractor knows, or should know, it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and for damages incurred as a result and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the

Init. (1836478981)

User Notes:
Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES
§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 PROJECT MANAGER AND SUPERINTENDENT.
(Paragraph deleted)

§3.9.1 The Contractor shall employ a competent Project Manager who shall administer the Agreement between the Owner and Contractor and who shall represent the Contractor. Communications given to the Project Manager shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

§ 3.9.2 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

§ 3.9.3 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.
§3.9.4 The Project Manager and the Superintendent shall be assigned to the Project throughout the term of the Contract except or unless the designated individual’s service to the Contractor is terminated or the Owner finds reasonable objection to the individual in which case another individual shall be assigned to the same responsibility for the remaining term of the Contract.

§ 3.10 CONTRACTOR’S CONSTRUCTION SCHEDULES
§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner’s and Architect’s information a Contractor’s construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work. The Contractor is required to provide a Critical Path Method Construction Schedule.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect’s approval. The Architect’s approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor’s construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE
The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES
§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents may be returned by the Architect without action.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified

AIA Document A201™ - 2007, Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997 and 2007 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 16:14:43 on 11/16/2015 under Order No.8469766255_1 which expires on 06/23/2016, and is not for resale.

User Notes:
materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect’s approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect’s approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect’s approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor’s responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional’s written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.12.11 The Architect’s review of the Contractor’s submittals will be limited to examination of an initial submittal and two re-submittals. The Architect’s review of additional submittals will be made only with the consent of the Owner after notification by the Architect. The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect for review of such additional submittals.

§ 3.13 USE OF SITE
The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 CUTTING AND PATCHING
§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by
excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP
§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK
The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS
The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION
§ 3.18.1 To the fullest extent permitted by law the Contractor shall defend, indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to personal or bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), and is caused by the acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder, except claims, damages, losses or expenses resulting from risks as are required to be insured by the Owner.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ARCHITECT
§ 4.1 GENERAL
§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Architect" means the Architect or the Architect's authorized representative.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner and Architect.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect whose status under the Contract Documents shall be that of the Architect.
§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and the Agreement between the Owner and Architect, and will be an Owner’s representative during construction until the date the Architect issues the final Certificate For Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents and the Agreement between the Owner and Architect, unless otherwise modified in writing in accordance with other provisions of the Contract.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become familiar with the progress and quality of the portion of the Work completed, to guard the Owner against defects and deficiencies in the Work, and to determine if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor’s rights and responsibilities under the Contract Documents, as provided in Section 3.3.1. The Contractor may not rely upon the Architect’s site observations or related reports to the Owner as confirmation that the Work is being performed in accordance with the Contract Documents or for any other purpose.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor’s failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect’s consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner. To the extent that they occur, any direct communications between the Owner and the Contractor regarding performance or administration of the obligations under this Contract shall be made or confirmed in writing by the Contractor, with copies to the Architect.

§ 4.2.5 Based on the Architect’s evaluations of the Contractor’s Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor’s submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect’s action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect’s professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as
required by the Contract Documents. The Architect’s review of the Contractor’s submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect’s review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect’s approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner’s review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect’s responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect’s response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect’s decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect’s response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 Verification of Compliance with Minn. Stat. § 16C.285, Subd. 3, Responsible Contractor Requirement: Signed verification was required in the solicitation response for all of the Contractor’s first-tier subcontractors that the Contractor intended to retain for work on the project. If the prime contractor or any subcontractor retains additional subcontractors on the project, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification list naming the added subcontractors which verifies the subcontractors have certified they are in compliance within 14 days of retaining the additional subcontractors. Upon request from the Owner, the prime contractor shall submit copies of the signed certifications of compliance from all subcontractors of any tier.

§ 5.1.3 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.
§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14 day period shall constitute notice of no reasonable objection, but shall not constitute waiver of any of the requirements of the Contract Documents.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection, unless specifically required by the Contract Documents.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor’s Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsibly in submitting names as required. No increase in the Contract Sum or Contract Time shall be allowed for a change based on ineligibility under Minn. Stat. § 16C.285.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.2.5 The Contractor agrees to the Owner’s right to audit books and records pursuant to Section 2.6.1, in reference to the Contractor’s selection, award of contract, and payments to Subcontractors.

§ 5.3 SUBCONTRACTUAL RELATIONS

By written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor’s Work, which the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights and limitations on liability of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors. If requested by the Owner, the Contractor shall promptly supply copies of each subcontract agreement to the Owner.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

1. assignment is effective only after termination of the Contract and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
2. assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

Init.

AIA Document A201™ – 2007. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997 and 2007 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 16:14:43 on 11/16/2015 under Order No. 840766255_1 which expires on 06/23/2016, and is not for resale.

User Notes:
When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor’s rights and obligations under the subcontract, except as otherwise may be provided in writing at the time the Owner accepts the assignment.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days due to unreasonable delays attributable to the Owners, the Subcontractor’s compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity.

§ 5.5 PROMPT PAYMENT TO SUBCONTRACTORS
§ 5.5.1 Minnesota Statutes, Section 471.425, subd. 4a, requires prompt payment to Subcontractors. The law requires the prime Contractor to pay any Subcontractor within ten days of the prime Contractor’s receipt of payment from the Owner for undisputed services provided by the Subcontractor. The law also requires the prime Contractor to pay interest of 1-1/2 percent per month on any undisputed amount not paid on time to the Subcontractor.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
§ 6.1 OWNER’S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS
§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner’s own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to those including those portions related to insurance and waiver of subrogation. The Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner’s own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner’s own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY
§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor’s construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor’s Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner’s or separate contractor’s completed or partially completed construction is fit and proper to receive the Contractor’s Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor’s delays, improperly timed activities or defective construction.
§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner, separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.2.6 Should the Contractor wrongfully cause damage to the work or property of any separate contractor, the Contractor shall, upon due notice, promptly attempt to settle with such other contractor by agreement, or otherwise to resolve the dispute. If such separate contractor sues the Owner on account of any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor who shall defend such proceedings at the Contractor’s expense, and if any judgment or award against the Owner arises therefrom, the Contractor shall pay or satisfy it and shall reimburse the Owner for all attorney’s fees and court costs which the Owner has incurred, if any.

§ 6.3 OWNER’S RIGHT TO CLEAN UP
If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7  CHANGES IN THE WORK
§ 7.1 GENERAL
§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive, order for a minor change in the Work, or Authorization to Proceed with a Construction Change, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order or Authorization to Proceed with a Construction Change shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone. In the event the Contractor ignores the Architect’s directions to correct defective or non-complying work, or if previously undetected defective work causes the Owner expense, the Architect and Owner, if in agreement and notwithstanding the Contractor’s disagreement, may execute a Change Order to credit the Owner for the cost of such corrective work or repair.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work or Authorization to Proceed with a Construction Change.

§ 7.2 CHANGE ORDERS
§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:
1. The change in the Work;
2. The amount of the adjustment, if any, in the Contract Sum; and
3. The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Methods used in determining adjustments to the Contract Sum shall adhere to the requirements listed in Sections 7.3.3 and 7.3.7.

§ 7.2.3 Change Orders shall be prepared using AIA Document G701. Computer generated forms may not be substituted, unless AIA software is used to produce a facsimile.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES
§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.
§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Change Order or Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

.1 By mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation. A lump sum for an increase in the Contract Sum may contain a reasonable allowance for the Contractor's overhead and profit. No allowance for overhead and profit will be allowed if the change results in a net decrease in cost. When both additions and credits covering related Work or substitutions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of net increase, if any;

.2 By unit prices stated in the Contract Documents or subsequently agreed upon. Unit prices shall cover all of the Contractor's costs for labor, materials, equipment and related services including such costs for subcontracted work and the Contractor's overhead and profit;

.3 By cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee;

.4 By the method provided in Section 7.3.7;

.5 The cost of a change determined under the methods in Sections 7.3.3.1, 7.3.3.3 and 7.3.3.4 shall include all costs directly related to the change, and the Contractor shall itemize these costs and provide appropriate supporting data as may be necessary to establish their correctness. All indirect costs whether incurred on or off site shall be included in the Contractor's overhead. Indirect costs shall include such items as local telephone use, coordination of trades and/or utilities, site inspection, photography, clerical support, estimating, postage, handling, general cartage and/or cleanup and field coordination.

.6 In the case of Work authorized under Sections 7.3.3.1, 7.3.3.3 and 7.3.3.4, a reasonable allowance for overhead and profit shall be not more than ten (10%) percent of the net cost of Work accomplished by the Contractor's own forces, five (5%) percent of the net cost of Work accomplished by Subcontractors and five (5%) percent of the net cost of materials and equipment. Subcontractors, sub-subcontractors and subsequent tiers of contractors may add an allowance of not more than ten (10%) percent of the net cost of the work accomplished by their own forces to cover their overhead and profit, five (5%) percent of the net cost of the Work accomplished by their Subcontractors and five (5%) percent of the net cost of materials and equipment. Further, as a condition for the Owner's authorization of a five (5%) percent allowance for work of any lower tier contractor, as aforesaid, the Owner may require the Contractor and/or any pertinent lower tier contractor to provide to the Owner detailed, written information to establish to the Owner's satisfaction the actual relationship between the contractor and any lower tier contractor. Such information shall be provided promptly to the Owner following the request thereof.

.7 Cost of additional insurance and performance bond coverage related to the change shall not be included by the Contractor as part of the cost of each change, but shall be compensated for on the basis of actual cost by means of a single Change Order prior to Project Close-Out.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in Section 7.3.3.6. In such case, and also under Section 7.3.3.3,
the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

.1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers’ compensation insurance, all as directly attributable to the change;

.2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed, all as directly attributable to the change;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others, all as directly attributable to the change;

.4 Costs of permit fees, and sales, use or similar taxes related to the Work, all as directly attributable to the change; and

.5 Additional costs of supervision and field office personnel directly attributable to the change only when due to approved extension of Contract Time.

.6 Cost of additional insurance and performance bond coverage related to the change shall not be included as part of the cost of each change, but shall be compensated for on the basis of actual cost by means of a single Change Order prior to Project Close-Out.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect’s professional judgment, to be reasonably justified. The Architect’s interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive. Adjustments to the Contract Time shall reflect only the additional time directly attributable to the Change in the Work.

§ 7.4 MINOR CHANGES IN THE WORK
The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME
§ 8.1 DEFINITIONS
§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Notice to Proceed given by the Owner. The Contractor shall not commence the Work nor allow any Subcontractor to commence work until:

.1 The Contract has been fully executed and the Owner has issued a Notice to Proceed.

.2 The Owner has approved the Contractor’s performance and payment bonds and the bonds have been filed with the Treasurer of Hennepin County.
The Owner has approved evidence of the Contractor’s Liability Insurance and any other insurance required to be purchased by the Contractor.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION
§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 DELAYS AND EXTENSIONS OF TIME
§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act, omission or neglect of the Owner or Architect, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor’s control; or by delay authorized by the Owner pending mediation, arbitration or litigation; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine. Such extension of time shall be the Contractor’s sole and exclusive remedy in the event of any delay hereunder. Under no circumstances shall the Contractor be entitled to recover any indirect damages, consequential damages, loss, expenses or charges incurred due to any delay or disruption in the performance of the Contractor’s Work. The Contractor expressly agrees that it shall not be entitled to bring a claim under Article 15 for damages for delay or disruption, regardless of the cause or reason for the delay or disruption, including without limitation whether such delay or disruption was contemplated by the parties at the time the Contract was executed or was occasioned by the fault of someone other than the Contractor, except when the delay or disruption is caused solely by the Owner or solely by persons acting on behalf of the Owner for which the Owner is legally responsible. The Owner will look first to the Critical Path Method Construction Schedule, per Section 3.10.1, for justification of extensions of Contract Time.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party when expressly allowed under other provisions of these General Conditions.

§ 8.4 LIQUIDATED DAMAGES
§ 8.4.1 Time being an essential element of the Contract, and based on the Project Schedule of Substantial Completion within ____ calendar days from the date of Notice to Proceed, it is hereby agreed that if the Owner determines that an extension is not justified, the Owner will be entitled to damages for failure on the part of the Contractor to complete its obligations. In view of the impracticality and extreme difficulty of fixing and ascertaining the actual damages the Owner would sustain in such event, the Owner shall be entitled to ____ dollars ($_____) per calendar day for each and every day beyond the date of Substantial Completion. The aforesaid specified amount shall not be construed as a penalty, but as liquidated damages for any such failure on the part of the Contractor. The act of the Owner in canceling the Contract for any such failure and/or any unexpected delay shall not forfeit its right to recover liquidated damages from the Contractor and/or its surety. In any suit involving assessment or recovery of liquidated damages, the reasonableness of the daily charges shall be presumed, and the amount assessed, as well as the aforesaid cancellation right or any other cancellation rights stated in the Contract Documents, will be in addition to any other right or remedy now or hereinafter enforceable at law, in equity, by statute, regulation and/or under the Contract.
The Contractor will not be charged with liquidated damages when any delay or failure is due to: any act, omission or neglect of the Owner; written and mutually agreed to changes in the Contract; labor disputes; fire, flood or other natural disasters; unusual delay in transportation; adverse weather conditions not reasonably anticipated; unavoidable casualties; or any other causes beyond the Contractor’s reasonable control and without fault or negligence of the Contractor. Contract Time or performance dates or times may be extended for such reasonable time as the Owner’s Project Manager may determine. A claim for extension will not be allowed unless the Contractor, not later than the end of the Owner’s first business day following the day on which the claim arises, shall have telephoned and informed the Hennepin County Project Manager, at 612- , about the full details of the cause necessitating such a claim. Within seven (7) calendar days of any such telephone call the Contractor shall also send to each of the Owner’s addresses referenced above a communication specifying in detail the cause(s) of the delay. The herein provisions will not preclude the Owner from canceling or terminating the Contract regardless of any act or event beyond the Contractor’s reasonable control, as aforesaid, provided that the Owner shall have given the Contractor thirty (30) days prior written notice of the Owner’s intention to so cancel or terminate, and that during said period, the Contractor shall have failed to cure such delay or failure in performance.

If liquidated damages are charged, they will be charged daily, first against monies then due to the Contractor, then against monies coming due, and then against funds held for eventual release to the Contractor. If these three sources are not sufficient to cover the liquidated damages, the Owner will bill the Contractor for the necessary balance and the Contractor shall promptly pay the invoiced amount(s).

The Owner may waive in writing all or any portion of any liquidated damage assessment after the date services or obligations are completed and accepted by the Owner.

Permitting the Contractor to continue and complete the services or obligations or any part of them after stipulated times will not in any way operate as a waiver on the part of the Owner or its rights hereunder. No act by the Owner in pursing or effecting its rights hereunder will constitute a forfeiture of the Owner’s right to recover liquidated damages from the Contractor and/or its surety.

See section 0800 of the Project Manual for the completion time, liquidated damages daily amount and Project Manager contact information.

ARTICLE 9 PAYMENTS AND COMPLETION
§ 9.1 CONTRACT SUM
The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES
The Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor’s Applications for Payment. The Schedule of Values shall list each item of value in the order of the Project Manual’s Table of Contents by section number. Each value component of work within each section shall be itemized to identify labor and material value separately and to include a directly proportional amount of the Contractor’s profit and overhead. The Schedule of Values shall include a separate line item for insurance premium, performance and payment bond, each Allowance, and for the Project Contract Close-out Submittals, establishing a composite value for as-built record drawings, maintenance and equipment manuals, test reports and warranties. Round off all sums to whole dollars. The sum of all values shall equal the Contract Sum. The Schedule of Values shall be confirmed on Continuation Sheet, AIA Document G703, utilizing the original form or AIA software for any computerized version.

§ 9.3 APPLICATIONS FOR PAYMENT
§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values for completed portions of the Work. Such application shall be notarized and supported by such data substantiating the Contractor’s right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.
§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in
the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the
Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the
Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by
others whom the Contractor intends to pay.

§ 9.3.1.3 Use AIA Document G702, notarized, with the continuation on AIA Document G703. Computer generated
forms may not be substituted unless AIA software is utilized to produce a facsimile.

§ 9.3.1.4 Submit 3 copies on the first day of the month.

§ 9.3.1.5 Beginning with the second Application for Payment, the Contractor shall complete the Owner-supplied
Summary of Payments form. The Summary of Payments form represents prompt payments made to contractors,
subcontractors and suppliers as required by contract, and is submitted in lieu of lien waivers, which are not required
except at the time of the Final Application for Payment.

§ 9.3.1.6 With each current Application for Payment, the Contractor shall submit a written summary of payments
disbursed from the previous Owner-approved Application for Payment. The Summary of Payments form shall list
each contractor, subcontractor or supplier by name, section of the Work and amount of payment, in the exact order
of the approved Schedule of Values so that the individual payments in aggregate shall be identical to the total of the
previous Owner-approved Application for Payment. The Contractor shall certify that the information therein is true
and correct and shall affix his signature to the Summary of Payments.

§ 9.3.1.7 Failure to submit any completed Summary of Payments forms shall be cause for the Architect to withhold
Certification of the Application for Payment.

§ 9.3.1.8 Final Application for Payment requires Contractor’s submission of all lien waivers under Section 9.10,
accounting for all parties to the Work.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and
equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance
by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location
agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon
compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner’s title to such
materials and equipment or otherwise protect the Owner’s interest, and shall include the costs of applicable
insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that all legal title, ownership rights and insurable interest to all Work covered by an
Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants
that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously
issued and payments received from the Owner shall, to the best of the Contractor’s knowledge, information and
belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor,
Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor,
materials and equipment relating to the Work.

§ 9.3.4 Out-of-state Contractors, Subcontractors and employees performing construction work in Minnesota shall be
subject to the withholding requirements set forth in Minnesota Statutes, Section 290.9705.

§ 9.4 CERTIFICATES FOR PAYMENT
§ 9.4.1 The Architect will, within seven days after receipt of the Contractor’s Application for Payment, either issue
to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines
is properly due, or notify the Contractor and Owner in writing of the Architect’s reasons for withholding
certification in whole or in part as provided in Section 9.5.1.
§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect’s evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect’s knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor’s right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION
§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect’s opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect’s opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

.1 defective Work not remedied;
.2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
.3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
.5 damage to the Owner or a separate contractor;
.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
or
.7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS
§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect. To insure proper performance of the Contract, the Owner will retain five (5%) percent of the amount of each Certificate for Payment issued by the Architect prior to Final Completion of the Project. Such retainage will be held by the Owner until Final Payment.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than ten days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor’s portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.
§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 FAILURE OF PAYMENT
If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor’s Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days’ written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor’s reasonable costs of shut-down, delay and start-up, excluding interest, as provided for in the Contract Documents.

§ 9.8 SUBSTANTIAL COMPLETION
§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. Substantial Completion shall be that point of completion and progress of the Work when:

§ 9.8.1.1 The completed Work represents a value of not less than ninety-eight percent (98%) of the current Contract Sum, as represented in the most current Certificate of Payment; and

§ 9.8.1.2 The completed Work represents a value of not less than ninety percent (90%) of the current Contract Sum as distributed for each line item in the Schedule of Values representation in the most current Certificate of Payment; and

§ 9.8.1.3 All primary building systems, to include but not be limited to exterior envelope, structural, exiting, elevator, electrical power, heating, ventilation, air conditioning, plumbing, fire protection, controls and automation, lighting, communications, partitions, floors, ceilings, finish hardware, signage, security, millwork and casework, painting, furnishings, equipment, and furniture are essentially complete; and

§ 9.8.1.4 HVAC balancing is complete and the HVAC Balancing Report has been accepted by the Owner; and

§ 9.8.1.5 Specified operational manuals for equipment and systems as well as operational instructions for all systems and equipment have been delivered to and accepted by the Owner; and

§ 9.8.1.6 Specified warranties for equipment and systems have been delivered to and accepted by the Owner.
§ 9.8.2 When the Contractor considers that the Work, or a designated portion thereof which is acceptable to the Owner, is substantially complete, it shall submit to the Architect a statement that the Work meets all the requirements for Substantial Completion as defined in Section 9.8.1, and that such completed Work represents a value of not less than ninety-eight percent (98%) of the current Contract Sum. The Contractor shall also submit a list of any items of the Work remaining to be completed or corrected for final completion. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all of the Work in accordance with the Contract Documents. Based on the Contractor’s statement of uncompleted Work and observations at the site, if the Architect agrees the Work appears to be substantially complete, the Architect will schedule and make an inspection of the Work and confirm to the Contractor the list of all items to be completed, replaced or corrected. If the Work is not substantially complete in the Architect’s opinion, the Contractor will be advised and a subsequent date set for the inspection. The day on which the Architect inspects the last unit, phase or part of the Work, and determines the Work is substantially complete, shall be the Date of Substantial Completion. The Architect shall be required to conduct one Substantial Completion Inspection and one Final Completion Inspection. If additional inspections are required to establish Substantial Completion, the Architect shall be compensated for the Architect’s inspection, review and processing requirements in full by the Contractor and such compensation shall be borne by the Contractor and accomplished by a Change Order to the Contract. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of the responsibilities assigned to them by such Certificate.

§ 9.8.3 Upon receipt of the Contractor’s list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect’s inspection discloses any item, whether or not included on the Contractor’s list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect. The Owner shall have the right to install furnishings and equipment for the Project prior to Completion of the Work. Such installation shall not constitute occupancy or use by the Owner.
§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work. The Owner shall have the right to use or occupy the Project, or a portion thereof, prior to Completion of the Work under the following conditions:

§ 9.9.2.1 The Owner shall give the Contractor at least ten days prior written notice of intention to use or occupy the Project, or a portion thereof. Prior to use or occupancy, the Architect accompanied by the Owner and the Contractor will conduct an inspection of the area to be used or occupied; based on this inspection, the Architect will prepare a list of work to be completed or corrected. Prior to use or occupancy, the Owner and the Contractor shall agree in writing on their individual responsibilities for security, maintenance, heat, utilities, damage to the Work and insurance for the area to be used or occupied.

§ 9.9.2.2 The insurance company or companies providing the property insurance required by Section 11.4 shall consent to the use or occupancy by endorsement prior to such use or occupancy.

§ 9.9.2.3 After occupancy, the Owner will allow the Contractor reasonable access to the occupied area to complete and correct the Work.

§ 9.9.2.4 Any claims for an adjustment in the Contract Sum or an extension of the Contract Time because of the Owner’s use or occupancy shall be made in writing to the Architect prior to such use or occupancy.

§ 9.9.2.5 The Contractor shall not be held responsible for any damage to the occupied part of the Project resulting from the Owner’s use or occupancy.

§ 9.9.2.6 Use or occupancy by the Owner shall not be deemed to constitute a waiver of existing claims in behalf of the Owner or Contractor against each other.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor’s written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect’s knowledge, information and belief, and on the basis of the Architect’s on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect’s final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor’s being entitled to final payment have been fulfilled. In requesting final inspection and accompanying the Contractor’s Final Application for Payment, the Contractor shall prepare and submit the following:


§ 9.10.1.3 Contractor’s lien waiver for the full amount of the Contract Sum.

§ 9.10.1.4 Contractor’s Sum of Payments.


§ 9.10.1.6 State of Minnesota - Department of Revenue Form IC-134 rev. 9/89, "Withholding Affidavit for Contractors" prepared by the Contractor and all Subcontractors and certified by the Commissioner of Revenue.

§ 9.10.1.7 Current list of Subcontractors and major material suppliers indicating type of work or product, brand
name and/or manufacturer’s name and model number in the sectional order of the Project Manual, firm name, address, telephone and contact person.

§ 9.10.1.8 Contractor’s record copy of all Drawings, Specifications, Change Orders and other modifications, in good order, and marked to record all changes made during construction, and approved Shop Drawings, Product Data and Samples.

§ 9.10.1.9 All payroll reports, certifications and related documents necessary to fulfill the Labor Standards Provisions requirements of the Contract that have not been previously submitted.

§ 9.10.1.10 All written warranties required by the Contract Documents, which were not submitted at the time of Substantial Completion.

§ 9.10.1.11 All operational manuals, instructions, test reports and other data required by the Contract Documents and not submitted at the time of Substantial Completion.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner’s property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days’ prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys’ fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall not constitute a waiver of Claims by the Owner

(Paragraphs deleted)

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

§ 10.1.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.1.2 In the event the Contractor encounters material reasonably believed to be asbestos or polychlorinated biphenyl (PCB) on the site which has not been rendered harmless and which has not been previously identified within the Contract Documents as related to the Work, the Contractor shall immediately stop Work in the area affected and report the condition to the Owner and Architect in writing. If in fact the material is asbestos or
polychlorinated biphenyl (PCB) which has not been rendered harmless, the Owner shall cause such material to be removed or rendered harmless under separate contract. Upon written notification by the Owner to the Contractor that such material has been removed or rendered harmless in the area affected the Work shall be resumed.

§ 10.2 SAFETY OF PERSONS AND PROPERTY
§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to
.1 employees on the Work and other persons who may be affected thereby;
.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss. The Contractor shall be responsible for payment of all fines levied against the Owner which relate to the Contractor's performance of the Work.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel. Contractor shall give the Owner and other appropriate parties reasonable notice prior to use or storage of explosives or other hazardous materials or equipment or use of unusual methods.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall appoint a responsible member of its organization to act as Safety Director (fire and accident) whose duty shall be to prevent accidents, minimize fire hazards and to enforce safety precautions. The Safety Director shall develop procedures and regulations to guide the Contractor, Subcontractors and all workmen. With particular respect to existing buildings, facilities, and the Owner's staff, the Safety Director shall consult with and be guided by supplemental information, when given, by the Owner. This obligation to consult with the Owner is not intended to relieve the Contractor of its safety obligations herein.

§ 10.2.6.1 The Safety Director shall provide a written Safety Program at the outset of the Project and shall transmit copies to all Subcontractors engaged in the Work.

§ 10.2.6.2 The Contractor and Subcontractors shall conform to and abide by all requirements of the Safety Director.

§ 10.2.6.3 The Safety Director shall periodically inspect all spaces of work under this Contract and operations of the Contractor and list hazards to be removed or corrected. These shall be reported to the Owner, the Contractor and the responsible Subcontractors. The Safety Director shall ensure that the responsible parties shall promptly remove or correct the hazards.

§ 10.2.6.4 The Safety Director shall conduct regularly scheduled meetings including all Subcontractors. Minutes of
these meetings, including a list of both attendees and non-participants, shall be forwarded to the County Project Manager in a timely matter.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

(Paragraphs deleted)

§ 10.2.8. The Contractor shall complete the Hennepin County Project Safety & Environment Checklist (Checklist) and shall submit the completed Checklist to the Hennepin County Project Manager, A-2208 Government Center, 300 South Sixth Street, Minneapolis, MN 55487-0228.

§ 10.2.8.1. The Checklist shall be submitted at or prior to the Project’s pre-construction meeting, but not less than 14 calendar days prior to the start of contracted site work. In the event site work begins less than 14 calendar days from the date of execution of the Contract, the Checklist shall be submitted at least 24 hours prior to the start of site work. Should the Contractor expect to and/or fail to submit the Checklist any later than commencement of site work, the Contractor will notify the County’s Project Manager in writing within 24 hours of the start of work.

§ 10.2.8.2. Contractor’s failure to submit the completed Checklist shall be cause for the Architect to withhold Certification of the Application for Payment and immediately advise the Owner to consider suspension of the Work under provisions of Section 2.3. If applied, Work suspension caused by the Contractor will have no adjustments of Contract Sum or Contract Time extended to the Contractor for restart of the Work and time schedule.

§ 10.2.8.3. Submittal of the Checklist shall not relieve the Contractor of any obligation under a governing rule, standard, state or federal statute or regulation, municipal ordinance, County policy, or of any provision in the Project Contract Documents.

§ 10.2.8. INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials

§ 10.3.1. The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2. Upon receipt of the Contractor’s written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor’s reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3. The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be
responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor’s fault or negligence in the use and handling of such materials or substances.

§ 10.3.4 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner’s fault or negligence.

(Paragraphs deleted)

§ 10.4 EMERGENCIES
In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor’s discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS
§ 11.1 CONTRACTOR’S LIABILITY INSURANCE
§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor’s operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

.1 Claims under workers’ compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor’s employees;
.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor’s employees;
.4 Claims for damages insured by usual personal injury liability coverage;
.5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
.6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
.7 Claims for bodily injury or property damage arising out of completed operations; and
.8 Claims involving contractual liability insurance applicable to the Contractor’s obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.4 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor’s completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents. The insurance required by Section 11.1.4 are minimum requirements. It is the sole responsibility of the Contractor to determine the need for and to procure additional insurance which may be needed in connection with this Contract. Copies of insurance policies shall be submitted to the Owner upon written request.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days’ prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.
The Contractor shall not commence the Work until it has obtained required insurance and filed with the Architect for the review and approval of the Owner a properly executed Certificate of Insurance with two (2) duplicate copies which clearly evidences required insurance coverage, and such insurance has been approved by the Owner in writing. The certificate shall name Hennepin County as certificate holder and as an additional insured for all liability coverages except Workers' Compensation and Employer’s Liability. The certificate should also show that Hennepin County will receive thirty (30) days’ prior written notice in the event of cancellation, non-renewal or material change in any described policies.

The Contractor shall furnish the Owner updated certificates during the term of the Contract as insurance policies expire. If the Contractor fails to furnish proof of insurance coverage, the County may withhold payments and/or pursue any other right or remedy allowed under the Contract, law, equity and/or statute.

§ 11.1.4 The Contractor shall have and keep in force the following insurance coverage:

1. Commercial General Liability on an occurrence basis with Contractual Liability and Explosion,

   Collapse, and Underground Property Damage (XCU) coverage:

   | General Aggregate                           | 4,000,000 |
   | Products-Completed Operations Aggregate    | 4,000,000 |
   | Personal and Advertising Injury            | 2,000,000 |

   Each Occurrence - Combined Bodily injury and Property Damage
   Fire Damage - Any One Fire                  | 2,000,000 |
   Medical Expense - Per Person                | 50,000    |
   | 5,000                                      |

2. Automobile Liability - Combined single limit

   each occurrence coverage for bodily injury

   and property damage covering owned,

   non-owned and hired automobiles              | 2,000,000 |

3. Workers’ Compensation and Employer’s Liability:

   a. Workers’ Compensation.

      If the contractor is based outside the state of Minnesota, coverage must apply to Minnesota laws.

   b. Employer’s Liability. Bodily injury by:

      Accident - Each Accident                  | 500,000  |
      Disease - Policy Limit                     | 500,000  |
      Disease - Each Employee                    | 500,000  |
An umbrella or excess policy over primary liability insurance coverage is an acceptable method to provide the required insurance limits.

The Contractor shall be responsible for all deductibles, which may apply to any of the insurance coverages.

§ 11.1.5 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect’s Consultants as additional insureds for claims caused in whole or in part by the Contractor’s negligent acts or omissions during the Contractor’s operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor’s negligent acts or omissions during the Contractor’s completed operations.

§ 11.2

(Property insurance)

§ 11.2.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder’s risk “all-risk” or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value of the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.2 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project. The Owner and Contractor waive all rights against each other for damages caused by fire or other perils to the extent covered by insurance provided pursuant to this Section 11.2 or any other property insurance applicable to the Work, except such rights as they may have to the proceeds of such insurance held by the Owner as trustee. The Contractor shall require, by appropriate agreement, written where legally required for validity, similar waivers in favor of the Owner and the Contractor by subcontractors and sub-subcontractors. With respect to the waivers of rights of recovery, the term Owner shall be deemed to include, to the extent covered by property insurance applicable thereto, the Owner’s consultants, employees and agents and the Architect and the Architect’s consultants, employees and agents. The Contractor waives as against any separate Contractor described in Article 6 all rights for damages caused against the Owner. The Owner shall require, by appropriate agreement, written where legally required for validity, similar waivers in favor of the Contractor by any separate Contractors and their Subcontractors.

The Contractor shall notify the Owner of any impending claim within five (5) days of such loss.

§ 11.2.1.1 Property insurance shall be on an “all-risk” or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect’s and Contractor’s services and expenses required as a result of such insured loss.

§ 11.2.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.2.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles, except that the Contractor shall first pay any costs up to Ten Thousand ($10,000) dollars of the Owner’s builder’s risk policy deductible.
§ 11.2.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.2.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.2.2 BOILER AND MACHINERY INSURANCE
The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.2.3 LOSS OF USE INSURANCE
The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

§ 11.2.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.2.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.2.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.2.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a Certificate of Insurance that includes insurance coverages required by this Section 11.2. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.2.7 WAIVERS OF SUBROGATION
The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.2 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.2.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgage clause and of Section 11.2.9. The Contractor shall pay Subcontractors their just shares of

AIA Document A201™ – 2007. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997 and 2007 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 16:14:43 on 11/10/2015 under Order No.4669766255_1 which expires on 06/23/2016, and is not for resale.

Init. (1836476981)
insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.2.9 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner’s exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

§ 11.3 PERFORMANCE BOND AND PAYMENT BOND; OUT-OF-STATE CONTRACTORS
 § 11.3.1 The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract. The Contractor shall refer to Article 7 of the Instructions to Bidders for requirements to furnish the performance bond and payment bond.

(Paragraphs deleted)
§ 11.3.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

(Paragraphs deleted)
ARTICLE 12 UNCOVERING AND CORRECTION OF WORK
§ 12.1 UNCOVERING OF WORK
§ 12.1.1 If a portion of the Work is covered contrary to the Architect’s request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect’s examination and be replaced at the Contractor’s expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner’s expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor’s expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK
§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION
The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect’s services and expenses made necessary thereby, shall be at the Contractor’s expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION
§ 12.2.2.1 In addition to the Contractor’s obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. If the Contractor fails to correct nonconforming Work within a reasonable time after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.
§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK
If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS
§ 13.1 GOVERNING LAW
The Contract shall be governed by the law of the place where the Project is located.

§ 13.2 SUCCESSORS AND ASSIGNS
§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 WRITTEN NOTICE
Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES
§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS
§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such
procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor. Testing agencies or consultants employed by the Contractor shall be subject to the prior approval of the Architect and Owner.

§ 13.5.2 If after the commencement of the Work the Architect determines that any of the Work requires special inspection, testing or approval which Section 13.5.1 does not include, the Architect may, upon written authorization from the Owner, in lieu of the procedure specified in Section 13.5.1, secure the services of an independent testing agency to perform such tests, inspections and approvals. The Contractor, at the Contractor’s expense, shall make all arrangements, furnish all samples and materials to be tested, and deliver the samples and materials to the testing agency. Reports of such tests, inspections and approvals shall be submitted to the Architect and the Contractor. The Contractor or the Owner shall bear the costs of such tests as provided in Section 13.5.3.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect’s services and expenses shall be at the Contractor’s expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

(Paragraphs deleted)

§ 13.7 TIME LIMITS ON CLAIMS

§ 13.7.1 As between the Owner and the Contractor and its insurer or surety, no action in contract, tort, or otherwise to recover damages shall be brought against any party more than three (3) years after the alleged cause of action has accrued. The cause of action shall accrue on the date of issuance of the Final Project Certificate for Payment, or on the date of the act or failure to act, or on the date of the discovery by the other party of the act or failure to act, or on the date that the other party suffers damages, whichever is last. If this Contract is terminated prior to completion of the Project and there is no date of issuance of the Final Project Certificate for Payment, the cause of action shall be deemed to have accrued on the date of termination of the Contract, or on the date of the act or failure to act, or on the date of discovery by the other party of the act or failure to act, or on the date that the other party suffers damages, whichever is last. This section shall supersede all other limitations periods provided by law.

§ 13.8 HENNEPIN COUNTY AFFIRMATIVE ACTION POLICY

§ 13.8.1 During the performance of this Contract, the Contractor agrees as follows:

In accordance with Hennepin County’s policies against discrimination, Contractor agrees that it shall not exclude any person from full employment rights or participation in or the benefits of any program, service, or activity on the grounds of race, color, creed, religion, age, sex, disability, marital status, sexual orientation, public assistance status, or national origin; and no person who is protected by applicable Federal or State laws against discrimination shall be otherwise subjected to discrimination.

If this Agreement is for a sum over $100,000 or is one of several contracts with said CONTRACTOR within a 12-month period totaling more than $100,000, or is amended to exceed $100,000, and a written exemption was not granted or was withdrawn by the County’s Purchasing & Contract Services (PCS) Manager, Contractor agrees to complete and submit for approval an Affirmative Action Plan (AA Plan) which contains the following goals:

Construction Employment

Minority (skilled and unskilled combined) 32%
Women (skilled and unskilled combined) 6%

Init. AIA Document A201™ - 2007. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997 and 2007 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of It, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 16:14:43 on 11/16/2015 under Order No.8465766255_1 which expires on 06/23/2016, and is not for resale. 

User Notes: (1836476981)
The AA Plan shall be reviewed by Hennepin County Purchasing & Contract Services (PCS) for approval. Approved AA Plans shall be monitored for compliance by PCS. Contractor shall submit an Employment Utilization Report on a monthly basis. PCS may, at any intervals deemed necessary, make on-site reviews to ascertain compliance with these requirements.

If the construction AA employment goals are not met, the County will require the Contractor to demonstrate that good faith efforts have been made to meet the goals. To determine whether a Contractor has demonstrated good faith efforts, PCS will require the Contractor to provide documentation that the company has actively and aggressively attempted to meet its AA goals. If the County determines that the Contractor has failed to demonstrate the same, and/or if the Contractor has failed to submit employment reports and/or information required by the PCS Manager, and/or the Contractor has engaged in discriminatory practices, the County may, in its sole discretion, withhold up to fifteen percent (15%) of the contract price until such time as the Contractor is determined to have submitted the required reports and/or information and/or Contractor has demonstrated good faith efforts, as determined by the County.

§ 13.8.2 The Contractor shall insert in all of its subcontracts over $100,000, which have not been granted an exemption or which have had any such exemption withdrawn, clauses requiring the Subcontractor’s compliance with the following:

.1 Furnish the Contractor with an AA Plan containing the goals established in 13.8.1,

.2 Submit to the County’s PCS Manager all information and reports requested by Hennepin County; and

.3 Comply with the Hennepin County Board’s policies with regard to non-discrimination and affirmative action (AA). It shall be the responsibility of the Contractor to monitor and enforce Subcontractor’s compliance with this Section 13.8.2. It is understood, however, that the County may take such steps as it deems appropriate to ascertain Subcontractor’s compliance with this Section 13.8.2 and further, if the County determines that Subcontractor is not in compliance, the County may require the Contractor to take appropriate measures to bring Subcontractor into compliance.

§ 13.8.3 The County exempts certain contracts from the AA requirements. Exemptions for construction contracts over $100,000 are granted when any of the following conditions apply:

.1 Contract or subcontract is for purchase of supplies or services unrelated to Hennepin County construction projects;

.2 Contracts where the County is the recipient of funds;

.3 Contracts for emergency or life-safety (threatening) related purchases. Such contracts must contain the County’s non-discrimination clause;

.4 Contracts with firms, who as members of associations with signed County agreements respecting alternative affirmative action procedures, submit a letter indicating their active membership status in that association.

§ 13.8.4 No Contractor, material supplier, or vendor, shall, in any manner, discriminate against, or intimidate, or prevent the employment of any person or persons identified in Section 13.8.1, or on being hired, prevent, or conspire to prevent, the person or persons from the performance of work under any contract on account of race, creed, or color.

§ 13.8.5 By law, a violation of Section 13.8.4 is a misdemeanor; and

§ 13.8.6 This Contract may be canceled or terminated by the Owner, and all money due, or to become due under the contract, may be forfeited for a second or any subsequent violation of the terms and conditions of this Section 13.8.

§ 13.8.7 Indemnification. To the fullest extent permitted by law, the Contractor shall indemnify, hold harmless
and defend the Owner, and Architect, and their respective officials, officers, and employees and consultants from
and against claims, damages, losses and expenses, including but not limited to attorney’s fees incurred by
the Owner, the Architect, or by their officials, officers, agents, employees, and consultants, arising out of or relating to a
claim against Contractor or its employees of discrimination or harassment.

§ 13.9 HENNEPIN COUNTY SMALL BUSINESS ENTERPRISE (SBE) PROGRAM
§ 13.9.1 SBE PROGRAM REQUIREMENTS  Hennepin County is committed to providing equal opportunity in
contracting and to a goal of increased participation of SBE firms in contracting and subcontracting. An SBE goal of up
to a maximum of 25% may be set on this project, based on the project’s scope of work afforded by the opportunity and
upon the availability of SBE firms. Hennepin County’s SBE participation goal for this contract is listed in Article 13 of
Section 00100- Instructions to Bidders. The following conditions apply in determining compliance with this
goal:

.1 The total payments made under a contract or subcontract to certified SBEs will be counted toward the
applicable goal.

.2 In the case of a joint venture, that portion of the payments attributable to the participation and control of
the SBE partner in the joint venture will be counted toward the applicable goal.

.3 Only payments to SBEs that perform a commercially useful function in the work of a contract or
subcontract may be counted toward the small business utilization goals. SBEs are considered to perform a
commercially useful function when they are responsible for execution of work directly applicable to the
project and carry out their responsibilities by actually supplying labor or material to, or managing or
supervising the work involved.

.4 Total payments for materials and supplies may be counted toward SBE participation goals if the SBEs
assume the actual and contractual responsibility for providing the materials and supplies.

.5 The Contractor must receive written approval from the Hennepin County Project Manager and
Hennepin County’s PCS Manager before making any changes to the previously approved Subcontractor
Participation Form.

.6 The Contractor’s commitment to a specified participation level is to meet the required participation
levels, and is not intended and shall not be used to discriminate against any qualified company or group of
companies.

.7 Only SBEs that are recognized as certified by the Hennepin County SBE Program will be counted
towards the Contractor’s SBE goals.

.8 With written notification that a Contractor is the Apparent Low Bidder(s), they will be required to
submit a Hennepin County Purchasing & Contract Services Subcontractor Participation Form listing all
Subcontractors that they will have on the joint and indicating the contract amount for each. In addition,
Contractor must require all tiered Subcontractors to complete the Subcontractor Participation Form. These
Subcontractor Participation Forms must also be submitted along with Contractor’s Subcontractor
Participation Forms to PCS. If any Apparent Low Bidder is unable to meet the SBE required participation
goal, it shall submit a detailed statement of its good-faith efforts. The good-faith effort statement shall
identify all efforts made to achieve the SBE participation goal. Failure to either meet the SBE
participation goal or demonstrate sufficient good-faith efforts may be cause to reject the contract award to
the Apparent Low Bidder.

§ 13.9.2 SOLICITATION AND PARTICIPATION  Contractor agrees to make good faith efforts to solicit the
participation of SBE’s to meet the participation goal established in Article 13 of Section 00120- Supplementary
Instructions to Bidders.

§ 13.9.2.1 The Apparent Low Bidder understands that the SBE participation goal must be maintained throughout the
life of its Contract. Further, credit toward the required SBE participation level will not be counted unless the SBEs
utilized are recognized as certified by Hennepin County.
§ 13.9.2.2 Contractor and all tier subcontractors and suppliers shall establish and maintain records and submit regular reports, as required.

§ 13.9.2.3 Hennepin County Purchasing and Contract Services (PCS) maintains a current listing of certified SBEs. This list can be obtained from PCS by calling (612) 348-2528 or by accessing the following website at http://www.govcontracts.org. Bidders are encouraged to inspect these lists to assist in locating SBEs for the work.

§ 13.9.3 SBE REPORTING REQUIREMENTS Contractors, as required in Article 13 of Section 00100 - Instructions to Bidders, shall submit payment reports using the G702 and G703 Contractor Payment Disbursement form accompanied with the Summary Sheet to confirm payments to all Subcontractors/Suppliers.

§ 13.9.4 EXEMPTIONS FROM SBE REQUIREMENTS A request for an exemption to the SBE goal requirement must be made to the Project Manager or PCS Manager. The PCS Manager must approve all exemptions. The Contractor may request an exemption based upon any one of the following situations:

.1 Contracts with Government Jurisdictions – This exemption applies when another government jurisdiction or quasi-governmental agency is contracting with the county.

.2 Emergency-Related Purchases – This exemption applies for emergency or life-safety (threatening), related purchases authorized by the County Administrator, Deputy Administrator, or the Purchasing Manager.

.3 Sole-Source or Unique Goods, Commodities, or Services – This exemption applies to requests for bids/proposals in which the scope is necessarily written such that there is only one source, regardless of the marketplace that possesses the capability to perform the contract.

.4 Self-Performance – This exemption applies to prime contractors who self-perform more work than the stated goal allows. For example, at 100%, the goal is waived, at less than 100%, the goal could be reduced to reflect the actual opportunity for subcontracting.

.5 Other Special Circumstances – These would be evaluated on a case-by-case basis, after Contractor’s submittal of a detailed written petition.

§ 13.9.5 GOOD FAITH EFFORTS DURING BID EVALUATION PROCESS

§ 13.9.5.1 The Apparent Low Bidder will be required to submit all detailed documentation of its good-faith efforts. The good-faith effort documentation shall identify all efforts made to achieve the SBE participation goal and shall accompany the SBE Subcontractor/Supplier Participation Form. Failure to either meet the SBE participation goal or submit requested documentation may be cause to reject the contract award to the Apparent Low Bidder. The good-faith effort documentation will verify the following:

.1 Verification that the Apparent Low Bidder rejected SBEs because they did not submit the lowest bid or they were not qualified. Such verification shall include a verified statement of the amounts of all bids received from potential subcontractors on the project and that the Apparent Low Bidder rejected SBEs because they did not submit the lowest bid from among such bids or they were not qualified. For each SBE found to be not qualified, the verification shall include a statement giving the Apparent Low Bidder’s reason for its conclusion.

.2 Verification of efforts to provide timely written or telephone notice to all appropriate SBEs within identified subcontracting categories listed in the most current, approved certification directory. If the Apparent Low Bidder has purchased project plans seven (7) calendar days or fewer before bids are due, documented phone calls in lieu of written notice may be permitted.

.3 Verification of efforts to subcontract, consistent with industry practice, with the SBEs whom the Apparent Low Bidder has contacted, or who have contacted the Apparent Low Bidder. Include the names, addresses, and telephone numbers of all SBEs contacted; a description of efforts made to
subcontract; and a description of the information provided to the SBE regarding the plans and specifications for the portion of the work to be performed by subcontractors. If attempts to subcontract actually occurred, provide the dates and places of such process and a description of the outcome.

.4 Verification that the Apparent Low Bidder attempted to recruit SBEs from at least the same geographic area from which it attempted to recruit other subcontractors.

.5 Verification that, consistent with industry practice, the Apparent Low Bidder gave SBEs necessary access to and adequate time to review all necessary project plans, drawings, specifications and other documents, as well as adequate time to prepare subcontract bids.

.6 Verification that, consistent with industry practice and the Apparent Low Bidder's past practices on similar projects, the Apparent Low Bidder selected portions of the work to be performed by SBEs in order to achieve the project participation goal. This includes consideration of structuring the contract into economically feasible units to facilitate meaningful SBE utilization as subcontractors or suppliers.

.7 Statement giving the reasons why the Apparent Low Bidder and each SBE contacted or each SBE that contacted the Apparent Low Bidder did not succeed in reaching a subcontracting agreement.

.8 Statement that the Apparent Low Bidder attended pre-bid meetings or otherwise obtained the information on subcontracting opportunities that is provided at such meetings.

§ 13.9.5.2 If PCS determines that the Apparent Low Bidder failed to meet the SBE participation goal and failed to successfully demonstrate good-faith efforts to meet the goal during the bid/proposal/contract evaluation process, the Apparent Low Bidder will be notified in writing of the County's decision within five (5) business days of such determination. Apparent Low Bidder may appeal PCS' decision that the Apparent Low Bidder failed to meet the SBE participation goal and successfully demonstrate good-faith efforts to meet the goal.

To appeal, the Apparent Low Bidder must, within five (5) business days after receipt of the above-referenced written notice, appeal the decision to the County Administrator or designee. An appeal must be made in writing and shall be accompanied by any supporting documentation. If Apparent Low Bidder fails to submit an appeal within five (5) business days, PCS' determination shall remain in effect. The County may, at its option, enter into a contract with the next lowest bidder, or other vendor meeting contract specifications or pursue such other measures as the County deems to be in its interest.

§ 13.9.6 GOOD FAITH EFFORTS DURING CONTRACTOR PERFORMANCE

§ 13.9.6.1 If Contractor fails to maintain the SBE participation goal during the performance of the contract and cannot demonstrate good-faith efforts in accordance with the following guidelines, the Contractor may, at the County's sole option, be deemed in breach of contract and subject to sanctions. The following are good faith effort guidelines.

.1 Verification that the Contractor entered into a contract with the SBE firm(s) identified on the Subcontractor/Supplier Participation Form to perform work on the project.

.2 Verification that, consistent with industry standards, the Contractor maintained communication with the SBE to insure that the SBE understood when to begin work and was available to fulfill its contractual agreement.

.3 Statement giving the reason(s) why the subcontractor/supplier contracted with to meet the SBE utilization goal did not fulfill its contractual agreement.

.4 Verification of efforts to replace a non-performing SBE by written or telephone notice to all appropriate SBEs within required subcontracting categories listed in the most current, approved certification directory.

§ 13.9.6.2 In all of its contracts over $100,000, Contractor shall insert clauses requiring the Subcontractor to:
(1) adopt the contract-specific designated goal; (2) submit all information and reports required by Hennepin County;
and (3) comply with all Hennepin County Board policies with regard to SBE utilization. It shall be the responsibility of the Contractor to monitor and enforce Subcontractor's Compliance with this Section 13.9.6.2.

The County may take such steps as it deems necessary and appropriate to ascertain compliance with the County's SBE requirements, and further, if the County determines that subcontractor is not in compliance, the County may require the Contractor to take appropriate measures to bring subcontractor into compliance.

§ 13.9.7 SANCTIONS
If the SBE participation goal is not met after contract award/approval, the County will require Contractor to successfully demonstrate that good-faith efforts have been made to meet their goal. If the County determines that the Contractor has failed to demonstrate good-faith efforts, and/or if the Contractor has failed to submit information required by PCS, and/or the Contractor has engaged in discriminatory practices, the County may, in its sole discretion, suspend, cancel, or terminate, in whole or in part, the aforesaid contract. Additionally, the County may, in its sole discretion, withhold up to fifteen (15) percent of the contract price until such time as the Contractor is determined to have submitted the required reports and/or information, and/or the Contractor has demonstrated good-faith efforts, as determined by the County.

§ 13.10 LABOR STANDARDS PROVISIONS

§ 13.10.1 MINIMUM WAGE RATES
Contractor agrees that all laborers, workers, and mechanics employed or working upon the site of work will be paid unconditionally and not less often than once a week, and without subsequent rebate, kickback, refund or deduction on any account (except such payroll deductions as are permitted by regulations), the required prevailing wage rate. For purposes thereof, the term prevailing wage rate is defined as that amount required to be paid for a classification of work which is equal to the sum of the basic hourly rate plus applicable fringe benefits as noted in the Wage Rate Determination of the Minnesota Department of Labor and Industry (MN DOLI) for Commercial Construction Within Hennepin County (hereinafter referred to as the Wage Determination). Said Wage Determination, current as of the release date of bidding documents and attached both hereto and by means of website reference, is made a part hereof, and the work classifications therein shall govern irrespective of the terms of any contractual and/or employee/employer relationship which may be alleged to exist between the contractor and such laborers, workers, and mechanics. All laborers, workers, and mechanics shall be paid the appropriate prevailing wage for the classification of work actually performed, without regard to skill, except as provided in Section 13.10.5., APPRENTICES. In determining the appropriate work classification, Hennepin County will look at area practice (construction customs and usage common within Hennepin County).

During the period from the time an hourly employee is required to report for duty at the site of work until such time that he/she is released or permitted to leave the site of work, no deduction shall be made from his/her time for any delays of less than thirty consecutive minutes.

A contractor or subcontractor may discharge his/her prevailing wage rate obligation as defined above by (1) making cash payments to the employee plus payments to an employee’s fringe benefit program (funded or unfunded), the sum of which is equal to the total prevailing wage rate; or (2) making payments in cash to the employee in the amount equal to the total prevailing wage rate. If the contractor pays employee benefits into plans or programs the contributions must be irrevocable, and the contractor shall maintain records which show: that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and the costs anticipated or the actual cost incurred in providing such benefits.

No credit for fringe benefits may be taken for any benefit required by federal, state or local law (e.g., workers compensation, unemployment compensation, social security contributions, etc.).

While the rates shown in the Wage Determination are the prevailing wage rates required for the life of this contract, this is not a representation that labor can be obtained at these rates. It is the responsibility of bidders to inform themselves as to local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price shall be allowed or authorized on account of payment of rates in excess of those listed herein.

The Wage Determination, current per the aforementioned release date, shall be posted by the Contractor at the site.
of work in at least one conspicuous place for the information of laborers, workers and mechanics working on the project.

§ 13.10.2 WITHHOLDING OF FUNDS/ LIQUIDATED DAMAGES/ DEBARMENT/ SUSPENSION
The County of Hennepin, in its sole discretion (and without any liability whatsoever), may withhold or cause to be withheld from the contractor so much of the contract payments or advances as may be considered necessary to pay laborers, workers, and mechanics employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event Hennepin County determines that the successful bidder or any of its subcontractors have (1) failed to pay the prevailing wages to, and/or on behalf of, any laborer, worker, or mechanic (including apprentices) employed or working on the site of work; (2) demanded a rebate, kickback or refund from any of its employees; (3) made a deduction not expressly allowed by law or regulation; (4) failed to submit or make the records available as required and/or requested herein; and/or (5) failed to permit employee interviews; Hennepin County may, after written notice to the contractor, disburse such amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due and/or to the applicable fringe benefit plan for such employees; allow the contractor or subcontractor to disburse the appropriate amounts to the respective employees to whom they are due, and/or the appropriate fringe benefit plan; withhold such amounts as deemed reasonable by the County from contract payments or advances until such violations have ceased; require the successful bidder to pay to Hennepin County—and the successful bidder shall so promptly pay—(or Hennepin County may withhold and keep moneys due the successful bidder) as liquidated damages an amount equal to five percent (5%) of the contract amount; and/or debar or suspend the contractor or subcontractor from the County's responsible bidders list. The duration of debarment or suspension will be determined by the circumstances relating to the violation.

The above remedies shall be in addition to any other remedies available to the County under these contract documents, law, statute, ordinance, rule, regulation, and/or equity.

§ 13.10.3 PREVAILING HOURS OF LABOR
The Wage Determination sets forth the prevailing hours of labor as eight (8) hours per day and forty (40) hours per week if State funds are involved. Employees may not be permitted or required to work longer than the prevailing hour of labor unless the employee is paid for all hours in excess of the prevailing hours at a rate of at least one and one-half (1 1/2) times his/her hourly basic rate of pay; nor shall he/she be paid a lesser rate of wages than the prevailing wage rate in the same or most similar trade or occupation in the area. However, if there is no State funding, overtime need only be paid for hours in excess of forty (40) per week.

§ 13.10.4 PAYROLLS AND BASIC RECORDS
The contractor and all subcontractors (including lower-tier) are required to pay prevailing wages. The contractor is required to maintain and preserve payrolls and canceled payroll checks, time cards and payroll registers all relating thereto (such canceled payroll checks, time cards and payroll registers hereinafter referred to as "basic records"). Such payrolls and basic records shall contain the name, address, and social security number of each worker, his or her correct classification (the work classification must come from the Wage Determination issued for the project), hourly rates of wages paid, daily and weekly number of hours worked, deductions made and actual wages paid. In addition, the contractor shall maintain daily time records showing the hours worked by all hourly employees. Such time cards shall be signed by the employee and the employer.

The contractor shall submit within fourteen (14) calendar days after the end of each weekly pay period in which any contract work is performed all payrolls for said pay period to the following address:

Prevailing Wage Compliance Specialist
Hennepin County Attorney's Office - Civil Division
A-2000 Government Center
Minneapolis, Minnesota 55487

Upon request by the Prevailing Wage Compliance Specialist, the contractor shall promptly furnish to said person the basic records to substantiate the payroll documents submitted.
A Contractor/Subcontractor Certification will be provided to the successful contractor. The successful contractor is required to submit the Contractor/Subcontractor Certification to the Prevailing Wage Compliance Specialist prior to employees starting work on the project site. In addition, the contractor shall submit a Weekly Report of Subcontractors on Job Site to be completed by the site superintendent and submitted with the weekly certified payroll reports.

The successful contractor shall require all subcontractors to submit a Contractor/Subcontractor Certification to the contractor before beginning work on the project site, and the contractor shall in turn submit the form to the Prevailing Wage Compliance Specialist prior to said work.

The contractor shall require all subcontractors to maintain and preserve payrolls and basic records. Such payrolls and records shall contain the pertinent information required to be contained in contractor’s payrolls and basic records. The contractor shall require all subcontractors to submit to the contractor their pertinent payrolls so as to allow the contractor to submit to the Prevailing Wage Compliance Specialist, within the fourteen calendar day time frame, said payrolls and contractor’s payrolls pertaining to the same weekly pay period. The contractor shall also require its subcontractors to promptly submit their basic records to the contractor upon its request.

Each payroll submitted shall be accompanied by a statement (i.e., Statement of Compliance) signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

§ 13.10.4.1 That the payroll period contains all required information and that such information is correct and complete;

§ 13.10.4.2 That each laborer, worker, or mechanic (including apprentices) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, kickback, or refund either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned (other than permissible deductions); and

§ 13.10.4.3 That each laborer, worker, or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable Wage Determination incorporated into the contract.

The falsification of any of the above certifications may subject the contractor or subcontractor to any remedies available to the County whether under these specifications, law, statute, ordinance, rule, regulation and/or equity, including — without limitation whatsoever — liquidated damages in the amount set forth herein.

Supplementary to, and not in limitation of, any other record provision contained in the contract documents, the contractor and/or any subcontractor shall promptly make the records required under the labor standards clauses of the contract available for inspection, copying, or transcription by representatives of Hennepin County, and/or MN DOL, and shall permit such representatives to interview employees during working hours on the job. The contractor shall be as fully responsible for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by them, as for the acts or omissions of persons directly employed by the contractor.

The contractor shall maintain and preserve, and shall require its subcontractors to maintain and preserve, payrolls and basic records for a period of three years after completion of the project.

§ 13.10.5 APPRENTICES
Contractors employing apprentices under approved programs shall maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

The following conditions apply to the use of apprentices on the project:

§ 13.10.5.1 Apprentices will be permitted to work at less than the predetermined rate for the work they performed.
when they are employed pursuant to and individually registered in a bona fide apprenticeship program under the Division of Voluntary Apprenticeship of MN DOLI.

§ 13.10.5.2 Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice’s level of progress, expressed as a percentage of the journey worker hourly rate specified in the applicable Wage Determination.

§ 13.10.5.3 Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the Wage Determination for the applicable classification.

§ 13.10.5.4 The allowable ratio of apprentices to journey workers on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable journey worker wage rate as indicated on the Wage Determination for the work actually performed.

§ 13.10.5.5 In the event MN DOLI withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

§ 13.10.6 REQUIRED CONTRACT PROVISIONS
These Labor Standards Provisions shall apply to all work whatsoever performed on the contract.

The contractor shall insert in each of his/her/its subcontracts all terms, conditions and stipulations contained in these Labor Standards Provisions and also a clause requiring his/her/its subcontractors to include these Labor Standards Provisions in any lower tier subcontracts which they may enter into, together with a clause requiring the inclusion of these provisions in any further subcontracts that may in turn be made. The Labor Standards Provisions shall in no instance be incorporated by reference.

A breach of any of the terms, conditions and stipulations contained in these Labor Standards Provisions (or any other provisions of these specifications and/or the contract) may be grounds for termination of the contract, recovery of liquidated damages (where specifically authorized herein), debarment, and/or suspension of the contractor and/or subcontractor, as well as any other right or remedy available under law, statute, ordinance, rule, regulation and/or equity.

The County’s failure to insist upon strict performance of any term, condition or stipulation of these specifications and/or contract or to exercise any right herein contained shall not be a waiver or relinquishment of such term, condition, stipulation or right, unless the County consents thereto in writing. Any such written consent shall not constitute a waiver or relinquishment of the future of such condition, stipulation or right.

The rights and remedies available hereunder shall be construed as cumulative, and the exercise of one shall not preclude the exercise of others in combination or singularly. Any or all such rights or remedies may be exercised as often as deemed appropriate by the County.

(Refer to the attached pages for the Wage Determination)

§ 13.11 OFFICE PAPER AND NEWSPRINT RECYCLING PROGRAM
The Owner encourages the Contractor to develop and implement an office paper and newsprint recycling program.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT
§ 14.1 TERMINATION BY THE CONTRACTOR
§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any
other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
.2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
.3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or

(Paragraph deleted)

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days’ written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner’s obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days’ written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor:

.1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
.2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
.3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
.4 otherwise is guilty of substantial breach of a provision of the Contract Documents; or
.5 fails to make satisfactory progress in performing the Work for a period of thirty (30) days; or
.6 becomes insolvent, makes a general assignment for the benefit of its creditors, or is unable to pay its debts as they generally come due; or
.7 suspends its business operations or otherwise fails to operate its business in the ordinary course.

§ 14.2.2 When any of the above reasons exist, the Owner may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor’s surety, if any, seven days’ written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
.2 Accept assignment of subcontracts pursuant to Section 5.4; and
.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect’s services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance,

AIA Document A201™ – 2007. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1986, 1970, 1976, 1987, 1997 and 2007 by The American Institute of Architects. All rights reserved. WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law. This document was produced by AIA software at 16:14:43 on 11/16/2015 under Order No.84672435.1 which expires on 06/23/2016, and is not for resale.

Init. / User Notes:
the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Architect, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE
§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

.1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
.2 that an equitable adjustment is made or denied under another provision of the Contract; or
.3 that performance is, was or would have been so suspended, delayed or interrupted due to an epidemic, pandemic, declaration of emergency by the governor, declaration of local emergency, or other order issued by federal, state, or local unit of government.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE
§ 14.4.1 The Owner may, at any time, terminate the Contract in whole or in part for the Owner’s convenience and without cause. In the event the Owner elects to terminate this Contract pursuant to this provision, the Owner shall notify Contractor by certified or registered mail, return receipt requested, fifteen (15) days prior to the effective date of the basis and extent of termination. Termination shall be effective at the close of business on the date specified in the notice.

§ 14.4.2 Upon

(Paragraphs deleted)
delivery by certified or registered mail to Contractor of a notice of termination specifying the nature of the termination and the date upon which such termination becomes effective, Contractor shall:

§ 14.4.2.1 Stop Work under this Contract on the date and to the extent specified in the notice of termination.

§ 14.4.2.2 Place no further orders and enter into no further subcontracts.

§ 14.4.2.3 Terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the Notice of Termination.

§ 14.4.2.4 With the advance approval of the Owner, settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, the cost of which would be reimbursable in whole or in part in accordance with the provisions of the Contract.

§ 14.4.2.5 Within ten (10) work days from the effective date of termination, transfer title to Owner (to the extent that title has not already been transferred) and deliver, in the manner, at the times, and to the extent directed by the Owner, all files, processing systems (excluding equipment and operating systems), data manuals, and other documentation in any form that relate to the work terminated by the Notice of Termination.

§ 14.4.2.6 Complete the performance of such part of the work as has not been terminated by the Notice of Termination; and

§ 14.4.2.7 Take such action as may be necessary, or as the Owner may direct, for the protection and preservation of the property related to this Contract, which is in the possession of Contractor and in which Owner has or may acquire an interest.
§ 14.4.3 Contractor shall proceed immediately with the performance of the above obligations notwithstanding any delay in determining or adjusting the amount of any item or reimbursable price under this clause.

§ 14.4.4 Upon termination of this Contract in full, Contractor shall return to Owner any property made available for its use during the term of this Contract.

§ 14.4.5 In the event that any work is terminated under the provisions hereof, all completed items or unit of work will be paid for at contract bid prices. Payment for partially completed items or units of work will be made as provided below and as otherwise mutually agreed to, the intent being that an equitable settlement will be made to the Contractor. Loss of anticipated profits will not be considered in this settlement. In addition to Contractor’s other obligations, Contractor shall allow the Owner prompt and free access to the Contractor’s cost records and other data relating to the Contract, as may be needed to determine the amount of payment due the Contractor.

§ 14.4.6 Termination of the Contract or any portion thereof shall not relieve the Contractor of responsibility for the completed work, nor shall it relieve the Contractor’s sureties of their obligation for and concerning any just claims arising out of the work performed.

§ 14.4.7 Compensation will be made on the following basis:

§ 14.4.7.1 The accepted quantities of work completed in accordance with the Contract will be paid for at the Contract prices.

§ 14.4.7.2 For materials that have been ordered but not incorporated in the work, reimbursement will be made as provided below.

§ 14.4.7.3 For partially completed items, the accepted work will be paid for on the basis of a percentage of the contract bid price equal to the percentage of actual accomplishment.

§ 14.4.7.4 The Contractor will also be reimbursed for such actual expenditures for equipment, mobilization and overhead as the Owner considers directly attributable to the eliminated work and that are not recovered as part of the direct payment for the work.

§ 14.4.8 Payment for completed work at the Contract prices and for partially completed work and materials in accordance with the above provisions shall constitute final and full compensation for the Owner’s contract cancellation for conveniences.

§ 14.4.9 Payment for materials that have been ordered for the work, but that are not to be used because of cancellation of the contract for convenience, will be made in accordance with the following provisions, unless the contractor or supplier elects to take possession of the surplus material without expense to the Owner:

§ 14.4.9.1 Payment for surplus materials that have been purchased and shipped or delivered to the Project will be made at the Contract bid price when the pay item covers the furnishing and delivering of the material only.

§ 14.4.9.2 When the Contract bid price covers the furnishing and placing of the material, the Owner will take possession of the surplus materials that have been purchased and shipped or delivered to the Project, or will order the material returned to the supplier for credit, and will pay the Contractor the actual purchase price of the material plus transportation costs, to which will be added ten (10%) percent of the total thereof, and from which will be deducted any credits received by the Contractor for materials returned.

§ 14.4.9.3 Materials that have been ordered but have not been consigned for shipment will be paid for upon delivery the same as materials in transit or delivered only when the supplier is unwilling to cancel or modify the order such as in the case of materials requiring special manufacture, fabrication or processing so as to be unsuitable for general use.

§ 14.4.10 In no case will payment for surplus materials exceed the Contract bid price for the materials complete in place. The Contractor shall furnish receipted invoices or an affidavit showing the purchase price and transportation
charges on materials to be taken over by the Owner.

§ 14.4.11 Surplus materials that are taken over by the Owner shall be delivered to the storage sites designated by the Owner.

§ 14.4.12 Except as above provided, no payment will be made to the Contractor for any materials that are not incorporated in the work. Materials are to be ordered in the quantities needed unless a specific quantity is to be furnished by direct order of the Owner.

§ 14.4.13 No payment will be made for surplus materials that have not been inspected, tested and accepted for use, nor will any payment be made for accepted materials that have not been properly preserved, stored and maintained to the date on which they are delivered to the Owner.

ARTICLE 15 CLAIMS AND DISPUTES
§ 15.1 CLAIMS
§ 15.1.1 DEFINITION
A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS
Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Architect. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE
Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST
If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME
§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor’s Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES
The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

1. damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

2. damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.
This mutual waiver is applicable, without limitation, to all consequential damages due to either party’s termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of Section 8.4.

§ 15.2 INITIAL DECISION
§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, and 11.2.8, shall be referred to the Architect for initial decision. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation, arbitration or litigation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Architect with no decision having been rendered. Unless the Architect and all affected parties agree, the Architect will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Architect will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Architect is unable to resolve the Claim if the Architect lacks sufficient information to evaluate the merits of the Claim or if the Architect concludes that, in the Architect’s sole discretion, it would be inappropriate for the Architect to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Architect may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Architect in rendering a decision. The Architect may request the Owner to authorize retention of such persons at the Owner’s expense.

§ 15.2.4 If the Architect requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Architect when the response or supporting data will be furnished or (3) advise the Architect that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Architect will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Architect will render an initial decision approving or rejecting the Claim, or indicating that the Architect is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties subject to mediation, arbitration, or litigation, at the sole discretion of the Owner.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor’s default, the Owner may, but is not obligated to, notify the surety and request the surety’s assistance in resolving the controversy.

(Paragraph deleted)

§ 15.3 MEDIATION
§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9, 10, 15 and 15.1.6 may be submitted to mediation by agreement of the parties.

§ 15.3.2 The parties shall share the mediator’s fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

(Paragraph deleted)
§ 15.4 ARBITRATION
§ 15.4.1 If the Owner elects to arbitrate a Claim, any Claim related to or arising out of the Contract shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 If agreed to by the parties, the award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 CONSOLIDATION OR JOINER
§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.
1.1 PURPOSE
A. This document specifies requirements and proposed contract documents for construction of the Minneapolis City Hall /Hennepin County Courthouse – MBC Exterior Improvements/Restoration Project – Phase 1. The drawings, the technical specifications, and supplementary conditions attached hereto apply to the work and will be incorporated into the resulting contract documents.

1.2 DESCRIPTION OF WORK
A. The project is the “Exterior Improvements/Restoration Project – Phase 1” as described in the attached drawings and specifications.

B. Phase 1 Summary of Work, work to be included but not limited to the following:
   - Restore masonry by removing all biological growth using the gentlest means possible
   - Restore existing stone masonry by patching and/or replacing
   - Deteriorated material to match the original appearance.
   - Restore existing mortar joints by replacing deteriorated and/or missing mortar to match the original appearance.
   - Preserve existing horizontal “skyward” facing mortar joints by replacing mortar with sealant to prevent washout.
   - Replace damaged glazing.
   - Remove and replace existing heat trace at gutters.
   - Modify existing gutter anchorage details to prevent additional damage to stone.

C. Phase 1 Summary of Work, work to be included but not limited to the following:

1.3 THE OWNER
A. The Owner of the project is the Municipal Building Commission (MBC).

1.4 THE CONSULTANT
A. The Architect for the project is Miller Dunwiddie, 100 S Washington Ave Suite 500, Minneapolis, MN 55401, (612) 337-0000. Contact: Denita Lemmon, project manager.

1.5 THE CONTRACTOR
A. The work will be completed under a contract with a single prime contractor.

1.6 GENERAL CONDITIONS OF THE CONTRACT
A. The general conditions of the contract shall be as specified in “General Conditions of the Contract for Construction”, AIA Document A201, 2007 Edition which is hereby incorporated by reference.

1.7 SUPPLEMENTARY CONDITIONS
A. The following conditions may change, delete from or add to the “General Conditions of the Contract for Construction”, AIA Document A201, 2007 Edition, and shall take
precedence over the General Conditions. Where any article of the General Conditions is modified or any paragraph, subparagraph or clause thereof is modified or deleted by these Supplementary Conditions, the unaltered provisions of that article, paragraph, subparagraph or clause shall remain in effect.

• THE CONTRACT DOCUMENTS

Change the first sentence of Subparagraph 1.1.1 of AIA Document A201, 2007 Edition by adding the following as part of the contract documents: “bidding requirements (advertisement or invitation to bid), Instructions to Bidders and Supplementary Instructions to Bidders, the Contractor's Bid, and portions of Addenda relating to the bidding requirements.” Delete the third sentence.

• STANDARD SPECIFICATIONS OWNER'S RIGHT TO AUDIT

Add the following to Article 2 of AIA Document A201, 2007 Edition:

2.6 OWNER'S RIGHT TO AUDIT BOOKS AND RECORDS.

2.6.1 The Contractor agrees that the City, the State Auditor and/or any of their duly authorized representatives shall at any time during normal business hours, and as often as they may reasonably deem necessary, have access to and the right of examine, excerpt, and transcribe any books, documents, papers, records, etc., which are pertinent and involve transactions relating to this Agreement. Such material must be retained, by the Contractor, for two years or longer as deemed necessary by specific Contract conditions such as warranties. The Contractor's accounting practices and procedures relevant to this Contract shall also be subject to examination by any or all of the aforesaid persons as often as and during such times as aforesaid.

1.8.3 DISRUPTIONS & OVERTIME WORK

Add the following to Subparagraphs 3.4.1, 3.4.2, 3.4.3, and 3.4.4 of AIA Document A201, 2007 Edition

7.3.6 Any work creating noise, odors or other disruptions to the building shall be performed after normal working hours. This should be coordinated with the MBC project manager as there are several 24/7 operations in the building. The demolition and removal work shall occur between the hours of 11:00 PM and 7:00 AM. The additional cost of this work shall be incorporated into the bid and borne by the Contractor.

7.3.7 This is an occupied building and will remain occupied through the duration of the project. Building occupants will remain in their spaces and need to be open for business 8:00 am - 4:30 pm Monday- Friday. Minneapolis Police Department, 911 dispatch,
and the Hennepin County Sheriff's office maintain 24/7 operation in the building.
In addition, the main level Rotunda area is booked on the weekends and
some evenings during the week for private functions and loud construction
activities will not be allowed unless scheduled a minimum of 1 week in
advance and confirmed by the MBC.

7.3.8 Work performed by the contractor that will disrupt building operations must be
scheduled and completed outside of normal working hours as noted above.
Disruption includes loud noise, vibrations, utility interruption and work in occupied
spaces. Activities that generate conditions unacceptable include, but is not
limited to, saw cutting, core drilling, shooting powder actuated anchors into
slabs, grenade tip pressure washing, grinding of slabs and drilling into the
structure. All utility interruptions must be completed after normal building hours.

Add paragraph 3.4.4 to Article 3:

7.3.9 If vacating the space above or below the work area is required for safety
reasons, then the work should be scheduled when occupants will not be in the
building, before 6:00 am and after 6:00 pm. Costs for completing work after
normal business hours shall be included in the bid and no additional cost will be
allowed. If more time is needed than between 6:00 am and 8:00 am or
between 4:30 pm and 6:00 pm, then building access should be included in the
Contractor's schedule submitted to the MBC and approved by the MBC as MBC
will have to escort the contractor. All overtime to accomplish this work should
be included in the contractor's price.

1.8.4 PERMITS, FEES AND NOTICES

Add the following to paragraph 11.3.1 of AIA Document A201, 2007 Edition:

11.3.1 If the Contractor is not resident within the State of Minnesota and if the
Construction Contract Sum is greater than $100,000, the Contractor shall
provide a bond equal to eight percent (8%) of the Construction Contract Sum
for the period of the Contract or certification by the Minnesota Department of
Revenue that the Contractor is exempt from the surety requirements of
Minnesota Statute 290.9705.

Substitute paragraph 3.9.3 with the following:

3.9 PROJECT MANAGER AND SUPERINTENDENT

3.9.3 The Project Manager and the Superintendent shall be assigned to the Project
throughout the term of the Contract except or unless the designated
individual's service to the Contractor is terminated or the Owner finds
reasonable objection to the individual in which case another individual shall
be assigned to the same responsibility for the remaining term of the Contract.
The Contractor shall not change the superintendent without the Owner's
consent, which shall not unreasonably be withheld or delayed.
1.8.5 AUDITING

Add the following paragraph to Article 3:

3.19 AUDIT OF BOOKS AND RECORDS

3.19.1 The Contractor agrees to the Owner's right to audit books and records as stipulated in Paragraph 2.5.1 of the Supplementary Conditions.

1.8.6 CONTRACT ADMINISTRATION

5.2 AWARD OF SUBCONTRACTS

Add the following to Paragraph 5.2.5:

5.2.5 The Contractor agrees to the Owner's right to audit books and records in reference to selection, award of Contract and payments to sub-contractors.

1.8.7 MUTUAL RESPONSIBILITY

Change Subparagraph 6.2.5 to read as follows:

6.2.5 Should the Contractor wrongfully cause damage to the work or property of any separate contractor, the Contractor shall upon due notice promptly attempt to settle with such other contractor by agreement, or otherwise to resolve the dispute. If such separate contractor sues the Owner on account of any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor who shall defend such proceedings at the Owner's expense, and if any judgment or award against the Owner arises there from the Contractor shall pay or satisfy it and shall reimburse the Owner for all attorney's fees and court costs which the Owner has incurred.

1.8.8 CHANGES IN THE WORK

Add Subparagraph 7.1.4 as follows:

7.1.4. The contractor shall proceed with the agreed up change upon receiving the MBC Approval to Proceed with a Construction Change. A Change Order will follow.

Change Subparagraph 7.2.2 to read as follows:

7.2.2 Methods used in determining adjustments to the Contract Sum shall adhere to the requirements listed in Subparagraphs 7.3.3 and 7.3.6.
Change Subparagraph 7.3.3 to read as follows:

7.3.3 If the Change Order or the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

1. By mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation. A lump sum for an increase in the Contract Sum may contain a reasonable allowance for the Contractor's overhead and profit. No allowance for overhead and profit will be allowed if the change results in a net decrease in cost. When both additions and credits covering related Work or substitutions are involved in anyone change, the allowance for overhead and profit shall be figured on the basis of net increase, if any.

2. By unit prices stated in the Contract Documents or subsequently agreed upon. Unit prices shall cover all of the Contractor's costs for labor, materials, equipment and related services including such costs for subcontracted work and the Contractor's overhead and profit.

3. By cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee.

4. By the method provided in Subparagraph 7.3.6.

5. The cost of a change determined under the methods in Clauses 7.3.3.1, 7.3.3.3 and 7.3.3.4 shall include all costs directly related to the change, and the Contractor shall itemize these costs and provide appropriate supporting data as may be necessary to establish their correctness. All indirect costs whether incurred on or off site shall be included in the Contractor's overhead. Cost of additional insurance and performance bond coverage related to the change shall be pro rata to the insurance and bond line values stated in the Schedule of Values.

6. In the case of Work authorized under Clauses 7.3.3.1, 7.3.3.3 and 7.3.3.4, a reasonable allowance for overhead and profit shall be not more than ten (10%) percent of the net cost of Work accomplished by the Contractor's own forces, five (5%) percent of the net cost of Work accomplished by Subcontractors and five (5%) percent of the net cost of materials and equipment. Subcontractors may add an allowance of not more than ten (10%) of the net cost of the Work accomplished by their own forces to cover their overhead and profit, five (5%) percent of the net cost of the Work accomplished by sub-subcontractors and five (5%) percent of the net cost of materials and equipment. Sub-subcontractors and subsequent tiers of contractors may add an allowance of not more than ten (10%) percent of the net cost of the work accomplished by their own forces to cover their overhead and profit, five (5%) percent of the net cost of the Work accomplished by their Subcontractors and five (5%) percent of the net cost of materials and
equipment. Further, as a condition for the Owner's authorization of a five (5%) percent allowance for work of any lower tier contractor, as aforesaid, the Owner may request the Contractor and/or any pertinent lower tier contractor to provide to the Owner detailed, written information to establish to the Owner's satisfaction the actual relationship between the contractor and any lower tier contractor. Such information shall be provided promptly to the Owner following the request therefor. Overhead and Profit to include small tool and tax.

Delete the first sentence of Subparagraph 7.3.6 and substitute the following:

13.8.1 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by the Architect or Engineer on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an allowance for overhead and profit as stated in Clause 7.3.3.6.

Change Clauses 7.3.6.1, 7.3.6.2, 7.3.6.3 and 7.3.6.4 to read as follows:

• Costs of labor and supervision including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers compensation insurance, all as directly attributable to the change;
• Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed, all as directly attributable to the change;
• Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others, all as directly attributable to the change; and
• Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work, all as directly attributable to the change.

Add the following to Subparagraph 7.3.8:

Adjustments to the Contract Time shall reflect only the additional time directly attributable to the Change in the Work.

1.8.9 START OF WORK

13.12 COMMENCEMENT OF THE WORK

Delete the first sentence of Subparagraph 8.1.2 and substitute the following:

13.12.1 The date of commencement of the Work is the date established in the Notice to Proceed given by the Owner. Add the following to supplement Subparagraph 8.1.2:
The Contractor shall not commence the Work nor allow any Subcontractor to commence work until:

- The Contract has been fully executed and the Owner has issued a Notice to Proceed.
- The Owner has approved the Contractor's performance and payment bonds and the bonds have been filed with the City of Minneapolis.
- The Owner has approved evidence of the Contractor's Liability Insurance, Owner's Protective Liability Insurance and any other insurance required to be purchased by the Contractor.

8.4 LIQUIDATED DAMAGES

Change the first two sentences of Subparagraph 8.4.1 to read as follows:

8.4.1 Time being an essential element of the Contract, and based on the Project Schedule of Substantial Completion date of October 30, 2020 from the date of Notice to Proceed, it is hereby agreed that if the Owner determines that an extension is not justified, the Owner will be entitled to damages for failure on the part of the Contractor to complete its obligations. In view of the impracticality and extreme difficulty of fixing and ascertaining the actual damages the Owner would sustain in such event, the Owner shall be entitled to five hundred dollars ($500.00) per calendar day for each and every day beyond the date of Substantial Completion in these specifications.

Add to the second paragraph of Subparagraph 8.4.1 the following Hennepin County Project Manager and contact information, to read as follows:

8.4.1 A claim for extension will not be allowed unless the Contractor, not later than the end of the Owner’s first business day following the day on which the claim arises, shall have e-mailed and informed the MBC Project Manager, Royce Wiens at royce.wiens@municipalbuilding.org about the full details of the cause necessitating such a claim.

9.3 APPLICATIONS FOR PAYMENT

Add the following sentence to paragraph 9.3.1, the retainage for each Application for Payment shall be 5%.

9.8 SUBSTANTIAL COMPLETION

Add the paragraph 9.8.6 regarding Acceptance Testing:

9.8.6 Notwithstanding anything in this Contract to the contrary, before a Certificate of Substantial Completion can be prepared by the Architect for the Owner and Contractor, the Contractor shall be required to complete and correct any testing, documentation (test results), and receive Architect approval (Acceptance Testing) that the Work conforms to the
performance standards in the Contract Documents. The Acceptance Testing shall be completed over a period of time as defined in the Contract Documents and corrections shall be made as required. Corrections made during the Acceptance Testing period may reset the testing period to ensure conformance to the performance standards to the satisfaction of the Architect. The direct cost or any associated cost for the testing and retesting shall be the responsibility of the Contractor and shall not cause any adjustment to the Contract Sum.

11.1 Contractor’s Liability Insurance:
Add the following article 11.1.6:

11.1.6 Anyone working within 25’ of light rail support lines or catenary lines. Training is required and held every Tuesday for ALL workers working within the light rail area. Suggest adding to General Conditions 11.1.6 the following if you are not able to confirm with Met Council ahead of issuance: “Railroad Protective Liability insurance for the duration of the Project, listing the Metropolitan Council as the only insured and providing limits of $2,000,000 per occurrence and $6,000,000 annual aggregate.”

13.8 OCCUPANCY REQUIREMENTS

13.8.1 The Building will be continuously occupied during the entire construction period. Contractor shall cooperate with the Owner during the construction operations to minimize conflicts and facilitate building usage.

13.8.2 Demolition, drilling and cutting activities shall be coordinated and approved by the Owner and Architect or Engineer well in advance. Disturbances and disruptions caused by these activities may need to take place after hours (6 am to 6 pm) if it is found to effect building tenants.

13.8.3 Welding and cutting activities shall be coordinated and approved by the Owner and Architect or Engineer well in advance. These activities shall take place only after receiving a Hot Work Permit from owner. The hot work permit will require at least a two days’ notice prior to undertaking these activities and must be submitted by 7:30 am on the day before work is started. The MBC will require the contractor to use a fire blanket behind the soldering or welding to avoid scorching or burning any materials behind.

13.8.4 Appropriate local ventilation as approved by the Owner and the Architect or Engineer shall be provided by the Contractor for activities producing dust or negatively impacting air quality. The demolition construction area shall be isolated from adjacent spaces by a negative air pressure system utilizing poly enclosures and HEPA filtration.

13.8.5 Noise producing functions shall be coordinated with the Owner's Representative. Contractors shall cease noise producing activities which disturb adjacent areas when directed to do so. Radios and players intended for entertainment shall not be allowed unless
written approval is furnished by the Owner. Comply with 3.4.1, 3.4.2, 3.4.3, and 3.4.4 above.

13.8.6 The contractor shall be assessed a penalty of Five Hundred Dollars ($500) for each false fire alarm event resulting from the Contractor’s failure to locally deactivate or otherwise protect the fire alarm system from the Contractor’s construction activities.

13.8.7 Prior to commencing work, the contractor will be responsible for arranging (with the MBC) to get the required keys and access cards needed to access their area of work. For keys and access cards available through the ground floor security desk, an I.D. will need to be submitted. All other key/access card requests will require a completed key/access card form before acquiring the key/access card. Allow 2-3 days for keys cards to be created and 7 days for access cards.

13.8.8 All work will require the successful completion of a background check for individuals who will be working there. This form can be obtained through the MBC.

13.8.9 All work must be completed and in operation (if applicable) by 2:00 on Friday afternoon.

13.9 The Contractor will be responsible for providing all necessary equipment for the work including ladders and carts.

Add Article 13.12:

13.12 COORDINATION REQUIREMENTS

13.12.1 The Contractor shall coordinate the Work of all Subcontractors and suppliers to ensure adherence by all to the schedule, procedures for building security, maintenance, accessibility, temperature control and system operation, and to prevent damage to or loss of the Owner’s existing properties. Construction doors shall be kept closed when not in use. Replace or repair damaged portions of the site and existing building, and restore areas to conditions, which existed prior to starting the work. Damage to the existing building cause by the Work shall be the responsibility of the Contractor, and shall repair or replace or cause to be replaced or repaired, all damage, injury and/or loss of such property.

13.12.2 The Contractor, sub-contractors and suppliers shall familiarize themselves with the project, including all documents, and the existing conditions of the project. In no case will extra charges be considered because of failure to acquaint themselves with all documents and existing conditions.

13.12.3 Anyone working within 25' of light rail support lines or catenary lines. Training is required and held every Tuesday for ALL workers working within the light rail area.

Revise Article 13.8.1:

Construction Employment
Women (skilled and unskilled combined (20%)

END OF SECTION 00 73 00
PART 1 – GENERAL

1.1 SUPPLEMENTARY OWNER FORMS SUPPORTING THE CONTRACT

Supplementary Owner Forms are hereby attached as may support the Work. The Contractor shall use these informational, affidavit, and reporting forms to execute requirements of the General Conditions of the Contract for Construction.

See the following pages for typical Project Forms.

A. Monthly Employment Utilization Report
B. Good Faith Efforts Guidelines
C. PS Contractor’s Summary of Payment
D. Project Safety & Environment Checklist
E. Hot Work Permit
F. Confined Space Entry Permit
G. Employee Security Background Checks
H. Responsible Contractor Verification of Compliance Forms A, A-1, and A-2
I. Prevailing Wage Rates
HENNEPIN COUNTY PURCHASING & CONTRACT SERVICES (PCS)
MONTHLY EMPLOYMENT UTILIZATION REPORT

(A) Company Name
Status: ☐ Contractor ☐ Subcontractor (Select ☒ one)

(C) County Contract No.: ______
(E) Project No.: ______

(B) Address ______
Phone (_____) ___ Fax (_____) ___

(D) Your Prime Contractor's Name: ______
Status: ☐ Contractor ☐ Subcontractor (Select ☒ one)

(F) REPORT PERIOD

[ ] REPORT PERIOD
[ ] Check here if there were no hours worked during this reporting period.

[H] TOTAL HOURS ON THE PROJECT
32% MINORITY
6% FEMALE

[H1] TOTAL EMPLOYEE HOURS
[H2] BLACK OR AFRICAN AMERICAN
[H3] HISPANIC
[H4] NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER
[H5] ASIAN
[H6] AMERICAN INDIAN OR ALASKA NATIVE
[H7] WHITE
[H8] % OF TOTAL HRS

[I.1] TOTAL EMPLOYEES ON THIS PROJECT
[I.2] TOTAL MINORITIES ON THIS PROJECT

[G] CLASSIFICATION BY TRADE

<table>
<thead>
<tr>
<th>TRADE</th>
<th>M</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRADE</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>TRADE</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>TRADE</td>
<td>M</td>
<td>F</td>
</tr>
</tbody>
</table>

[J] TOTAL SKILLED

<table>
<thead>
<tr>
<th>(a) M</th>
<th>(b) F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[K] TOTAL UNSKILLED

<table>
<thead>
<tr>
<th>(a) M</th>
<th>(b) F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[L] GRAND TOTALS

<table>
<thead>
<tr>
<th>(a) M</th>
<th>(b) F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[ ] NO HIRING OPPORTUNITIES AT THIS TIME (Please check if true statement)

(PLEASE CHECK THIS BOX IF THIS IS A LEGAL STATEMENT DURING THIS REPORTING PERIOD)

The information on this form is true and accurate to the best of my knowledge.

[M] Print or type name of company's authorized EEO representative
Signature
Date

CC Specialist: ________________________________
Received On: ________________________________
Reviewed On: ________________________________
HENNEPIN COUNTY CONSTRUCTION

Instructions for Filing Monthly Employment Utilization Report

The Monthly Employment Utilization Report includes the total work hours for each employee classification in each trade on the construction site(s). The report is to be completed by each contractor (both the prime and its subcontractors); and signed by a responsible official of the company. The prime contractor must submit all of the reports to Hennepin County Purchasing/Contract Services, Targeted Contract Services Program, A-1730 Government Center, 300 South Sixth Street, Minneapolis, MN 55487-0175 by no later than the 10th calendar day of each month.

If you have any questions or need assistance, please call Jossy Naab at (612) 348-6266 or Felicia Clomon at (612) 348-4267

DEFINITIONS:

(1) WOMEN Includes both minority and non-minority females.

(2) MINORITY Includes Blacks or African Americans, Hispanics, Native Hawaiian, Pacific Islander, Asian, American Indian, Alaska Native, and both males and females.

<table>
<thead>
<tr>
<th>A. Company Name &amp; Status</th>
<th>Enter the name of your company in this section. Place a √ mark in the appropriate box to indicate the contracting status of your company.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Address</td>
<td>Enter your company address and include the telephone and fax number.</td>
</tr>
<tr>
<td>C. County Contract Number</td>
<td>Enter the County contract number as stated in your County contract documents. [If you are a subcontractor on a County contract, contact your prime contractor to obtain this information.]</td>
</tr>
<tr>
<td>D. Prime Contractor Name &amp; Status</td>
<td>Enter the name of your prime contractor. Place a √ mark in the appropriate box to indicate the contracting status of your prime contractor (if applicable).</td>
</tr>
<tr>
<td>E. County Project Number</td>
<td>Enter the County project number as stated in your County contract documents. [If you are a subcontractor on a County contract, contact your prime contractor to obtain this information.]</td>
</tr>
<tr>
<td>F. Report Period</td>
<td>Enter the dates covered by the report (e.g., the month of 2/1/99 – 2/28/99)</td>
</tr>
<tr>
<td>G. Classification By Trade</td>
<td>Enter only the skilled and unskilled construction trade worker classifications that you employ on the project. [Clerical and other offsite personnel are not considered construction workers and must not be included in the monthly utilization report.]</td>
</tr>
<tr>
<td>H. (1-7) Total hours worked on the project site(s).</td>
<td>In Column (H1), enter the total number of hours worked by all employees in each trade classification, including minority and non-minority employees. Indicate male and female hours separately.</td>
</tr>
<tr>
<td>H. (8) Minority &amp; Female Percentages</td>
<td>In Column (H2-H7), enter the total hours worked by minorities in each trade classification. Indicate male and female hours separately. In Column (H8) (a) “MIN”, enter the percentage of the total hours worked by minorities (both male &amp; female) in each trade classification. In Column (H9) (b) “F”, enter the percentage of total hours worked by women (both minority &amp; non-minority) in each trade classification.</td>
</tr>
<tr>
<td>I. (1) Total Number of Employees Working on This Project</td>
<td>In Column (I.1) (a) and (b), enter the total number of employees working on this project in each trade classification in your workforce during the reporting period. Include minority and non-minority male and female employees.</td>
</tr>
<tr>
<td>I. (2) Total Number of Minorities</td>
<td>In Column (I.2) (a) and (b), enter the total number of minority employees working on this project in each trade classification in your workforce during the reporting period. Indicate males and females separately.</td>
</tr>
<tr>
<td>J. Total Skilled</td>
<td>On this line, under each column enter the total number of Skilled hours, percentages and total number of employees working on this project in each trade classification in your workforce during reporting period.</td>
</tr>
<tr>
<td>K. Total Unskilled</td>
<td>On this line, under each column enter the total number of Unskilled hours, percentages and total number of employees working on this project in each trade classification in your workforce during reporting period.</td>
</tr>
<tr>
<td>L. Grand Totals</td>
<td>On this line, under each column enter the total number of Skilled and Unskilled hours, percentages and total number of employees working on this project in each trade classification in your workforce during reporting period.</td>
</tr>
<tr>
<td>M. Official Signature</td>
<td>The company official or authorized representative must print, sign, and date this report.</td>
</tr>
</tbody>
</table>

THIS REPORT MUST BE SIGNED BY A COMPANY OFFICIAL OR DESIGNEE.
GOOD FAITH EFFORTS

As a government contractor your company shall make and document reasonable efforts to include qualified CERT certified small business enterprises (SBEs) – including companies owned and controlled by women (S/WBEs) and minorities (S/MBEs). A list of certified businesses can be obtained by visiting the CERT website at: cert.smwbe.com. Good faith efforts should not be an afterthought. If established goals are not met, Hennepin County will make the final determination as to whether sufficient good faith efforts to achieve the goals were made. Good faith is determined by the totality of circumstances and based on the quantity, quality, and timeliness of applicable efforts.

TARGETED BUSINESS INCLUSION GUIDELINES

Good faith efforts to provide the maximum practicable subcontracting opportunities for small business concerns may include, as appropriate for the procurement, the following types of actions and documentation thereof:

1) Breaking out contract work requirements into economically feasible units, as appropriate, to facilitate small business participation;

2) Searching for applicable CERT certified small businesses to include in contract opportunities and encouraging other qualified businesses to apply for CERT certifications;

3) Soliciting small business concerns as early in the acquisition process as practicable;

4) Keeping the playing field level, allowing all bidders equal time to respond; providing the same information to all prospective subcontractors at the same time;

5) Providing interested small businesses with adequate and timely information about the plans, specifications, and requirements for performance of the prime contract to assist them in submitting a timely offer for the subcontract;

6) Negotiating in good faith with interested small businesses;

7) Attending pre-bid conferences;

8) Participating in or sponsoring business networking events;

9) Utilizing the available services of small business associations; local, state, and federal small business assistance offices; and other organizations;

10) Directing small businesses that need additional assistance to community resources, e.g., Minnesota Small Business Assistance Office; Metropolitan Economic Development
Association (MEDA) Procurement Technical Assistance Center (PTAC); U.S. Small Business Administration (SBA); SCORE; LegalCORPS; WomenVenture, etc.;

11) Assisting interested small businesses in obtaining bonding, lines of credit, required insurance, necessary equipment, supplies, materials, or services;

12) Participating in the formal mentor-protégé program with one or more small business protégés that results in developmental assistance to the protégé(s);

13) Targeting advertising and posting of subcontracting opportunities;

14) Encouraging joint ventures and mentor/protégé relationships;

15) Providing technical, management and financial training and counseling;

16) Notifying firms that trade union membership is not a contract requirement, but payment of prevailing wage rates is;

17) Documenting solicitation processes, responses and results, e.g., work type/description of work/service/material, firm name, contact name (first and last), contact date, contact method (if by phone provide phone number, if by email…), bid amount, result, and additional comments;

18) Submitting complete, accurate and timely documents, reports and other information as required, and

19) Offering debriefings to unsuccessful small business respondents.

THE GUIDELINES ABOVE ARE NOT INTENDED TO BE A MANDATORY CHECKLIST, NOR ARE THEY INTENDED TO BE EXCLUSIVE OR EXHASUTIVE. OTHER FACTORS OR TYPES OF EFFORTS MAY BE RELEVANT. ALL DOCUMENTATION RELATED TO GOOD FAITH EFFORTS MUST BE COLLECTED AND MAINTAINED IN YOUR FILES FOR AT LEAST TWO (2) YEARS.
# Summary of Payment Form

## Contractor Pay Disbursement

**PROJECT NAME:**

County Project Number: __________________ County Contract No.#: __________________

This form is being sent along with current Pay Applic. #: ______; however, this form applies to previous Pay Applic. #____, work period to: (match prev. G702) ______/_____/____

**CONTRACTOR:**

Address:

<table>
<thead>
<tr>
<th>Work Section</th>
<th>Description of Work</th>
<th>Subcontractor Name</th>
<th>Subcontractor Portion</th>
<th>Contractor Portion</th>
<th>Line Item Subtotal</th>
</tr>
</thead>
<tbody>
<tr>
<td>00100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Period's Distribution Total =**

- **Expand schedule as needed, using MS.Word ‘Table’ insert commands**

Helpful column use comments:

a. Numeric order of Work, by CSI division. List is to match that order used in AIA form G703.
b. Ordered Description of Work, by CSI division. Match order of G703 & corresponding column ‘a’.
c-e. No explanation req’d.
f. Sum of (d. + e.) monies, per each line item entry, as distributed by Contractor, from Owner’s approved payment on the last Application.
g. Add vertical column of subtotals ‘f’. Must equal Owner’s approved dollar total from the previous period’s Payment Application, as numbered above at top.

The undersigned Contractor affirms & certifies that to the best of his/her knowledge, information on this page is true and correct, and acknowledges that the Architect and the Owner will rely on said information when authorizing payment. This is a legal statement, and has legal consequences.

Name, & Title

/    /  

Date
The Contractor shall use this Checklist to identify and address health, safety and environmental issues that may be encountered or created during this Project, prior to start of Work. Submit the completed Checklist to the Hennepin County Project Manager and the respective Hennepin County Building Manager (Building Manager) assigned to this Project and in accordance with Article 10 of the General Conditions of the Contract. Signed electronic document submittals are acceptable.

I. Project Information

Project Name: ___________________________ County Project No.: ____________ County Contract No.: ____________
General Contractor: ___________________________ and Cell Phone: ___________________________
Contractor Site Mgr.: ___________________________ and Cell Phone: ___________________________
Contractor Safety Mgr: ___________________________ and Cell Phone: ___________________________
Start Date: ___________________________ Est. Completion Date: ___________________________

II. Work in Occupied Facilities

Work in occupied facilities must be coordinated with the Building Manager and Project Manager. Dust and odors shall be contained in the work zone unless exempted in writing by the County Project Manager. Activities that may affect fire alarms must be coordinated with the Building Manager and Project Manager.

<table>
<thead>
<tr>
<th>Issue that may be disruptive to building occupants</th>
<th>Is the issue likely to occur? Answer only Yes or No</th>
<th>Have means &amp; methods been developed to eliminate or control the issue?</th>
<th>Are your means &amp; methods appropriate, effective and available?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odors (adhesives, solvents, caulks, paint, welding, cutting, engine exhaust, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dust (sanding, cutting, demolition work, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noise (pneumatic tools, core drilling, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire / Life Safety (egress, alarms)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazardous materials (asbestos, lead, mold, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site control (signs, barriers, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (list)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

III. Environmental Protection

On-site containment and off-site disposal of hazardous materials must be coordinated with the Building Manager and County Project Manager. Where previously unidentified hazardous materials or suspect hazardous materials are encountered during the project, stop work and promptly contact the Building Manager and Project Manager.

<table>
<thead>
<tr>
<th>Regulated Materials</th>
<th>Is the material likely to be encountered? Answer only Yes or No</th>
<th>Have means &amp; methods been developed to manage and/or dispose of materials?</th>
<th>Are regulated material disposal methods in compliance with existing laws?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlorofluorocarbons</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contaminated soils</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eroded soils</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oils</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCBs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solvents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IV. Facility Work Authorizations: Permits

All Hot Work and Work in Confined Spaces requires prior coordination with the Building Manager and Project Manager. Submit Hennepin County Hot Work and/or Confined Space Entry forms, as appropriate, to Building Manager before Start of the Work.

Check the following permit boxes that apply to the Work.
When these permits apply to the Work, Contractor’s failure to comply with this permit process may result in a Suspension of the Work by the Owner.

V. Job Site Safety

The jobsite and workplace safety is the responsibility of the Contractor. Prior to start of Work, the Contractor shall provide the Project Manager with a written description of significant risks and risk mitigation strategies associated with the Work as are related to safety, health, the environment and/or business continuity of occupied spaces. Hennepin County Facility Services staff may request additional supportive safety documentation regarding this project.

<table>
<thead>
<tr>
<th>Potential hazards at the job site</th>
<th>Is the hazard likely to occur? Answer only Yes or No</th>
<th>Have means &amp; methods been developed to eliminate or control the hazard?</th>
<th>Are employees trained and/or certified to perform job tasks as required by law?</th>
<th>Are tools, equipment and personal protective equipment adequate to control the hazard, available and in good condition?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposures (asbestos, lead, solvents, carbon monoxide, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compressed gases</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confined spaces</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cranes and hoists</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dust</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical / Ground faults</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy isolation (lockout-tagout)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Falls, work at height</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammable liquids, gases</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hot Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infectious agents</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.S.D.S.s</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noise</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plants, insects, animals, mold, etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Powder actuated tools</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power lines, overhead</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scaffolding / Ladders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site control / Security</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trenching / Excavation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Underground utilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicles / Mobile equip.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vibration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walking, working surfaces</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weather (wind, rain, snow, ice, heat, lightning)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

VI. Signature of Authorized Contractor Representative

Completed by (print name): ____________________________________________________________

Signature: ______________________________________________________________________

Job Title: ______________________________________________________________________

Prime Contractor Company: _________________________________________________________

Date: ______________________________________________________________________
<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date /Time Work to Begin:</td>
<td></td>
</tr>
<tr>
<td>Hennepin County Building Name:</td>
<td></td>
</tr>
<tr>
<td>Hennepin County Building Manager Name:</td>
<td></td>
</tr>
<tr>
<td>Hennepin County Building Manager Phone Number:</td>
<td></td>
</tr>
<tr>
<td>Hennepin County Building Manager Radio Number:</td>
<td></td>
</tr>
<tr>
<td>Where Work is to be Performed (be specific):</td>
<td>Inside</td>
</tr>
<tr>
<td>Description of Work to be Performed (be specific):</td>
<td></td>
</tr>
<tr>
<td>Equipment to be Used:</td>
<td></td>
</tr>
<tr>
<td>Electric Arc Welding</td>
<td></td>
</tr>
<tr>
<td>Oxygen-Acetylene Welding</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Fire System Impairment Required?</td>
<td>Yes</td>
</tr>
<tr>
<td>Cylinder Storage Required?</td>
<td></td>
</tr>
<tr>
<td>HC Security Operations Center (SOC) Phone – 612-348-5111</td>
<td></td>
</tr>
<tr>
<td>HC Workplace Safety Phone – 612-596-1659</td>
<td></td>
</tr>
<tr>
<td>HC Workplace Safety Fax – 612-348-3492</td>
<td></td>
</tr>
</tbody>
</table>

Hot Work operations shall be performed in accordance with the Hennepin County Facility Services Hot Work Procedure and the Hot Work Required Precautions Checklist completed on page 2 of this form.

Hennepin County Building Mgr Signature and Date:  

Fire Safety Supervisor Signature and Date:  

[ ] APPROVED  [ ] REJECTED  

Fax completed permit to HC Facility Services Workplace Safety  Fax #: 612-348-3492
HOT WORK REQUIRED PRECAUTIONS CHECKLIST

Fire Systems and Equipment
☐ Available sprinklers, hose and/or extinguishers are in service and operable.
☐ Workers have been instructed on building fire systems and evacuation procedures.

Requirements Within 35 ft of Work
☐ Flammable liquids, dust, lint and oily deposits removed.
☐ Explosive atmosphere in area eliminated.
☐ Floors swept clean.
☐ Combustible floors wet down, covered with damp sand or fire-resistive sheets.
☐ Other combustibles removed where possible or shielded with fire-resistant material.
☐ All wall and floor openings covered.
☐ Fire-resistive tarpaulins suspended beneath overhead work.

Work on Walls or Ceilings
☐ Construction is noncombustible and without combustible covering or insulation.
☐ Combustibles on other side of walls moved away.

Work on Enclosed Equipment
☐ Enclosed equipment cleaned of all combustibles.
☐ Containers purged of flammable liquids/vapors.

Fire Watch/Hot Work Area Monitoring
☐ Fire watch will be provided during and for at least 30 minutes after work completed.
☐ Fire watch is supplied with suitable fire extinguisher.
☐ Fire watch is trained in use of this equipment and in sounding alarm.
☐ Fire watch may be required for adjoining area, above, and below.

Other Precautions Taken

__________________________________________________________
__________________________________________________________
__________________________________________________________
Hennepin County Facility Services

Entry Permit

Permit date: / /

Work shift: 1st 2nd 3rd

Expires: / /

Time started: ____________________________

Permit space to be entered (name and location of space):

Purpose of entry: ____________________________

Names of trained, authorized individuals

- Entry supervisor: ____________________________
- Entry attendant: ____________________________
- Authorized entrants: ____________________________
- Authorized entrants: ____________________________

Emergency contact information

Emergency responder: ____________________________ Phone number: ____________________________

Contact person: ____________________________ Time: ____________________________

Pre-entry requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
<th>Requirements</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lockout - tagout/de-energize</td>
<td></td>
<td></td>
<td></td>
<td>Hot work permit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipes(s) broken or capped or blanked</td>
<td></td>
<td></td>
<td></td>
<td>Fall arrest harness/lifeline/tripod</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purge or flush or drain</td>
<td></td>
<td></td>
<td></td>
<td>Personal protective equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ventilation (natural or mechanical)</td>
<td></td>
<td></td>
<td></td>
<td>Hardhat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secure area</td>
<td></td>
<td></td>
<td></td>
<td>Gloves</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safe lighting</td>
<td></td>
<td></td>
<td></td>
<td>Safety glasses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-sparking tools</td>
<td></td>
<td></td>
<td></td>
<td>Respirator, type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication method</td>
<td></td>
<td></td>
<td></td>
<td>Other PPE:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contractor employees involved</td>
<td></td>
<td></td>
<td></td>
<td>Other PPE:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Space-monitoring results

<table>
<thead>
<tr>
<th>Monitor at least every four hours</th>
<th>Permissible entry levels</th>
<th>Test 1</th>
<th>Test 2</th>
<th>Test 3</th>
<th>Test 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent oxygen</td>
<td>19.5% to 23.5%</td>
<td>Time: Initial:</td>
<td>Time: Initial:</td>
<td>Time: Initial:</td>
<td>Time: Initial:</td>
</tr>
<tr>
<td>Combustible gas</td>
<td>Less than 10% LEL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other toxic gas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other toxic gas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other toxic gas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Return this completed permit to Workplace Safety and Health, MC-228, then file for one year.
### Entry Permit

**Possible atmospheric hazards**

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of oxygen</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Combustible gases</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Combustible vapors</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Combustible dusts</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Toxic gases/vapors</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Possible non-atmospheric hazards**

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Chemical contact</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Electrical hazard</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Mechanical exposure</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Temperature extreme</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Engulfment</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Entrapment</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other non-atmospheric hazard</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

#### Pre-entry checklist

**Pre-entry checklist**

*Do not enter this permit space until the following “needs action” conditions are corrected.*

**OK**

- Needs action

- Before entering the permit space, the entry supervisor or designee must notify the rescue team. IDLH conditions require at least one rescue team member located outside the space.

- A minimum of two employees must be assigned to work involving permit space entry. One employee must remain outside the permit space at all times.

- The surrounding area must be surveyed to show that it is free of hazards such as drifting vapors from tanks, piping, sewers, or vehicle exhaust.

- Those responsible for operation of the gas monitor have been trained.

- Gas monitor calibration tests and functional test (fresh air calibration) have been performed this shift on the gas monitor. If so, by whom? ____

- The atmosphere will be continuously monitored while the space is occupied, if required by entry procedure.

#### This permit has been terminated for the following reason:

- Work completed
- Canceled

- Time: ____________

- Note: ____________

**Entry Supervisor’s signature**

**Time:** ____________

**Date:** ____________

Return this completed permit to Workplace Safety and Health, MC-228, then file for one year.
CONTRACTOR EMPLOYEE SECURITY BACKGROUND CHECKS

Hennepin County FACILITY SERVICES SECURITY DIVISION (FSSD) Jurisdictions

PART 1: GENERAL

1.01 RELATED DOCUMENTS

A. The Drawings, the provisions of the Contract including the General and Supplementary Conditions and the General Requirements apply to the Work of this Section.

B. Refer to other Project Documentation for additional security measures required for the Work, not limited to agreements arising from the Best Value procurement process and instructions given from the Owner regarding access to, and work and behavior within occupied Hennepin County land and facilities.

1.02 SUMMARY

A. Before allowing any direct or indirect employees to perform Work of the Contract, the Contractor shall procure criminal background security checks on all employees. Contractor personnel and all subcontractor personnel entering County property must submit to criminal background checks. Contractor is to allow a minimum of 7 calendar days for the researching agency to process and respond to the Contractor’s requests. Contractor shall receive the information reported from the researching agency, arrange for said information to be shared with the Owner, and receive additional information as may be provided by the Owner regarding suitability for the Work.

B. The Contractor will direct work assignments and/or make changes to assignments, or restrict an employee from Owner’s land or occupied spaces based on the nature of the above report information. The costs of Contractor’s employee reassignment(s) or Work denial(s) based on results of criminal background check information shall be borne exclusively by the Contractor.

C. The Owner does not control the count of Contractor employees necessary to complete the Work. The Contractor shall provide a minimum allowance of sixty ($60.00) dollars per each employee undergoing a background check. The Owner is not familiar with the demeanor and history of each of the Contractor employees and where the researching agency must charge additional time and/or dollars for employees requiring expanded research, such additions are a business risk controlled by the Contractor and will be borne solely by the Contractor in accordance with Article 10.2 of the General Conditions of the Contract for Construction.

D. Employees and personnel that do not have a County FSSD approved security background check will not be allowed onto the Project site.

1.03 SUBMITTALS

A. Prior to start of any Work upon the Project, the Contractor shall furnish the Owner with a complete list of employees indicating the date on which the Owner found each employee’s criminal background acceptable.

B. The Contractor will update this personnel list, within five (5) business days of any change in personnel for the duration of this agreement. The Contractor shall maintain, update and resubmit the complete list monthly or more often as added labor needs may demand. Interim investigative report sharing will be required, independent of this maintained complete list. All processing and information sharing requirements of this section are to be accomplished on a time of the essence basis.

C. The complete list shall include the date of each employee’s information submittal to the researching agency, the date of the agency’s reply, and the receipt date of the Owner’s comments.

PART 2: PRODUCTS – Not Applicable.
PART 3: EXECUTION

A. Contractor shall reproduce and distribute to all employees to the Work the Facility Services Security Division (FSSD) criminal background investigation form(s) and legal release(s) necessary to perform identity and criminal background checks, as are attached at the end of this section. Review the attached Instructions for Use page prior to form distribution.

B. Delivery truck and car drivers who do not park within 50 feet of the building and do not physically enter the building will not need a background check.

C. The Contractor shall have each employee provide the requested information required for a criminal background check and release of personal data. Prior to completing each investigation form, the Contractor shall positively identify the employee’s name, previous names, or aliases, and date of birth through an official record such as a driver’s license, state identification card or certified birth certificate.

D. Payments to research agency(ies) must be per individual applicant and cannot be grouped with other applications.

E. Except where forms indicate “Office Use Only”, forms must be fully complete and bear the employee’s signature and date of application. Incomplete forms and forms received with a signed date older than 5 calendar days will be rejected by the research agency.

F. It is the responsibility of the Contractor to establish a single, privately controlled e-mail address for communications with, and receipt of investigative reports from, the research agency.

G. It is the responsibility of the Contractor to separately establish a single, privately controlled e-mail address for receipt of Owner reports from the FSSD.

H. The Contractor will be notified by the research agency, through their online address, of the results of employee criminal background checks. Contractor shall review the detailed results of the background checks as required by the Contract, and make a determination regarding suitability of the employee’s work assignments upon the Owner’s property prior to an employee’s start of Work. The Contractor shall share the investigative results with the Owner, which shall include the Contractor’s written determination of the applicant’s Work suitability.

I. Contractor shall consider making personnel work assignment changes where Owner’s reply information requests further review or re-consideration of suitability factors.

J. A two page instruction sheet and a personal identification and release form for background checks follows this page. The Owner reserves the right to revise the attached forms in order to respond to changing processes by the researching agency(ies).

K. All forms shall be fully completed and forwarded in a timely manner. Work delay caused by the Contractor’s or its employees’ failure to deliver the forms in a timely manner will not entitle the Contractor to an increase in the Contract Sum or an extension of the Contract Time.

END OF SECTION
Contractor/Vendor Background Instructions

In accordance with your contract, you are required to submit employees who will be assigned to our facilities to a criminal background. Please follow the steps – in order – below to be backgrounded and granted access to our facilities.

If you have been backgrounded by the Hennepin County Department of Community Corrections and Rehabilitation (DOCCR) or the Hennepin County Sheriff’s Office (HCSO), it is not necessary to complete a Facility Services Background Form. Please provide this information to your contact for verification and continue to Step 3.

1. McDowell Agency

It is the vendor’s responsibility to establish an account with Hennepin County’s approved employment screening agency. You may obtain the necessary forms to set-up an account with the McDowell Agency outlined below:

Contact McDowell directly at 651-644-3880 or www.mcdowellagency.com
1. Select Contact Us
2. Complete the fields listed under the “to request more information” section of the page
3. Once you submit the information the forms will then be sent to you

Once an account is established, each employee who will be assigned to the contract with Hennepin County will be required to complete a screening through the above company.

2. Hennepin County Request Form

In addition to the McDowell background check, you will be required to submit a “Facility Services Contractor Background Request Form” for each employee – this form can be found at the bottom of this document. This form allows authorized Hennepin County representatives to receive information from McDowell.

The Facility Services Contractor Background Request Form can be submitted to Hennepin County in one of the following ways:
These forms must be processed by the Security Division prior to the first day the employee is assigned to the contract. Please allow a minimum of 5 business days to process background requests.

Once your background is processed, please proceed to step 3.

3. Access Request

In order to receive a Hennepin County photo ID card, the vendor’s representative should submit the name(s) of persons needing access to Christine Mlinarchik christine.mlinarchik@hennepin.us - the Facility Services Vendor Card Access Contact. She will determine the access required for your company/project.

Once you’ve requested access and verified approval, please proceed to step 4.

4. Photo ID

The Hennepin County ID card will require a photo, and will be issued only after the contract requirements regarding background checks have been fulfilled and access is requested. The vendor’s representative should contact our Photo ID office at 612-348-7580 to find open hours or schedule an appointment.

* In the event a vendor’s employee is found to be unsuitable for assignment to a Hennepin County contract, it is the responsibility of the vendor or their representative to communicate this with their employee. Unless otherwise arranged, at no time should the vendor’s employee be directed to contact the Security Division directly. Due to data privacy, the Security Division will not provide detail of their findings without written consent from the vendor’s employee.
FACILITY SERVICES – CONTRACTOR CRIMINAL BACKGROUND REQUEST

PLEASE PRINT (Illegible information will be returned – please provide full legal name as it appears on state issued ID)

Print FULL Name:_____________________________________________________________________________________
First Middle Last

Other Names Used (alias, maiden name, etc.):______________________________________________________________

Date of Birth:____________________________________________

Position:_____________________________________________________________________________________

I authorize Hennepin County Facility Services Department – Security Division to conduct a criminal background check for the purpose of contracted employment in the county facilities and/or on county property.

Note: failure to provide this authorization will prevent the Security Division from completing the required checks and will result in your inability to work in county facilities.

_________________________________________  ______________
Signature  Date

Vendor Representative
Company Name:_____________________________________________________________________________________

Representative Name:_____________________________________________ Phone:__________________________

Email Address:_______________________________________________________________________________________

– A background check was conducted on this candidate using The McDowell Agency, Inc. (see instructions for clarification- HCSO/DOCCR backgrounds do not require this form)

* In order to complete this request, Hennepin County Facility Services Security must be furnished with copies of the above information or access to view the results online (see step 1 of instructions).

– This form must be received by the Hennepin County Facility Services Department Security Division prior to the employee being scheduled for the project and/or request for identification card, access card, or facility keys.

– Backgrounds and Access Cards are valid for 3 years, subject to revocation.

Security Division
Based on the information received and reviewed, this person ☐ IS / ☐ IS NOT an acceptable candidate for contract employment with Hennepin County.

_________________________________________  ______________
Facility Services Representative  Date

Revised 10/2016-NLW
ATTACHMENT A
PRIME CONTRACTOR RESPONSE

RESPONSIBLE CONTRACTOR VERIFICATION AND CERTIFICATION OF COMPLIANCE

PROJECT TITLE: _____________________________________________________________

This form includes changes by statutory references from the Laws of Minnesota 2015, chapter 64, sections 1-9. This form must be submitted with the response to this solicitation. A response received without this form, will be rejected.

Minn. Stat. § 16C.285, Subd. 7. IMPLEMENTATION. … any prime contractor or subcontractor or motor carrier that does not meet the minimum criteria in subdivision 3 or fails to verify that it meets those criteria is not a responsible contractor and is not eligible to be awarded a construction contract for the project or to perform work on the project…

Minn. Stat. § 16C.285, Subd. 3. RESPONSIBLE CONTRACTOR, MINIMUM CRITERIA. "Responsible contractor" means a contractor that conforms to the responsibility requirements in the solicitation document for its portion of the work on the project and verifies that it meets the following minimum criteria:

(1) The Contractor:

   (i) is in compliance with workers' compensation and unemployment insurance requirements;

   (ii) is in compliance with Department of Revenue and Department of Employment and Economic Development registration requirements if it has employees;

   (iii) has a valid federal tax identification number or a valid Social Security number if an individual; and

   (iv) has filed a certificate of authority to transact business in Minnesota with the Secretary of State if a foreign corporation or cooperative.

(2) The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 177.24, 177.25, 177.41 to 177.44, 181.13, 181.14, or 181.722, and has not violated United States Code, title 29, sections 201 to 219, or United States Code, title 40, sections 3141 to 3148. For purposes of this clause, a violation occurs when a contractor or related entity:

   (i) repeatedly fails to pay statutorily required wages or penalties on one or more separate projects for a total underpayment of $25,000 or more within the three-year period, provided that a failure to pay is "repeated" only if it involves two or more separate and distinct occurrences of underpayment during the three-year period;

   (ii) has been issued an order to comply by the commissioner of Labor and Industry that has become final;

   (iii) has been issued at least two determination letters within the three-year period by the Department of Transportation finding an underpayment by the contractor or related entity to its own employees;

   (iv) has been found by the commissioner of Labor and Industry to have repeatedly or willfully violated any of the sections referenced in this clause pursuant to section 177.27;

   (v) has been issued a ruling or findings of underpayment by the administrator of the Wage and Hour Division of the United States Department of Labor that have become final or have been upheld by an administrative law judge or the Administrative Review Board; or

   (vi) has been found liable for underpayment of wages or penalties or misrepresenting a construction worker as an independent contractor in an action brought in a court having jurisdiction. Provided that, if the contractor or related entity contests a determination of underpayment by the Department of Transportation in a contested case proceeding, a violation does not occur until the contested case proceeding has concluded with a determination that the contractor or related entity underpaid wages or penalties;*
The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 181.723 or chapter 326B. For purposes of this clause, a violation occurs when a contractor or related entity has been issued a final administrative or licensing order;*

The contractor or related entity has not, more than twice during the three-year period before submitting the verification, had a certificate of compliance under section 363A.36 revoked or suspended based on the provisions of section 363A.36, with the revocation or suspension becoming final because it was upheld by the Office of Administrative Hearings or was not appealed to the office;*

The contractor or related entity has not received a final determination assessing a monetary sanction from the Department of Administration or Transportation for failure to meet targeted group business, disadvantaged business enterprise, or veteran-owned business goals, due to a lack of good faith effort, more than once during the three-year period before submitting the verification;*

Any violations, suspensions, revocations, or sanctions, as defined in clauses (2) to (5), occurring prior to July 1, 2014, shall not be considered in determining whether a contractor or related entity meets the minimum criteria.

The contractor or related entity is not currently suspended or debarred by the federal government or the state of Minnesota or any of its departments, commissions, agencies, or political subdivisions that have authority to debar a contractor; and

All subcontractors and motor carriers that the contractor intends to use to perform project work have verified to the contractor through a signed statement under oath by an owner or officer that they meet the minimum criteria listed in clauses (1) to (6).

Minn. Stat. § 16C.285, Subd. 5. **SUBCONTRACTOR VERIFICATION.**

A prime contractor or subcontractor shall include in its verification of compliance under subdivision 4 a list of all of its first-tier subcontractors that it intends to retain for work on the project. Prior to execution of a construction contract, and as a condition precedent to the execution of a construction contract, the apparent successful prime contractor shall submit to the contracting authority a supplemental verification under oath confirming compliance with subdivision 3, clause (7). Each contractor or subcontractor shall obtain from all subcontractors with which it will have a direct contractual relationship a signed statement under oath by an owner or officer verifying that they meet all of the minimum criteria in subdivision 3 prior to execution of a construction contract with each subcontractor.

If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7), within 14 days of retaining the additional subcontractors.

A prime contractor shall submit to the contracting authority upon request copies of the signed verifications of compliance from all subcontractors of any tier pursuant to subdivision 3, clause (7). A prime contractor and subcontractors shall not be responsible for the false statements of any subcontractor with which they do not have a direct contractual relationship. A prime contractor and subcontractors shall be responsible for false statements by their first-tier subcontractors with which they have a direct contractual relationship only if they accept the verification of compliance with actual knowledge that it contains a false statement.

Subd. 5a. **Motor carrier verification.** A prime contractor or subcontractor shall obtain annually from all motor carriers with which it will have a direct contractual relationship a signed statement under oath by an owner or officer verifying that they meet all of the minimum criteria in subdivision 3 prior to execution of a construction contract with each motor carrier. A prime contractor or subcontractor shall require each such motor carrier to provide it with immediate written notification in the event that the motor carrier no longer meets one or more of the minimum criteria in subdivision 3 after submitting its annual verification. A motor carrier shall be ineligible to perform work on a project covered by this section if it does not meet all the minimum criteria in subdivision 3. Upon request, a prime contractor or subcontractor shall submit to the contracting authority the signed verifications of compliance from all motor carriers providing for-hire transportation of materials, equipment, or supplies for a project.
Minn. Stat. § 16C.285, Subd. 4. **VERIFICATION OF COMPLIANCE.**

A contractor responding to a solicitation document of a contracting authority shall submit to the contracting authority a signed statement under oath by an owner or officer verifying compliance with each of the minimum criteria in subdivision 3, with the exception of clause (7), at the time that it responds to the solicitation document.

A contracting authority may accept a signed statement under oath as sufficient to demonstrate that a contractor is a responsible contractor and shall not be held liable for awarding a contract in reasonable reliance on that statement. A prime contractor, subcontractor, or motor carrier that fails to verify compliance with any one of the required minimum criteria or makes a false statement under oath in a verification of compliance shall be ineligible to be awarded a construction contract on the project for which the verification was submitted.

A false statement under oath verifying compliance with any of the minimum criteria may result in termination of a construction contract that has already been awarded to a prime contractor or subcontractor or motor carrier that submits a false statement. A contracting authority shall not be liable for declining to award a contract or terminating a contract based on a reasonable determination that the contractor failed to verify compliance with the minimum criteria or falsely stated that it meets the minimum criteria. A verification of compliance need not be notarized. An electronic verification of compliance made and submitted as part of an electronic bid shall be an acceptable verification of compliance under this section provided that it contains an electronic signature as defined in section 325L.02, paragraph (h).

**CERTIFICATION**

By signing this document I certify that I am an owner or officer of the company, and I swear under oath that:

1) My company meets each of the Minimum Criteria to be a responsible contractor as defined herein and is in compliance with Minn. Stat. § 16C.285,

2) If my company is awarded a contract, I will submit Attachment A-1 prior to contract execution, and

3) if my company is awarded a contract, I will also submit Attachment A-2 as required.

Authorized Signature of Owner or Officer:  
Printed Name:

Title:  
Date:

Company Name:

NOTE: Minn. Stat. § 16C.285, Subd. 2, (c) If only one prime contractor responds to a solicitation document, a contracting authority may award a construction contract to the responding prime contractor even if the minimum criteria in subdivision 3 are not met.
Minn. Stat. § 16C.285, Subd. 5. A prime contractor or subcontractor shall include in its verification of compliance under subdivision 4 a list of all of its first-tier subcontractors that it intends to retain for work on the project. Prior to execution of a construction contract, and as a condition precedent to the execution of a construction contract, the apparent successful prime contractor shall submit to the contracting authority a supplemental verification under oath confirming compliance with subdivision 3, clause (7). Each contractor or subcontractor shall obtain from all subcontractors with which it will have a direct contractual relationship a signed statement under oath by an owner or officer verifying that they meet all of the minimum criteria in subdivision 3 prior to execution of a construction contract with each subcontractor.

<table>
<thead>
<tr>
<th>FIRST TIER SUBCONTRACTOR NAMES* (Legal name of company as registered with the Secretary of State)</th>
<th>Name of city where company home office is located</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Attach additional sheets as needed for submission of all first-tier subcontractors.

**SUPPLEMENTAL CERTIFICATION FOR ATTACHMENT A-1**

By signing this document I certify that I am an owner or officer of the company, and I swear under oath that:

All first-tier subcontractors listed on attachment A-1 have verified through a signed statement under oath by an owner or officer that they meet the minimum criteria to be a responsible contractor as defined in Minn. Stat. § 16C.285.

<table>
<thead>
<tr>
<th>Authorized Signature of Owner or Officer:</th>
<th>Printed Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company Name:</th>
</tr>
</thead>
</table>
ATTACHMENT A-2

ADDITIONAL SUBCONTRACTORS LIST

PRIME CONTRACTOR TO SUBMIT AS SUBCONTRACTORS ARE ADDED TO THE PROJECT

PROJECT TITLE: __________________________________________________________

This form must be submitted to the Project Manager or individual as identified in the solicitation document.

Minn. Stat. § 16C.285, Subd. 5. … If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7), within 14 days of retaining the additional subcontractors. …

<table>
<thead>
<tr>
<th>ADDITIONAL SUBCONTRACTOR NAMES (Legal name of company as registered with the Secretary of State)</th>
<th>Name of city where company home office is located</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Attach additional sheets as needed for submission of all additional subcontractors.

SUPPLEMENTAL CERTIFICATION FOR ATTACHMENT A-2

By signing this document I certify that I am an owner or officer of the company, and I swear under oath that:

All additional subcontractors listed on Attachment A-2 have verified through a signed statement under oath by an owner or officer that they meet the minimum criteria to be a responsible contractor as defined in Minn. Stat. § 16C.285.

<table>
<thead>
<tr>
<th>Authorized Signature of Owner or Officer:</th>
<th>Printed Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
Construction Type: Commercial

County Number: 27

County Name: HENNEPIN

Effective: 2018-12-17     Revised: 2019-01-28

This project is covered by Minnesota prevailing wage statutes. Wage rates listed below are the minimum hourly rates to be paid on this project.

All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at a rate of one and one half (1 1/2) times the basic hourly rate.

Violations should be reported to:

Department of Labor and Industry
Prevailing Wage Section
443 Lafayette Road N
St Paul, MN 55155
(651) 284-5091
DLI.PrevWage@state.mn.us

* Indicates that adjacent county rates were used for the labor class listed.

County: HENNEPIN (27)

<table>
<thead>
<tr>
<th>LABOR CODE AND CLASS</th>
<th>EFFECT DATE</th>
<th>BASIC RATE</th>
<th>FRINGE RATE</th>
<th>TOTAL RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORERS (101 - 112) (SPECIAL CRAFTS 701 - 730)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>101 LABORER, COMMON (GENERAL LABOR WORK)</td>
<td>2018-12-17</td>
<td>34.11</td>
<td>19.64</td>
<td>53.75</td>
</tr>
<tr>
<td>102 LABORER, SKILLED (ASSISTING SKILLED CRAFT JOURNEYMAN)</td>
<td>2018-12-17</td>
<td>34.11</td>
<td>19.64</td>
<td>53.75</td>
</tr>
<tr>
<td>Classification</td>
<td>Start Date 1</td>
<td>Hours Worked 1</td>
<td>Rate 1</td>
<td>Total 1</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>---------------</td>
<td>----------------</td>
<td>----------------</td>
<td>--------------</td>
</tr>
<tr>
<td>103 LABORER, LANDSCAPING (GARDENER, SOD LAYER AND NURSERY OPERATOR)</td>
<td>2018-12-17</td>
<td>23.02</td>
<td>15.99</td>
<td>39.01</td>
</tr>
<tr>
<td></td>
<td>2019-05-01</td>
<td>24.00</td>
<td>16.96</td>
<td>40.96</td>
</tr>
<tr>
<td>104 FLAG PERSON</td>
<td>2018-12-17</td>
<td>34.11</td>
<td>19.64</td>
<td>53.75</td>
</tr>
<tr>
<td>105* WATCH PERSON</td>
<td>2018-12-17</td>
<td>30.48</td>
<td>19.29</td>
<td>49.77</td>
</tr>
<tr>
<td>106* BLASTER</td>
<td>2018-12-17</td>
<td>35.11</td>
<td>19.64</td>
<td>54.75</td>
</tr>
<tr>
<td>107 PIPELAYER (WATER, SEWER AND GAS)</td>
<td>2018-12-17</td>
<td>34.15</td>
<td>19.64</td>
<td>53.79</td>
</tr>
<tr>
<td></td>
<td>2019-05-01</td>
<td>35.30</td>
<td>20.44</td>
<td>55.74</td>
</tr>
<tr>
<td>108 TUNNEL MINER</td>
<td>2018-12-17</td>
<td>32.35</td>
<td>19.64</td>
<td>51.99</td>
</tr>
<tr>
<td></td>
<td>2019-05-01</td>
<td>33.50</td>
<td>20.44</td>
<td>53.94</td>
</tr>
<tr>
<td>109 UNDERGROUND AND OPEN DITCH LABORER (EIGHT FEET BELOW STARTING GRADE LEVEL)</td>
<td>2018-12-17</td>
<td>32.35</td>
<td>19.64</td>
<td>51.99</td>
</tr>
<tr>
<td></td>
<td>2019-05-01</td>
<td>33.50</td>
<td>20.44</td>
<td>53.94</td>
</tr>
<tr>
<td>110 SURVEY FIELD TECHNICIAN (OPERATE TOTAL STATION, GPS RECEIVER, LEVEL, ROD OR RANGE POLES, STEEL TAPE MEASUREMENT; MARK AND DRIVE STAKES; HAND OR POWER DIGGING FOR AND IDENTIFICATION OF MARKERS OR MONUMENTS; PERFORM AND CHECK CALCULATIONS; REVIEW AND UNDERSTAND CONSTRUCTION PLANS AND LAND SURVEY MATERIALS). THIS CLASSIFICATION DOES NOT APPLY TO THE WORK PERFORMED ON A PREVAILING WAGE PROJECT BY A LAND SURVEYOR WHO IS LICENSED PURSUANT TO MINNESOTA STATUTES, SECTIONS 326.02 TO 326.15.</td>
<td>2018-12-17</td>
<td>34.11</td>
<td>19.64</td>
<td>53.75</td>
</tr>
<tr>
<td>111* TRAFFIC CONTROL PERSON (TEMPORARY SIGNAGE)</td>
<td>2018-12-17</td>
<td>34.11</td>
<td>19.64</td>
<td>53.75</td>
</tr>
</tbody>
</table>

**SPECIAL EQUIPMENT (201 - 204)**

<table>
<thead>
<tr>
<th>Special Equipment</th>
<th>Start Date 2</th>
<th>Hours Worked 2</th>
<th>Rate 2</th>
<th>Total 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>201* ARTICULATED HAULER</td>
<td>2018-12-17</td>
<td>38.13</td>
<td>20.30</td>
<td>58.43</td>
</tr>
<tr>
<td>202 BOOM TRUCK</td>
<td>2018-12-17</td>
<td>38.13</td>
<td>20.30</td>
<td>58.43</td>
</tr>
</tbody>
</table>
203 LANDSCAPING EQUIPMENT, INCLUDES HYDRO SEEDER OR MULCHER, SOD ROLLER, FARM TRACTOR WITH ATTACHMENT SPECIFICALLY SEEDING, SODDING, OR PLANT, AND TWO-FRAMED FORKLIFT (EXCLUDING FRONT, POSIT-TRACK, AND SKID STEER LOADERS), NO EARTHWORK OR GRADING FOR ELEVATIONS

204* OFF-ROAD TRUCK

205 PAVEMENT MARKING OR MARKING REMOVAL EQUIPMENT (ONE OR TWO PERSON OPERATORS); SELF-PROPELLED TRUCK OR TRAILER MOUNTED UNITS.

HIGHWAY/HEAVY POWER EQUIPMENT OPERATOR

GROUP 2

306 GRADER OR MOTOR PATROL

308 TUGBOAT 100 H.P. AND OVER WHEN LICENSE REQUIRED (HIGHWAY AND HEAVY ONLY)

GROUP 3 *

309 ASPHALT BITUMINOUS STABILIZER PLANT

310 CABLEWAY

312 DERRICK (GUY OR STIFFLEG)(POWER)(SKIDS OR STATIONARY) (HIGHWAY AND HEAVY ONLY)

314 DREDGE OR ENGINEERS, DREDGE (POWER) AND ENGINEER

316 LOCOMOTIVE CRANE OPERATOR

320 TANDEM SCRAPER

322 TUGBOAT 100 H.P AND OVER (HIGHWAY AND HEAVY ONLY)

GROUP 4

323 AIR TRACK ROCK DRILL

324 AUTOMATIC ROAD MACHINE (CMI OR SIMILAR) (HIGHWAY AND HEAVY ONLY)
BACKFILLER OPERATOR

BITUMINOUS ROLLERS, RUBBER TIRED OR STEEL DRUMMED (EIGHT TONS AND OVER)

BITUMINOUS SPREADER AND FINISHING MACHINES (POWER), INCLUDING PAVERS, MACRO SURFACING AND MICRO SURFACING, OR SIMILAR TYPES (OPERATOR AND SCREED PERSON)

BROKK OR R.T.C. REMOTE CONTROL OR SIMILAR TYPE WITH ALL ATTACHMENTS

CAT CHALLENGER TRACTORS OR SIMILAR TYPES PULLING ROCK WAGONS, BULLDOZERS AND SCRAPERS

CHIP HARVESTER AND TREE CUTTER

CONCRETE DISTRIBUTOR AND SPREADER FINISHING MACHINE, LONGITUDINAL FLOAT, JOINT MACHINE, AND SPRAY MACHINE

CONCRETE MOBIL (HIGHWAY AND HEAVY ONLY)

CRUSHING PLANT (GRAVEL AND STONE) OR GRAVEL WASHING, CRUSHING AND SCREENING PLANT

CURB MACHINE

DIRECTIONAL BORING MACHINE

DOPE MACHINE (PIPELINE)

DUAL TRACTOR

ELEVATING GRADER

GPS REMOTE OPERATING OF EQUIPMENT

HYDRAULIC TREE PLANTER

LAUNCHER PERSON (TANKER PERSON OR PILOT LICENSE)

LOCOMOTIVE (HIGHWAY AND HEAVY ONLY)

MILLING, GRINDING, PLANNING, FINE GRADE, OR TRIMMER MACHINE

PAVEMENT BREAKER OR TAMPERING MACHINE (POWER DRIVEN) MIGHTY MITE OR SIMILAR TYPE

PIPELINE WRAPPING, CLEANING OR BENDING MACHINE

POWER ACTUATED HORIZONTAL BORING MACHINE, OVER SIX INCHES

PUGMILL

RUBBER-TIRED FARM TRACTOR WITH BACKHOE INCLUDING ATTACHMENTS (HIGHWAY AND HEAVY ONLY)

SCRAPER

SELF-PROPELLED SOIL STABILIZER

SLIP FORM (POWER DRIVEN) (PAVING)

TIE TAMPER AND BALLAST MACHINE

TRACTOR, WHEEL TYPE, OVER 50 H.P. WITH PTO UNRELATED TO LANDSCAPING (HIGHWAY AND HEAVY ONLY)

TUB GRINDER, MORBARK, OR SIMILAR TYPE
### GROUP 5

<table>
<thead>
<tr>
<th>Code</th>
<th>Equipment Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>370</td>
<td>BITUMINOUS ROLLER (UNDER EIGHT TONS)</td>
</tr>
<tr>
<td>371</td>
<td>CONCRETE SAW (MULTIPLE BLADE) (POWER OPERATED)</td>
</tr>
<tr>
<td>372</td>
<td>FORM TRENCH DIGGER (POWER)</td>
</tr>
<tr>
<td>375</td>
<td>HYDRAULIC LOG SPLITTER</td>
</tr>
<tr>
<td>376</td>
<td>LOADER (BARBER GREENE OR SIMILAR TYPE)</td>
</tr>
<tr>
<td>377</td>
<td>POST HOLE DRIVING MACHINE/POST HOLE AUGER</td>
</tr>
<tr>
<td>379</td>
<td>POWER ACTUATED JACK</td>
</tr>
<tr>
<td>381</td>
<td>SELF-PROPELLED CHIP SPREADER (FLAHERTY OR SIMILAR)</td>
</tr>
<tr>
<td>382</td>
<td>SHEEP FOOT COMPACTOR WITH BLADE . 200 H.P. AND OVER</td>
</tr>
<tr>
<td>383</td>
<td>SHOULDERING MACHINE (POWER) APSCO OR SIMILAR TYPE INCLUDING SELF-PROPELLED SAND AND CHIP SPREADER</td>
</tr>
<tr>
<td>384</td>
<td>STUMP CHIPPER AND TREE CHIPPER</td>
</tr>
<tr>
<td>385</td>
<td>TREE FARMER (MACHINE)</td>
</tr>
</tbody>
</table>

### GROUP 6 *

<table>
<thead>
<tr>
<th>Code</th>
<th>Equipment Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>387</td>
<td>CAT, CHALLENGER, OR SIMILAR TYPE OF TRACTORS, WHEN PULLING DISK OR ROLLER</td>
</tr>
<tr>
<td>389</td>
<td>DREDGE DECK HAND</td>
</tr>
<tr>
<td>391</td>
<td>GRAVEL SCREENING PLANT (PORTABLE NOT CRUSHING OR WASHING)</td>
</tr>
<tr>
<td>393</td>
<td>LEVER PERSON</td>
</tr>
<tr>
<td>395</td>
<td>POWER SWEEPER</td>
</tr>
<tr>
<td>396</td>
<td>SHEEP FOOT ROLLER AND ROLLERS ON GRAVEL COMPACTION, INCLUDING VIBRATING ROLLERS</td>
</tr>
<tr>
<td>397</td>
<td>TRACTOR, WHEEL TYPE, OVER 50 H.P., UNRELATED TO LANDSCAPING</td>
</tr>
</tbody>
</table>

### COMMERCIAL POWER EQUIPMENT OPERATOR

### GROUP 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Equipment Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>501</td>
<td>HELICOPTER PILOT (COMMERCIAL CONSTRUCTION ONLY)</td>
</tr>
<tr>
<td>502</td>
<td>TOWER CRANE 250 FEET AND OVER (COMMERCIAL CONSTRUCTION ONLY)</td>
</tr>
<tr>
<td>503</td>
<td>TRUCK CRAWLER CRANE WITH 200 FEET OF BOOM AND OVER, INCLUDING JIB (COMMERCIAL CONSTRUCTION ONLY)</td>
</tr>
</tbody>
</table>

### GROUP 2

<table>
<thead>
<tr>
<th>Code</th>
<th>Equipment Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>504</td>
<td>CONCRETE PUMP WITH 50 METERS/164 FEET OF BOOM AND OVER (COMMERCIAL CONSTRUCTION ONLY)</td>
</tr>
<tr>
<td>505</td>
<td>PILE DRIVING WHEN THREE DRUMS IN USE (COMMERCIAL CONSTRUCTION ONLY)</td>
</tr>
</tbody>
</table>
506  TOWER CRANE 200 FEET AND OVER (COMMERCIAL CONSTRUCTION ONLY)
507  TRUCK OR CRAWLER CRANE WITH 150 FEET OF BOOM UP TO AND NOT INCLUDING 200 FEET, INCLUDING JIB (COMMERCIAL CONSTRUCTION ONLY)

GROUP 3
2018-12-17  39.39  20.30  59.69
508  ALL-TERRAIN VEHICLE CRANES (COMMERCIAL CONSTRUCTION ONLY)
509  CONCRETE PUMP 32-49 METERS/102-164 FEET (COMMERCIAL CONSTRUCTION ONLY)
510  DERRICK (GUY & STIFFLEG) (COMMERCIAL CONSTRUCTION ONLY)
511  STATIONARY TOWER CRANE UP TO 200 FEET
512  SELF-ERECTING TOWER CRANE 100 FEET AND OVER MEASURED FROM BOOM FOOT PIN (COMMERCIAL CONSTRUCTION ONLY)
513  TRAVELING TOWER CRANE (COMMERCIAL CONSTRUCTION ONLY)
514  TRUCK OR CRAWLER CRANE UP TO AND NOT INCLUDING 150 FEET OF BOOM, INCLUDING JIB (COMMERCIAL CONSTRUCTION ONLY)

GROUP 4
2018-12-17  39.05  20.30  59.35
515  CRAWLER BACKHOE INCLUDING ATTACHMENTS (COMMERCIAL CONSTRUCTION ONLY)
516  FIREPERSON, CHIEF BOILER LICENSE (COMMERCIAL CONSTRUCTION ONLY)
517  HOIST ENGINEER (THREE DRUMS OR MORE) (COMMERCIAL CONSTRUCTION ONLY)
518  LOCOMOTIVE (COMMERCIAL CONSTRUCTION ONLY)
519  OVERHEAD CRANE (INSIDE BUILDING PERIMETER) (COMMERCIAL CONSTRUCTION ONLY)
520  TRACTOR, BOOM TYPE (COMMERCIAL CONSTRUCTION ONLY)

GROUP 5
2018-12-17  38.13  20.30  58.43
521  AIR COMPRESSOR 450 CFM OR OVER (TWO OR MORE MACHINES) (COMMERCIAL CONSTRUCTION ONLY)
522  CONCRETE MIXER (COMMERCIAL CONSTRUCTION ONLY)
523  CONCRETE PUMP UP TO 31 METERS/101 FEET OF BOOM
524  DRILL RIGS, HEAVY ROTARY OR CHURN OR CABLE DRILL WHEN USED FOR CAISSON FOR ELEVATOR OR BUILDING CONSTRUCTION (COMMERCIAL CONSTRUCTION ONLY)
525  FORKLIFT (COMMERCIAL CONSTRUCTION ONLY)
526  FRONT END, SKID STEER 1 C YD AND OVER
527  HOIST ENGINEER (ONE OR TWO DRUMS) (COMMERCIAL CONSTRUCTION ONLY)
528  MECHANIC-WELDER (ON POWER EQUIPMENT) (COMMERCIAL CONSTRUCTION ONLY)
529  POWER PLANT (100 KW AND OVER OR MULTIPLES EQUAL TO 100KW AND OVER) (COMMERCIAL CONSTRUCTION ONLY)
530  PUMP OPERATOR AND/OR CONVEYOR (TWO OR MORE MACHINES) (COMMERCIAL CONSTRUCTION ONLY)
531 SELF-ERECTING TOWER CRANE UNDER 100 FEET MEASURED FROM BOOM FOOT PIN (COMMERCIAL CONSTRUCTION ONLY)
532 STRADDLE CARRIER (COMMERCIAL CONSTRUCTION ONLY)
533 TRACTOR OVER D2 (COMMERCIAL CONSTRUCTION ONLY)
534 WELL POINT PUMP (COMMERCIAL CONSTRUCTION ONLY)

GROUP 6
2018-12-17 36.62 20.30 56.92
535 CONCRETE BATCH PLANT (COMMERCIAL CONSTRUCTION ONLY)
536 FIREPERSON, FIRST CLASS BOILER LICENSE (COMMERCIAL CONSTRUCTION ONLY)
537 FRONT END, SKID STEER UP TO 1 C YD
538 GUNITE MACHINE (COMMERCIAL CONSTRUCTION ONLY)
539 TRACTOR OPERATOR D2 OR SIMILAR SIZE (COMMERCIAL CONSTRUCTION ONLY)
540 TRENCHING MACHINE (SEWER, WATER, GAS) EXCLUDES WALK BEHIND TRENCHER

GROUP 7
2018-12-17 35.50 20.30 55.80
541 AIR COMPRESSOR 600 CFM OR OVER (COMMERCIAL CONSTRUCTION ONLY)
542 BRAKEPERSON (COMMERCIAL CONSTRUCTION ONLY)
543 CONCRETE PUMP/PUMP CRETE OR COMPLACO TYPE (COMMERCIAL CONSTRUCTION ONLY)
544 FIREPERSON, TEMPORARY HEAT SECOND CLASS BOILER LICENSE (COMMERCIAL CONSTRUCTION ONLY)
545 OILER (POWER SHOVEL, CRANE, TRUCK CRANE, DRAGLINE, CRUSHERS AND MILLING MACHINES, OR OTHER SIMILAR POWER EQUIPMENT) (COMMERCIAL CONSTRUCTION ONLY)
546 PICK UP SWEEPER (ONE CUBIC YARD HOPPER CAPACITY) (COMMERCIAL CONSTRUCTION ONLY)
547 PUMP AND/OR CONVEYOR (COMMERCIAL CONSTRUCTION ONLY)

GROUP 8
2018-12-17 33.49 20.30 53.79
548 ELEVATOR OPERATOR (COMMERCIAL CONSTRUCTION ONLY)
549 GREASER (COMMERCIAL CONSTRUCTION ONLY)
550 MECHANICAL SPACE HEATER (TEMPORARY HEAT NO BOILER LICENSE REQUIRED) (COMMERCIAL CONSTRUCTION ONLY)

TRUCK DRIVERS

GROUP 1 *
2018-12-17 25.65 6.76 32.41
601 MECHANIC . WELDER
602 TRACTOR TRAILER DRIVER
603 TRUCK DRIVER (HAULING MACHINERY INCLUDING OPERATION OF HAND AND POWER OPERATED WINCHES)

GROUP 2 *

2018-12-17 21.10 6.76 27.86

604 FOUR OR MORE AXLE UNIT, STRAIGHT BODY TRUCK

GROUP 3 *

2018-12-17 25.80 6.10 31.90

605 BITUMINOUS DISTRIBUTOR DRIVER
606 BITUMINOUS DISTRIBUTOR (ONE PERSON OPERATION)
607 THREE AXLE UNITS

GROUP 4

2018-12-17 35.82 8.18 44.00

608 BITUMINOUS DISTRIBUTOR SPRAY OPERATOR (REAR AND OILER)
609 DUMP PERSON
610 GREASER
611 PILOT CAR DRIVER
612 RUBBER-TIRED, SELF-PROPELLED PACKER UNDER 8 TONS
613 TWO AXLE UNIT
614 SLURRY OPERATOR
615 TANK TRUCK HELPER (GAS, OIL, ROAD OIL, AND WATER)
616 TRACTOR OPERATOR, UNDER 50 H.P.

SPECIAL CRAFTS

701 HEATING AND FROST INSULATORS

2018-12-17 44.60 24.40 69.00
2019-06-01 47.10 24.40 71.50

702 BOILERMAKERS

2018-12-17 37.22 27.14 64.36
2019-01-01 38.33 27.43 65.76

703 BRICKLAYERS

2018-12-17 38.76 20.87 59.63

704 CARPENTERS

2018-12-17 37.18 21.45 58.63

705 CARPET LAYERS (LINOLEUM)

2018-12-17 37.84 19.19 57.03

706 CEMENT MASONS

2018-12-17 38.41 19.67 58.08
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>707</td>
<td>ELECTRICIANS</td>
<td>41.56</td>
<td>44.51</td>
<td>44.51</td>
</tr>
<tr>
<td>708</td>
<td>ELEVATOR CONSTRUCTORS</td>
<td>48.36</td>
<td>49.91</td>
<td>49.91</td>
</tr>
<tr>
<td>709</td>
<td>GLAZIERS</td>
<td>41.19</td>
<td>49.91</td>
<td>49.91</td>
</tr>
<tr>
<td>710</td>
<td>LATHERS</td>
<td>38.47</td>
<td>49.91</td>
<td>49.91</td>
</tr>
<tr>
<td>712</td>
<td>IRONWORKERS</td>
<td>37.10</td>
<td>49.91</td>
<td>49.91</td>
</tr>
<tr>
<td>714</td>
<td>MILLWRIGHT</td>
<td>35.13</td>
<td>49.91</td>
<td>49.91</td>
</tr>
<tr>
<td>715</td>
<td>PAINTERS (INCLUDING HAND BRUSHED, HAND SPRAYED, AND THE TAPING OF PAVEMENT MARKINGS)</td>
<td>36.75</td>
<td>49.91</td>
<td>49.91</td>
</tr>
<tr>
<td>716</td>
<td>PILEDRIVER (INCLUDING VIBRATORY DRIVER OR EXTRACTOR FOR PILING AND SHEETING OPERATIONS)</td>
<td>38.01</td>
<td>49.91</td>
<td>49.91</td>
</tr>
<tr>
<td>717</td>
<td>PIPEFITTERS . STEAMFITTERS</td>
<td>45.82</td>
<td>49.91</td>
<td>49.91</td>
</tr>
<tr>
<td>718</td>
<td>PLASTERERS</td>
<td>38.96</td>
<td>49.91</td>
<td>49.91</td>
</tr>
<tr>
<td>719</td>
<td>PLUMBERS</td>
<td>46.91</td>
<td>49.91</td>
<td>49.91</td>
</tr>
<tr>
<td>720</td>
<td>ROOFER</td>
<td>36.26</td>
<td>49.91</td>
<td>49.91</td>
</tr>
<tr>
<td>721</td>
<td>SHEET METAL WORKERS</td>
<td>43.31</td>
<td>45.91</td>
<td>45.91</td>
</tr>
<tr>
<td>722</td>
<td>SPRINKLER FITTERS</td>
<td>45.28</td>
<td>45.91</td>
<td>45.91</td>
</tr>
<tr>
<td>ID</td>
<td>Occupation</td>
<td>Start Date</td>
<td>Yr Ave</td>
<td>Monthly Ave</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------</td>
<td>------------</td>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>723</td>
<td>TERRAZZO WORKERS</td>
<td>2018-12-17</td>
<td>38.91</td>
<td>19.40</td>
</tr>
<tr>
<td>724</td>
<td>TILE SETTERS</td>
<td>2018-12-17</td>
<td>33.55</td>
<td>24.44</td>
</tr>
<tr>
<td>725</td>
<td>TILE FINISHERS</td>
<td>2018-12-17</td>
<td>28.23</td>
<td>19.12</td>
</tr>
<tr>
<td>726</td>
<td>DRYWALL TAPER</td>
<td>2018-12-17</td>
<td>34.51</td>
<td>22.28</td>
</tr>
<tr>
<td>727</td>
<td>WIRING SYSTEM TECHNICIAN</td>
<td>2018-12-17</td>
<td>38.97</td>
<td>17.14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2019-07-01</td>
<td>40.17</td>
<td>17.14</td>
</tr>
<tr>
<td>728</td>
<td>WIRING SYSTEMS INSTALLER</td>
<td>2018-12-17</td>
<td>27.30</td>
<td>14.31</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2019-07-01</td>
<td>28.14</td>
<td>14.31</td>
</tr>
<tr>
<td>729</td>
<td>ASBESTOS ABATEMENT WORKER</td>
<td>2018-12-17</td>
<td>31.68</td>
<td>18.71</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2019-01-01</td>
<td>32.68</td>
<td>19.66</td>
</tr>
<tr>
<td>730*</td>
<td>SIGN ERECTOR</td>
<td>2018-12-17</td>
<td>28.80</td>
<td>14.92</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2019-06-01</td>
<td>30.45</td>
<td>14.92</td>
</tr>
</tbody>
</table>
PART 1 GENERAL

1.1 PROJECT

A. Project Name: Minneapolis City Hall/Hennepin County Courthouse Exterior Improvements/Restoration Project – Phase 1
B. Owner's Name: Municipal Building Commission.
C. Architect: Miller Dunwiddie
D. The Project is located at the Minneapolis City Hall/Hennepin County Courthouse at 350 South 5th Street, Minneapolis, MN. The Exterior Improvements involves work on ground floor through the fifth floor. The work includes refurbishing of the exterior of the building. See Article 1.3.

1.2 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price as provided by the Municipal Building Commission.

1.3 DESCRIPTION OF EXTERIOR IMPROVEMENTS/RESTORATION WORK

A. Phase 1 Summary of Work:
   • Restore masonry by removing all biological growth using the gentlest means possible
   • Restore existing stone masonry by patching and/or replacing
   • Deteriorated material to match the original appearance.
   • Restore existing mortar joints by replacing deteriorated and/or missing mortar to match the original appearance.
   • Preserve existing horizontal "skyward" facing mortar joints by replacing mortar with sealant to prevent washout.
   • Replace damaged glazing.
   • Replace damaged glazing.
   • Remove and replace existing heat trace at gutters.
   • Modify existing gutter anchorage details to prevent additional damage to stone.

1.4 WORK BY OWNER

A. Items noted NIC (Not in Contract) may be supplied and installed by Owner before Substantial Completion.

1.5 OWNER OCCUPANCY

A. This is an occupied building and will remain occupied through the duration of the project. Building occupants will remain in their spaces and need to be open for business 8:00 am - 4:30 pm Monday-Friday. Minneapolis Police Department, 911 dispatch, and the Hennepin County Sheriff's office maintain 24/7 operation in the building. In addition, the main level Rotunda area is booked on the weekends and some evenings during the week for private functions and loud construction activities will not be allowed unless scheduled a minimum of 1 week in advance and confirmed by the MBC.
B. Work performed by the contractor that will disrupt building operations must be scheduled and completed outside of normal working hours as noted above. Disruption includes loud noise, vibrations, utility interruption and work in occupied spaces. Activities that generate conditions unacceptable include, but is not limited to, saw cutting, core drilling, shooting powder actuated anchors into slabs, grenade
tip pressure washing, grinding of slabs and drilling into the structure. All utility interruptions must be completed after normal building hours.

C. Owner intends to continue to occupy adjacent portions of the existing building during the entire construction period.

D. Owner intends to occupy the Project upon Substantial Completion corresponding to each phase.

E. Owner intends to occupy certain portions of the Project prior to the final completion date for the conduct of normal operations.

F. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

G. Schedule the Work to accommodate Owner occupancy.

1.6 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.

B. Arrange use of site and premises to allow:
   1. Owner occupancy.
   2. Work by Others.
   3. Work by Owner.
   4. Use of site and premises by the public.

C. Provide access to and from site as required by law and by Owner:
   1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   2. Do not obstruct roadways, sidewalks, or other public ways without permit.

D. Existing building spaces may not be used for storage.

E. Time Restrictions:
   1. See Article 1.5 Owner Occupancy

F. Utility Outages and Shutdown:
   1. Limit disruption of utility services to hours the building is unoccupied.
   2. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days notice to Owner and authorities having jurisdiction.
   3. Prevent accidental disruption of utility services to other facilities.

G. Building Access:
   1. A general background check is needed for all contractors. Allow two weeks for a response from MBC Security.

H. Dumpster: Coordinate dumpster location with Owner.

1.7 WORK SEQUENCE

A. Coordinate construction schedule and operations with Owner and General Contractor.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION
Contractors and MBC Staff shall abide by Municipal Building Commission Rules for work affecting the Fire Alarm System.

MBC Hot Works Rules

A Hot Works Permit is required for any temporary operation producing dust, smoke, a flame, sparks or heat. This includes grinding, drilling, brazing, cutting, soldering, pipe thawing, and welding.

1. If there is a practical and safe way to do the job without hot work, we require that method be used.

2. No hot work is permitted without authorization from the MBC Project Manager in the form of a signed Permit. This permit will be valid for the time approved.

3. Specific fire fighting equipment and protection material will be required at the work site before any work can be started. The contractor will provide all of these materials. This should be discussed with the Project Manager when requesting the permit.

4. No hot work is permitted without a designated fire watch present. The contractor or MBC staff will be required to provide a fire watch designee. This designee will have total control over the hot work area for fire prevention. However, should MBC staff observe unsafe conditions, the hot work operation will be stopped until the hazard is neutralized or eliminated.

5. The contractor or MBC staff will verify that all hot work equipment is in proper working order and in a fire-safe condition. The Contractor or MBC staff is responsible for the safe and operable equipment. Any unsafe equipment observed by the MBC staff will be required to be removed from the property.

Any contractor-owned equipment or material to be stored in the facility overnight must be properly secured in an area designated by the Project Manager.
Please submit at least 24 hrs in advance of starting work

**MBC Hot Works Permit**

This permit is required for any temporary operation producing dust, smoke, a flame, sparks or heat. The MBC does not assume liability for hot work. See reverse for rules.

Requestor’s Name: ___________________ Company Name: ___________________ Address: ___________________

Phone: ___________________ Email Address: ___________________ Number(s): _______ Permit Date(s): _______

Type of work requiring permit. Check all that apply.

- [ ] D core drilling
- [ ] D welding
- [ ] D cutting
- [ ] D soldering
- [ ] D grinding
- [ ] D brazing
- [ ] D pipe thawing
- [ ] D torch-applied roofing
- [ ] D other (please list)________________________

Description of work: __________________________________________

________________________________________

________________________________________

All locations that hot work will occur - Highlight on attached drawings

Date that hot work will occur: ___________________ Time and duration of hot work: _______

List fire fighting equipment and protection material by contractor at hot work site: ___________________

________________________________________

________________________________________

________________________________________

Name of designated fire watch: ___________________

MBC Project Manager Approval

Approval Signature ___________________________________ Date ___________________

**MBC Use Only**

- [ ] D Identify affected areas on attached key plans
- [ ] D E-mail scanned copy of Hot Works Permit with drawings to: MBC Electrical Forman, MBC Security and MECC On-Duty Supervisor,
- [ ] D If work is occurring on 3rd – 5th floors, also e-mail a scanned copy to Jim Sellwood (ADC), Mike Wresh (ADC) and Vern McIntyre (ADC)
METHOD OF PROCEDURE (MOP)

Date this MOP was submitted: 
Date this MOP was approved: 

MOP Title: 
MOP Purpose: 
Key Contact for Contractor: 

MOP Information: 
Author: 
Approver: 
Version: 

Personnel Contact List (List all necessary contacts such as: MBC facilities staff (managers, Director, and any involved or affected technician staff), MBC Facilities Emergency Contacts, Fire Watch, Contractor Project Managers, Consultant Managers, General Contractor and Subcontractors (foreman, wireman, pipe fitters, etc.), Contractor Back-up, Contractor Standby, Maintenance Personnel, named departmental contacts such as ADC and MECC),

<table>
<thead>
<tr>
<th>Personnel Contact List</th>
<th>Title</th>
<th>Role and Responsibility</th>
<th>Company</th>
<th>Cell Phone Number &amp; Email Address</th>
<th>Check if required to be on-site during procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MOP Procedure (List each step of the process in sequential order with specific dates and times including affected equipment, affected tenants, affected room numbers and testing procedure). 

Back-up Plan (Provide back-up plan in the event that something goes wrong. List each potential failure and the related back-up plan).
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

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 the 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 deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

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

1.  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.

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

C. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.
PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 1: Provide metal angle support at all cracked stone and stone repair at the north, south, east and west elevations of the north tower as indicated on elevations.

B. Alternate No. 1A: Provide metal angle support at all non-cracked stone and stone repair at the north, south, east and west elevations of the north tower as indicated on elevations.

END OF SECTION
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Requirements:

1. Section 01 23 00 "Alternates" for products selected under an alternate.
2. Section 01 60 00 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Substitution Request Form: Use facsimile of form provided in Project Manual. See Section 01 62 00 Product Options.
2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

   a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.

c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.

d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.

e. Samples, where applicable or requested.

f. Certificates and qualification data, where applicable or requested.

g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.

h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.

i. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.

j. Cost information, including a proposal of change, if any, in the Contract Sum.

k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.

l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor through Construction Manager of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.


b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials.
1.6 PROCEDURES

A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.7 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

1. Conditions: 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:

   a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
   b. Substitution request is fully documented and properly submitted.
   c. Requested substitution will not adversely affect Contractor's construction schedule.
   d. Requested substitution has received necessary approvals of authorities having jurisdiction.
   e. Requested substitution is compatible with other portions of the Work.
   f. Requested substitution has been coordinated with other portions of the Work.
   g. Requested substitution provides specified warranty.
   h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Not allowed unless otherwise indicated.

C. Substitutions for Convenience: Architect will consider requests for substitution if received within 60 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.

1. Conditions: 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:

   a. 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.
   b. Requested substitution does not require extensive revisions to the Contract Documents.
c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
d. Substitution request is fully documented and properly submitted.
e. Requested substitution will not adversely affect Contractor's construction schedule.
f. Requested substitution has received necessary approvals of authorities having jurisdiction.
g. Requested substitution is compatible with other portions of the Work.
h. Requested substitution has been coordinated with other portions of the Work.
i. Requested substitution provides specified warranty.
j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

B. Related Requirements:
   1. Section 01 25 00 “Substitution Procedures” for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 MINOR CHANGES IN THE WORK

A. Architect will issue through Construction Manager supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710.

1.4 PROPOSAL REQUESTS

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

   1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
   2. Within 10 days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
      a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
      b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
      c. Include costs of labor and supervision directly attributable to the change.
d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

e. Quotation Form: Use form provided by Contractor.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.

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

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

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

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

6. Comply with requirements in Section 01.25.00 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.

7. Proposal Request Form: Use form provided by Contractor.

1.5 CHANGE ORDER PROCEDURES


1.6 CONSTRUCTION CHANGE DIRECTIVE


1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.
July 16, 2019

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION
PART 1 - GENERAL

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

1.2 SUMMARY
A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
B. Related Requirements:
   1. Section 01 26 00 “Contract Modification Procedures” for administrative procedures for handling changes to the Contract.
   2. Section 01 32 00 “Construction Progress Documentation” for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.3 DEFINITIONS
A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES
A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule. Cost-loaded Critical Path Method Schedule may serve to satisfy requirements for the schedule of values.
   1. Coordinate line items in the schedule of values with 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.
B. 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:
PAYMENT PROCEDURES

Section 012900 - 2

1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and Construction Manager and paid for by Owner.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

C. Payment Application Times: Submit Application for Payment to Architect by the 25th of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.
D. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
   1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
   2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
   3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
   4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

F. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
   1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment for stored materials.
   2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
   3. Provide summary documentation for stored materials indicating the following:
      a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
      b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
      c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

G. Transmittal: Submit one (1) digital signed and notarized original copies of each Application for Payment to Architect. One copy shall include waivers of lien and similar attachments if required.
   1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

H. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment subcontractors, for construction period covered by the previous application.
   1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
   2. When an application shows completion of an item, submit conditional final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.

I. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of values.
3. Contractor's construction schedule (preliminary if not final).
4. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
5. Products list (preliminary if not final).
6. Sustainable design action plans, including preliminary project materials cost data.
7. Schedule of unit prices.
8. Submittal schedule (preliminary if not final).
9. List of Contractor's staff assignments.
10. List of Contractor's principal consultants.
13. Initial progress report.
15. Certificates of insurance and insurance policies.
17. Data needed to acquire Owner's insurance.

J. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

K. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
5. AIA Document G706A.
7. Final liquidated damages settlement statement.
July 16, 2019

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General coordination procedures.
2. Coordination drawings.
3. RPIs.
4. Digital project management procedures.
5. Project meetings.

1.3 INFORMATIONAL SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.

B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1. Post copies of list in project meeting room, in temporary field office, in web-based Project software directory. Keep list current at all times.

1.4 GENERAL COORDINATION PROCEDURES

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.
Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.

1.5 REQUEST FOR INFORMATION (RFI)

A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Architect and Construction Manager.
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
   a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms: Contractor form.
   1. Attachments shall be electronic files in PDF format.

D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI.
   1. The following Contractor-generated RFIs will be returned without action:
      a. Requests for approval of submittals.
      b. Requests for approval of substitutions.
      c. Requests for approval of Contractor's means and methods.
      d. Requests for coordination information already indicated in the Contract Documents.
      e. Requests for adjustments in the Contract Time or the Contract Sum.
      f. Requests for interpretation of Architect's actions on submittals.
      g. Incomplete RFIs or inaccurately prepared RFIs.
   2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt by Architect or Construction Manager of additional information.
   3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 01 26 00 "Contract Modification Procedures."
      a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect and Construction Manager in writing within 10 days of receipt of the RFI response.

E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Use software log that is part of web-based Project software. Include the following:
   1. Project name.
   2. Name and address of Contractor.
   3. Name and address of Architect.
   4. RFI number including RFIs that were returned without action or withdrawn.
   5. RFI description.
   6. Date the RFI was submitted.
7. Date Architect's response was received.
8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect and Construction Manager within seven days if Contractor disagrees with response.

1.6 DIGITAL PROJECT MANAGEMENT PROCEDURES

A. Use of Architect's Digital Data Files: Digital data files of Architect's BIM model will be provided by Architect for Contractor's use during construction.

1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project record Drawings.
2. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.
4. Contractor shall execute a data licensing agreement in the form of Agreement acceptable to Owner and Architect.
   a. Subcontractors, and other parties granted access by Contractor to Architect's digital data files shall execute a data licensing agreement in the form of Agreement acceptable to Owner and Architect.
5. The following digital data files will be furnished for each appropriate discipline:
   a. Floor plans.
   b. Reflected ceiling plans.

B. Web-Based Project Software: Use Contractor's web-based Project software site for purposes of hosting and managing Project communication and documentation until Final Completion.

1. Web-based Project software site includes, at a minimum, the following features:
   a. Compilation of Project data, including Contractor, subcontractors, Architect, architect's consultants, Owner, and other entities involved in Project. Include names of individuals and contact information.
   b. Access control for each entity for each workflow process, to determine entity's digital rights to create, modify, view, and print documents.
   c. Document workflow planning, allowing customization of workflow between project entities.
   d. Creation, logging, tracking, and notification for Project communications required in other Specification Sections, including, but not limited to, RFIs, submittals, Minor Changes in the Work, Construction Change Directives, and Change Orders.
   e. Track status of each Project communication in real time, and log time and date when responses are provided.
f. Procedures for handling PDFs or similar file formats, allowing markups by each entity. Provide security features to lock markups against changes once submitted.
g. Processing and tracking of payment applications.
h. Processing and tracking of contract modifications.
i. Creating and distributing meeting minutes.
j. Document management for Drawings, Specifications, and coordination drawings, including revision control.
k. Management of construction progress photographs.
l. Mobile device compatibility, including smartphones and tablets.

2. At completion of Project, provide digital archive in format that is readable by common desktop software applications in format acceptable to Architect. Provide data in locked format to prevent further changes.

3. Provide the following web-based Project software packages under their current published licensing agreements:
   a. Contractor’s web-based Project software package.

C. PDF Document Preparation: Where PDFs are required to be submitted to Architect, prepare as follows:
   1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
   2. Name file with submittal number or other unique identifier, including revision identifier.
   3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

1.7 PROJECT MEETINGS

A. General: Contractor will schedule and conduct meetings and conferences at Project site unless otherwise indicated.
   1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times a minimum of 10 working days prior to meeting.
   2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
   3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.

B. Preconstruction Conference: Contractor will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
1. Attendees: Authorized representatives of Owner, Construction Manager, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Discuss items of significance that could affect progress, including the following:
   a. Responsibilities and personnel assignments.
   b. Tentative construction schedule.
   c. Phasing.
   d. Critical work sequencing and long lead items.
   e. Designation of key personnel and their duties.
   f. Lines of communications.
   g. Use of web-based Project software.
   h. Procedures for processing field decisions and Change Orders.
   i. Procedures for RFIs.
   j. Procedures for testing and inspecting.
   k. Procedures for processing Applications for Payment.
   l. Distribution of the Contract Documents.
   m. Submittal procedures.
   n. Sustainable design requirements.
   o. Preparation of Record Documents.
   p. Use of the premises.
   q. Work restrictions.
   r. Working hours.
   s. Owner's occupancy requirements.
   t. Responsibility for temporary facilities and controls.
   u. Procedures for moisture and mold control.
   v. Procedures for disruptions and shutdowns.
   w. Construction waste management and recycling.
   x. Parking availability.
   y. Office, work, and storage areas.
   z. Equipment deliveries and priorities.
   aa. First aid.
   cc. Progress cleaning.

3. Minutes: Contractor shall conduct meeting, record, and distribute meeting minutes.

C. Preinstallation Conferences: Contractor to Conduct a preinstallation conference at Project site before each construction activity when required by other sections and when required for coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect and Owner of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
   b. Options.
   c. Related RFIs.
   d. Related Change Orders.
   e. Purchases.
   f. Deliveries.
   g. Submittals.
   h. Sustainable design requirements.
   i. Review of mockups.
   j. Possible conflicts.
   k. Compatibility requirements.
   l. Time schedules.
   m. Weather limitations.
   n. Manufacturer's written instructions.
   o. Warranty requirements.
   q. Acceptability of substrates.
   r. Temporary facilities and controls.
   s. Space and access limitations.
   t. Regulations of authorities having jurisdiction.
   u. Testing and inspecting requirements.
   v. Installation procedures.
   w. Coordination with other work.
   x. Required performance results.
   y. Protection of adjacent work.
   z. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.

4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.

5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Project Closeout Conference: Contractor will schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 90 days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.
2. Attendees: Authorized representatives of Owner, Construction Manager, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
a. Preparation of Record Documents.
b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
c. Procedures for completing and archiving web-based Project software site data files.
d. Submittal of written warranties.
e. Requirements for completing sustainable design documentation.
f. Requirements for preparing operations and maintenance data.
g. Requirements for delivery of material samples, attic stock, and spare parts.
h. Requirements for demonstration and training.
i. Preparation of Contractor’s punch list.
j. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
k. Submittal procedures.
l. Coordination of separate contracts.
m. Owner’s partial occupancy requirements.
n. Installation of Owner’s furniture, fixtures, and equipment.
o. Responsibility for removing temporary facilities and controls.

4. Minutes: Contractor shall conduct meeting, record, and distribute meeting minutes.

E. Progress Meetings: Contractor will conduct progress meetings at biweekly intervals.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner, Construction Manager, and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Contractor’s Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor’s construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

1) Review schedule for next period.

b. Review present and future needs of each entity present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Resolution of BIM component conflicts.
4) Status of submittals.
5) Status of sustainable design documentation.
6) Deliveries.
7) Off-site fabrication.
8) Access.
9) Site use.
10) Temporary facilities and controls.
11) Progress cleaning.
12) Quality and work standards.
13) Status of correction of deficient items.
14) Field observations.
15) Status of RFI's.
16) Status of Proposal Requests.
17) Pending changes.
18) Status of Change Orders.
19) Pending claims and disputes.
20) Documentation of information for payment requests.

4. Minutes: Contractor shall conduct the meeting, record, and distribute the meeting minutes to each party present and to parties requiring information.

   a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Startup construction schedule.
2. Contractor's Construction Schedule.
3. Construction schedule updating reports.
4. Daily construction reports.
5. Material location reports.
6. Site condition reports.
7. Unusual event reports.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction Project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

B. Cost Loading: The allocation of the schedule of values for completing an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum.

C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

E. Event: The starting or ending point of an activity.
F. Float: The measure of leeway in starting and completing an activity.

1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

G. Resource Loading: The allocation of manpower and equipment necessary for completing an activity as scheduled.

1.4 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. Working electronic copy of schedule file, where indicated.
2. PDF file.

B. Startup construction schedule.

1. Submittal of cost-loaded, startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.

C. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.

D. Contractor’s Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

1. Submit a working digital copy of schedule, using software indicated, and labeled to comply with requirements for submittals.

E. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.

1. Activity Report: List of activities sorted by activity number and then early start date, or actual start date if known.
2. Logic Report: List of preceding and succeeding activities for each activity, sorted in ascending order by activity number and then by early start date, or actual start date if known.
4. Earnings Report: Compilation of Contractor’s total earnings from the Notice to Proceed until most recent Application for Payment.

F. Construction Schedule Updating Reports: Submit with each Application for Payment.

G. Daily Construction Reports: Submit at weekly intervals.
H. Material Location Reports: Submit at weekly intervals.

I. Site Condition Reports: Submit at time of discovery of differing conditions.

J. Unusual Event Reports: Submit at time of unusual event.

K. Qualification Data: For scheduling consultant.

1.5 COORDINATION

A. Coordinate Contractor's Construction Schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from entities involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

1.6 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion and Final Completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

C. Activities: Treat each floor or separate area as a separate numbered activity for each main element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
3. Submittal Review Time: Include review and resubmittal times indicated in Section 01 33 00 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with submittal schedule.
4. Startup and Testing Time: Include no fewer than 15 days for startup and testing.
5. Commissioning Time: Include no fewer than 15 days for commissioning.
6. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's and Construction Manager's administrative procedures necessary for certification of Substantial Completion.
7. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.
D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.
2. Work under More Than One Contract: Include a separate activity for each contract.
3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Section 01 10 00 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Section 01 10 00 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
6. Work Restrictions: Show the effect of the following items on the schedule:
   a. Coordination with existing construction.
   b. Limitations of continued occupancies.
   c. Uninterruptible services.
   d. Partial occupancy before Substantial Completion.
   e. Use-of-premises restrictions.
   g. Seasonal variations.
   h. Environmental control.
7. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
   a. Subcontract awards.
   b. Submittals.
   c. Purchases.
   d. Mockups.
   e. Fabrication.
   f. Sample testing.
   g. Deliveries.
   h. Installation.
   i. Tests and inspections.
   j. Adjusting.
   k. Curing.
   l. Building flush-out.
   m. Startup and placement into final use and operation.
   n. Commissioning.
8. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
   a. Structural completion.
   b. Temporary enclosure and space conditioning.
   c. Permanent space enclosure.
d. Completion of mechanical installation.
e. Completion of electrical installation.
f. Substantial Completion.

E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.

F. Cost Correlation: Superimpose a cost correlation timeline, indicating planned and actual costs. On the line, show planned and actual dollar volume of the Work performed as of planned and actual dates used for preparation of payment requests.

1. See Section 01 29 00 "Payment Procedures" for cost reporting and payment procedures.

G. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:

1. Unresolved issues.
2. Unanswered Requests for Information.
3. Rejected or unreturned submittals.
4. Notations on returned submittals.
5. Pending modifications affecting the Work and the Contract Time.

H. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate final completion percentage for each activity.

I. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, equipment required to achieve compliance, and date by which recovery will be accomplished.

J. Distribution: Distribute copies of approved schedule to Architect, Construction Manager, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.
1.7 STARTUP CONSTRUCTION SCHEDULE

A. Gantt-Chart Schedule: Submit startup, horizontal, Gantt-chart-type construction schedule within seven days of date established for the Notice to Proceed.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first [90] <Insert number> days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

1.8 GANTT-CHART SCHEDULE REQUIREMENTS

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for the Notice to Proceed.

1. Base schedule on the startup construction schedule and additional information received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

1.9 CPM SCHEDULE REQUIREMENTS

A. General: Prepare network diagrams using AON (activity-on-node) format.

B. Startup Network Diagram: Submit diagram within 14 days of date established for the Notice to Proceed. Outline significant construction activities for the first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.


1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than 60 days after date established for the Notice to Proceed.

   a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates.

2. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.
3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.

4. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule to coordinate with the Contract Time.

D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the startup network diagram, prepare a skeleton network to identify probable critical paths.

1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
   a. Preparation and processing of submittals.
   b. Mobilization and demobilization.
   c. Purchase of materials.
   d. Delivery.
   e. Fabrication.
   f. Utility interruptions.
   g. Installation.
   h. Work by Owner that may affect or be affected by Contractor's activities.
   i. Testing and inspection.
   j. Commissioning.
   k. Punch list and final completion.
   l. Activities occurring following final completion.

2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.

3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.

4. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
   a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.

5. Cost- and Resource-Loading of CPM Schedule: Assign cost to construction activities on the CPM schedule. Do not assign costs to submittal activities. Obtain Architect's approval prior to assigning costs to fabrication and delivery activities. Assign costs under main subcontracts for testing and commissioning activities, operation and maintenance manuals, punch list activities, Project record documents, sustainable design documentation, and demonstration and training (if applicable), in the amount of 5 percent of the Contract Sum.
   a. Each activity cost shall reflect an appropriate value subject to approval by Architect.
   b. Total cost assigned to activities shall equal the total Contract Sum.
E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall Project schedule.

F. Initial Issue of Schedule: Prepare initial network diagram from a sorted activity list indicating straight "early start-total float." Identify critical activities. Prepare tabulated reports showing the following:

1. Contractor or subcontractor and the Work or activity.
2. Description of activity.
3. Main events of activity.
4. Immediate preceding and succeeding activities.
5. Early and late start dates.
6. Early and late finish dates.
7. Activity duration in workdays.
8. Total float or slack time.
10. Dollar value of activity (coordinated with the schedule of values).

G. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:

1. Identification of activities that have changed.
2. Changes in early and late start dates.
3. Changes in early and late finish dates.
5. Changes in the critical path.
6. Changes in total float or slack time.

H. Value Summaries: Prepare two cumulative value lists, sorted by finish dates.

1. In first list, tabulate activity number, early finish date, dollar value, and cumulative dollar value.
2. In second list, tabulate activity number, late finish date, dollar value, and cumulative dollar value.
3. In subsequent issues of both lists, substitute actual finish dates for activities completed as of list date.
4. Prepare list for ease of comparison with payment requests; coordinate timing with progress meetings.
   a. In both value summary lists, tabulate "actual percent complete" and "cumulative value completed" with total at bottom.
   b. Submit value summary printouts one week before each regularly scheduled progress meeting.

1.10 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain or snow.
8. Accidents.
9. Meetings and significant decisions.
10. Unusual events.
11. Stoppages, delays, shortages, and losses.
12. Meter readings and similar recordings.
14. Orders and requests of authorities having jurisdiction.
15. Change Orders received and implemented.
16. Construction Change Directives received and implemented.
17. Services connected and disconnected.
18. Equipment or system tests and startups.
19. Partial completions and occupancies.
20. Substantial Completions authorized.

B. Material Location Reports: At monthly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:

1. Material stored prior to previous report and remaining in storage.
2. Material stored prior to previous report and since removed from storage and installed.
3. Material stored following previous report and remaining in storage.

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

D. Unusual Event Reports: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, responses by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

1. Submit unusual event reports directly to Owner within [one] <Insert number> day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.
July 16, 2019

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Preconstruction photographs.
2. Periodic construction photographs.
3. Final completion construction photographs.
4. Preconstruction video recordings.
5. Periodic construction video recordings.

B. Related Requirements:

1. Section 017700 "Closeout Procedures" for submitting photographic documentation as Project Record Documents at Project closeout.
2. Section 017900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.
3. Section 024119 "Selective Demolition" for photographic documentation before selective demolition operations commence.

1.3 INFORMATIONAL SUBMITTALS

A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph and video recording. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.

B. Digital Photographs: Submit image files within three days of taking photographs.

1. Submit photos by uploading to web-based project software site. Include copy of key plan indicating each photograph's location and direction.
2. Identification: Provide the following information with each image description web-based project software site:
   a. Name of Project.
   b. Name and contact information for photographer.
   c. Name of Architect and Construction Manager.
   d. Name of Contractor.
MBC1901
PHOTOGRAPHIC DOCUMENTATION
Section 013233 - 2

Exterior Improvements / Restoration Project - Phase 1
July 16, 2019
Bid Documents

C. Printed Photographs: Submit two sets of prints of each photographic view within seven
days of taking photographs.

1. Format: 8-by-10-inch (203-by-254-mm) smooth-surface matte prints on single-
weight, paper; enclosed back to back in clear plastic sleeves punched for three-
ring binder. Include copy of key plan indicating each photograph’s location and
direction. Provide one binder for each set of prints.

2. Identification: On back of each print, label with the following information:
   a. Name of Project.
   b. Name and contact information for photographer.
   c. Name of Architect and Construction Manager.
   d. Name of Contractor.
   e. Date photograph was taken if not date stamped by camera.
   f. Description of vantage point, indicating location, direction (by compass
      point), and elevation or story of construction.
   g. Unique sequential identifier keyed to accompanying key plan.

D. Video Recordings: Submit video recordings within seven days of recording.

1. Submit video recordings by uploading to web-based project software site.
   Include copy of key plan indicating each video’s location and direction.

2. Identification: With each submittal, provide the following information web-based
   project software site:
   a. Name of Project.
   b. Name and address of photographer.
   c. Name of Architect and Construction Manager.
   d. Name of Contractor.
   e. Date video recording was recorded.
   f. Description of vantage point, indicating location, direction (by compass
      point), and elevation or story of construction.

3. Transcript: Prepared on 8-1/2-by-11-inch (215-by-280-mm) paper, punched and
   bound in three-ring binders. Provide label on front and spine. Include a cover
   sheet with label information. Include name of Project and date of video
   recording on each page.

E. Time-Lapse Video: Submit time-lapse sequence video recordings simultaneously with
recording.

1. Submit time-lapse sequence video recordings monthly by uploading to web-
based project software site.

2. Identification: For each recording, provide the following information on web-
based project software site:
   a. Name of Project.
   b. Name and contact information for photographer.
c. Name of Architect and Construction Manager.
d. Name of Contractor.
e. Date(s) and time(s) video recording was recorded.
f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.

1.4 QUALITY ASSURANCE

A. Photographer Qualifications: An individual who has been regularly engaged as a professional photographer of construction projects for not less than three years.

B. Construction Webcam Service Provider: A firm specializing in providing photographic equipment, web-based software, and related services for construction projects, with record of providing satisfactory services similar to those required for Project.

1.5 FORMATS AND MEDIA

A. Digital Photographs: Provide color images in JPG format, produced by a digital camera with minimum sensor size of 12 megapixels, and at an image resolution of not less than 3200 by 2400 pixels, and with vibration-reduction technology. Use flash in low light levels or backlit conditions.

B. Digital Video Recordings: Provide high-resolution, digital video in MPEG format, produced by a digital camera with minimum sensor resolution of 12 megapixels and capable of recording in full high-definition mode with vibration-reduction technology. Provide supplemental lighting in low light levels or backlit conditions.

C. Digital Images: Submit digital media as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.

D. Metadata: Record accurate date and time and GPS location data from camera.

E. File Names: Name media files with date and Project area and sequential numbering suffix.

1.6 CONSTRUCTION PHOTOGRAPHS

A. Photographer: Engage a qualified photographer to take construction photographs.

B. General: Take photographs with maximum depth of field and in focus.

1. Maintain key plan with each set of construction photographs that identifies each photographic location.

C. Preconstruction Photographs: Before commencement of demolition take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Architect and or Construction Manager.
1. Flag construction limits before taking construction photographs.
2. Take 20 photographs to show existing conditions adjacent to property before starting the Work.
3. Take 20 photographs of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.

D. Periodic Construction Photographs: Take 50 photographs weekly coinciding with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.

E. Time-Lapse Sequence Construction Photographs: Take 20 photographs as indicated, to show status of construction and progress since last photographs were taken.

1. Frequency: Take photographs weekly, on the same day each week.
2. Vantage Points: Following suggestions by Architect, photographer to select vantage points. During each of the following construction phases, take not less than two of the required shots from same vantage point each time to create a time-lapse sequence as follows:
   a. Commencement of the Work, through completion of subgrade construction.
   b. Above-grade structural framing.
   c. Exterior building enclosure.
   d. Interior Work, through date of Substantial Completion.

F. Final Completion Construction Photographs: Take 100 photographs after date of Substantial Completion for submission as Project Record Documents. Architect will inform photographer of desired vantage points.

G. Additional Photographs: Architect may request photographs in addition to periodic photographs specified. Additional photographs will be paid for by Change Order and are not included in the Contract Sum or in the allowance for construction photographs.

1. Three days' notice will be given, where feasible.
2. In emergency situations, take additional photographs within 24 hours of request.
3. Circumstances that could require additional photographs include, but are not limited to, the following:
   a. Special events planned at Project site.
   b. Immediate follow-up when on-site events result in construction damage or losses.
   c. Photographs to be taken at fabrication locations away from Project site. These photographs are not subject to unit prices or unit-cost allowances.
   d. Substantial Completion of a major phase or component of the Work.
   e. Extra record photographs at time of final acceptance.
   f. Owner's request for special publicity photographs.
CONSTRUCTION VIDEO RECORDINGS

A. Video Recording Photographer: Engage a qualified videographer to record construction video recordings.

B. Narration: Describe scenes on video recording by audio narration by microphone while video recording is recorded. Include description of items being viewed, recent events, and planned activities. At each change in location, describe vantage point, location, direction (by compass point), and elevation or story of construction.

1. Confirm date and time at beginning and end of recording.
2. Begin each video recording with name of Project, Contractor's name, videographer's name, and Project location.

C. Transcript: Provide a typewritten transcript of the narration. Display images and running time captured from video recording opposite the corresponding narration segment.

D. Preconstruction Video Recording: Before starting demolition record video recording of Project site and surrounding properties from different vantage points, as directed by Architect.

1. Flag construction limits before recording construction video recordings.
2. Show existing conditions adjacent to Project site before starting the Work.
3. Show existing buildings either on or adjoining Project site to accurately record physical conditions at the start of demolition.
4. Show protection efforts by Contractor.

E. Periodic Construction Video Recordings: Record video recording week coinciding with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last video recordings were recorded. Minimum recording time shall be 30 minutes(s).

F. Time-Lapse Sequence Construction Video Recordings: Record video recording to show status of construction and progress.

1. Frequency: During each of the following construction phases, set up video recorder to automatically record one frame of video recording every five minutes, from same vantage point each time, to create a time-lapse sequence of 30 minutes in length as follows:

   a. Commencement of the Work, through completion of construction.

2. Timer: Provide timer to automatically start and stop video recorder so recording occurs only during construction work hours.
3. Vantage Points: Following suggestions by Architect, photographer shall select vantage points.
July 16, 2019

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013233
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Submittal schedule requirements.
2. Administrative and procedural requirements for submittals.

B. Related Requirements:

1. Section 01 29 00 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
2. Section 01 31 00 "Project Management and Coordination" for submitting coordination drawings and subcontract list and for requirements for web-based Project software.
3. Section 01 32 00 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
4. Section 01 43 00 "Mock-Up Assemblies"
5. Section 01 40 00 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
6. Section 01 77 00 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
7. Section 01 78 23 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
8. Section 01 78 39 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
9. Section 01 79 00 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
1.4 SUBMITTAL SCHEDULE

A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor’s construction schedule.
2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor’s construction schedule.
   a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
4. Format: Arrange the following information in a tabular format:
   a. Scheduled date for first submittal.
   b. Specification Section number and title.
   c. Submittal Category: Action; informational.
   d. Name of subcontractor.
   e. Description of the Work covered.
   f. Scheduled date for Architect’s and Construction Manager’s final release or approval.
   g. Scheduled dates for purchasing.
   h. Scheduled date of fabrication.
   i. Scheduled dates for installation.
   j. Activity or event number.

1.5 SUBMITTAL FORMATS

A. Submittal Information: Include the following information in each submittal:

1. Project name.
2. Date.
4. Name of Construction Manager.
5. Name of Contractor.
6. Name of firm or entity that prepared submittal.
7. Names of subcontractor, manufacturer, and supplier.
8. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier, and alphanumeric suffix for resubmittals.
9. Category and type of submittal.
10. Submittal purpose and description.
11. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
12. Drawing number and detail references, as appropriate.
13. Indication of full or partial submittal.
14. Location(s) where product is to be installed, as appropriate.
15. Other necessary identification.
17. Signature of transmitter.

B. Options: Identify options requiring selection by Architect.

C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.

D. PDF Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

1.6 SUBMITTAL PROCEDURES

A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Email: Prepare submittals as PDF package, and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.


B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of submittals for related parts of the Work specified in different Sections so processing will not be delayed because of need to review submittals concurrently for coordination.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect’s receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.

2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.

3. Resubmittal Review: Allow 15 days for review of each resubmittal.

4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.

5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.

D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

   1. Note date and content of previous submittal.
   2. Note date and content of revision in label or title block and clearly indicate extent of revision.
   3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

1.7 SUBMITTAL REQUIREMENTS

A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

   1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
   2. Mark each copy of each submittal to show which products and options are applicable.
   3. Include the following information, as applicable:

      a. Manufacturer's catalog cuts.
      b. Manufacturer's product specifications.
      c. Standard color charts.
      d. Statement of compliance with specified referenced standards.
      e. Testing by recognized testing agency.
      f. Application of testing agency labels and seals.
      g. Notation of coordination requirements.
      h. Availability and delivery time information.
4. For equipment, include the following in addition to the above, as applicable:
   a. Wiring diagrams that show factory-installed wiring.
   b. Printed performance curves.
   c. Operational range diagrams.
   d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before Shop Drawings, and before or concurrent with Samples.

B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
   a. Identification of products.
   b. Schedules.
   c. Compliance with specified standards.
   d. Notation of coordination requirements.
   e. Notation of dimensions established by field measurement.
   f. Relationship and attachment to adjoining construction clearly indicated.
   g. Seal and signature of professional engineer if specified.

2. Paper Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
   a. An electronic PDF copy of each submittal. Architect will return one copy.

C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
   a. Project name and submittal number.
   b. Generic description of Sample.
   c. Product name and name of manufacturer.
   d. Sample source.
   e. Number and title of applicable Specification Section.
   f. Specification paragraph number and generic name of each item.

3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.
4. Web-Based Project Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
5. Paper Transmittal: Include paper transmittal including complete submittal information indicated.

6. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
   a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
   b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

7. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
   a. Number of Samples: Submit three full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.

8. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
   a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned. Retain one returned Sample set as a project record Sample.
      1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
      2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.
E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.

G. Certificates:
   1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
   2. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
   3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
   4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
   5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

H. Test and Research Reports:
   1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
   2. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
   3. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
1.8 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are insufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

1.9 CONTRACTOR'S REVIEW

A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.

1.10 ARCHITECT'S REVIEW

A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required, and return it.

1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action, as follows:

   a. As indicated on Architect's stamp.

B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Architect will return without review submittals received from sources other than Contractor.

F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

A. Consolidate: To strengthen loose or deteriorated materials in place.

B. Design Reference Sample: A sample that represents the Architect’s prebid selection of work to be matched; it may be existing work or work specially produced for the Project.

C. Dismantle: To disassemble or detach a historic item from a surface, or a nonhistoric item from a historic surface, using gentle methods and equipment to prevent damage to historic items and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

D. Historic: Spaces, areas, rooms, surfaces, materials, finishes, and overall appearance that are important to the successful restoration and reconstruction as determined by Architect. Designated historic spaces and surfaces are indicated on Drawings.

E. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by Architect.

F. Refinish: To remove existing finishes to base material and apply new finish to match original, or as otherwise indicated.

G. Reinstall: To protect removed or dismantled item, repair and clean it as indicated for reuse, and reinstall it in original position, or where indicated.

H. Remove: To take down or detach a nonhistoric item located within a historic space, area, or room, using methods and equipment to prevent damage to historic items and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

I. Repair: To correct damage and defects, retaining existing materials, features, and finishes while employing as little new material as possible. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.

J. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.

K. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.
L. Reproduce: To fabricate a new item, accurate in detail to the original, and from either
the same or a similar material as the original, unless otherwise indicated.

M. Restore: To consolidate, replicate, reproduce, repair, and refinish as required to
achieve the indicated results.

N. Retain: To keep existing items that are not to be removed or dismantled.

O. Reversible: New construction work, treatments, or processes that can be removed or
undone in the future without damaging historic materials unless otherwise indicated.

P. Salvage: To protect removed or dismantled items and deliver them to Owner.

Q. Stabilize: To provide structural reinforcement of unsafe or deteriorated items while
maintaining the essential form as it exists at present; also, to reestablish a weather-
resistant enclosure.

R. Strip: To remove existing finish down to base material unless otherwise indicated.

1.3 COORDINATION

A. Historic Treatment Subschedule: A construction schedule coordinating the sequencing
and scheduling of historic treatment work for entire Project, including each activity to
be performed on historic surfaces; and based on Contractor's Construction Schedule.
Secure time commitments for performing critical construction activities from separate
entities responsible for historic treatment work.
1. Schedule construction operations in sequence required to obtain best historic
treatment results.
2. Coordinate sequence of historic treatment work activities to accommodate the
following:
   a. Other known work in progress.
   b. Tests and inspections.
   c. Required reviews of testing results, materials, and sample installations by
      Architect and Minnesota Historical Society Grants Office.
3. Detail sequence of historic treatment work, with start and end dates.

B. Public Circulation: Coordinate historic treatment work with public circulation patterns at
Project site. Some work is near public circulation patterns. Public circulation patterns
cannot be closed off entirely, and in places can be only temporarily redirected around
small areas of work. Plan and execute the Work accordingly.

1.4 PROJECT MEETINGS FOR HISTORIC TREATMENT

A. Preliminary Historic Treatment Conference: Before starting historic treatment work,
Architect will conduct conference at Project site.
1. Attendees: In addition to representatives of Owner, Architect, and Contractor,
testing service representative, historic treatment specialists, chemical-cleaner
manufacturer, and installers whose work interfaces with or affects historic
treatment shall be represented at the meeting.
2. Agenda: Discuss items of significance that could affect progress of historic treatment work, including review of the following:
   a. Historic Treatment Subschedule: Discuss and finalize; verify availability of materials, historic treatment specialists' personnel, equipment, and facilities needed to make progress and avoid delays.
   b. Governing regulations.
   c. Areas where existing construction is to remain and the required protection.
   d. Hauling routes.
   e. Sequence of historic treatment work operations.
   f. Storage, protection, and accounting for salvaged and specially fabricated items.
   g. Existing conditions, staging, and structural loading limitations of areas where materials are stored.
   h. Qualifications of personnel assigned to historic treatment work and assigned duties.
   i. Requirements for extent and quality of work, tolerances, and required clearances.
   j. Methods and procedures related to historic treatments, including product manufacturers' written instructions and precautions regarding historic treatment procedures and their effects on materials, components, and vegetation.
   k. Embedded work such as flashings and lintels, special details, collection of wastes, protection of occupants and the public, and condition of other construction that affect the Work or will affect the work.
3. Reporting: Architect will record conference results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from conference.

B. Coordination Meetings: Conduct coordination meetings specifically for historic treatment work at monthly intervals. Coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
   1. Attendees: In addition to representatives of Owner, Architect, and Contractor, each historic treatment specialist, supplier, installer, and other entity concerned with progress or involved in planning, coordination, or performance of historic treatment work activities shall be represented at these meetings. All participants at conference shall be familiar with Project and authorized to conclude matters relating to historic treatment work.
   2. Agenda: Review and correct or approve minutes of previous coordination meeting. Review other items of significance that could affect progress of historic treatment work. Include topics for discussion as appropriate to status of Project.
      a. Historic Treatment Subschedule: Review progress since last coordination meeting. Determine whether each schedule item is on time, ahead of schedule, or behind schedule. Determine how construction behind schedule will be expedited with retention of quality; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities are completed within the Contract Time.
      b. Schedule Updating: Revise Contractor's Historic Treatment Subschedule after each coordination meeting where revisions to schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
c. Review present and future needs of each entity present, including review items listed in the "Preliminary Historic Treatment Conference" Paragraph above and the following:
   1) Interface requirements of historic treatment work with other Project Work.
   2) Status of submittals for historic treatment work.
   3) Access to historic treatment work.
   4) Quality and work standards of historic treatment work.
   5) Change Orders for historic treatment work.

3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

1.5 MATERIALS OWNERSHIP

A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered or uncovered during the Work, regardless of whether they were previously documented, remain Owner's property.
   1. Carefully dismantle and salvage each item or object and protect it from damage, then promptly deliver it to Owner where directed.

1.6 INFORMATIONAL SUBMITTALS

A. Historic Treatment Subschedule:
   1. Submit historic treatment subschedule within seven days of date established for commencement of historic treatment work.

B. Preconstruction Documentation: Show preexisting conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by Contractor's historic treatment operations.

C. Historic Treatment Program: Submit 30 days before work begins.

1.7 QUALITY ASSURANCE

A. Historic Treatment Specialist Qualifications: An experienced firm regularly engaged in historic treatments similar in nature, materials, design, and extent to this work as specified in each section and that has completed a minimum of five recent projects with a record of successful in-service performance that demonstrates the firm's qualifications to perform this work.
   1. Field Supervisor Qualifications: Full-time supervisors experienced in historic treatment work similar in nature, material, design, and extent to that indicated for this Project. Supervisors shall be on Project site when historic treatment work begins and during its progress. Supervisors shall not be changed during Project except for causes beyond the control of the specialist firm.
      a. Construct new mockups of required work whenever a supervisor is replaced.
B. Historic Treatment Program: Prepare a written plan for historic treatment for whole Project, including each phase or process and protection of surrounding materials during operations. Describe in detail the materials, methods, and equipment to be used for each phase of work. Show compliance with indicated methods and procedures specified in this and other Sections. Coordinate this whole-Project historic treatment program with specific requirements of programs required in other historic treatment Sections.
   1. Dust and Noise Control: Include locations of proposed temporary dust- and noise-control partitions and means of egress from occupied areas coordinated with continuing on-site operations and other known work in progress.
   2. Debris Hauling: Include plans clearly marked to show debris hauling routes, turning radii, and locations and details of temporary protective barriers.

1.8 STORAGE AND HANDLING OF HISTORIC MATERIALS

A. Salvaged Historic Materials:
   1. Clean loose dirt and debris from salvaged historic items unless more extensive cleaning is indicated.
   2. Pack or crate items after cleaning; cushion against damage during handling. Label contents of containers.
   3. Store items in a secure area until delivery to Owner.
   4. Transport items to Owner's storage area designated by Owner.
   5. Protect items from damage during transport and storage.

B. Historic Materials for Reinstallation:
   1. Repair and clean historic items for reuse as indicated.
   2. Pack or crate items after cleaning and repairing; cushion against damage during handling. Label 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 unless otherwise indicated. Provide connections, supports, and miscellaneous materials to make item functional for use indicated.

C. Existing Historic Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Where permitted by Architect, items may be dismantled and taken to a suitable, protected storage location during construction work and reinstalled in their original locations after historic treatment and construction work in the vicinity is complete.

D. Storage: Catalog and store historic items within a weathertight enclosure where they are protected from moisture, weather, condensation, and freezing temperatures.
   1. Identify each item with a nonpermanent mark to document its original location. Indicate original locations on plans, elevations, sections, or photographs by annotating the identifying marks.
   2. Secure stored materials to protect from theft.
   3. Control humidity so that it does not exceed 85 percent. Maintain temperatures 5 deg F or more above the dew point.
PART 3 - EXECUTION

3.1 PROTECTION, GENERAL

A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from historic treatment procedures.
   1. Use only proven protection methods, appropriate to each area and surface being protected.
   2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where historic treatment work is being performed.
   3. Erect temporary barriers to form and maintain fire-egress routes.
   4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during historic treatment work.
   5. Contain dust and debris generated by historic treatment work, and prevent it from reaching the public or adjacent surfaces.
   6. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
   7. Protect floors and other surfaces along hauling routes from damage, wear, and staining.
   8. Provide supplemental sound-control treatment to isolate removal and dismantling work from other areas of the building.

B. Temporary Protection of Historic Materials:
   1. Protect existing historic materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.
   2. Do not attach temporary protection to historic surfaces except as indicated as part of the historic treatment program and approved by Architect.

C. Comply with each product manufacturer’s written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.

D. Utility and Communications Services:
   1. Notify Owner, Architect, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by historic treatment work before commencing operations.
   2. Disconnect and cap pipes and services as required by authorities having jurisdiction, as required for historic treatment work.
   3. Maintain existing services unless otherwise indicated; keep in service, and protect against damage during operations. Provide temporary services during interruptions to existing utilities.
E. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is functioning properly.
   1. Prevent solids such as stone or mortar residue or other debris from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from historic treatment work.
   2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

3.2 PROTECTION DURING APPLICATION OF CHEMICALS

A. Protect motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm or damage resulting from applications of chemicals and adhesives.

B. Cover adjacent surfaces with protective materials that are proved to resist chemicals selected for Project unless chemicals being used will not damage adjacent surfaces as indicated in historic treatment program. Use covering materials and masking agents that are waterproof and UV resistant and that will not stain or leave residue on surfaces to which they are applied. Apply protective materials according to manufacturer's written instructions. Do not apply liquid masking agents or adhesives to painted or porous surfaces. When no longer needed, promptly remove protective materials.

C. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.

D. Neutralize alkaline and acid wastes and legally dispose of off Owner's property.

E. Collect and dispose of runoff from chemical operations by legal means and in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

3.3 GENERAL HISTORIC TREATMENT

A. Have historic treatment work performed only by qualified historic treatment specialists.

B. Ensure that supervisory personnel are present when historic treatment work begins and during its progress.

C. Record existing work before each procedure (preconstruction), and record progress during the work. Use digital preconstruction documentation photographs or video recordings.

D. Perform surveys of Project Site as the Work progresses to detect hazards resulting from historic treatment procedures.
E. Follow the procedures in subparagraphs below and procedures approved in historic treatment program unless otherwise indicated:
   1. Retain as much existing material as possible; repair and consolidate rather than replace.
   2. Use additional material or structure to reinforce, strengthen, prop, tie, and support existing material or structure.
   3. Use reversible processes wherever possible.
   4. Use historically accurate repair and replacement materials and techniques unless otherwise indicated.
   5. Record existing work before each procedure (preconstruction) and progress during the work with digital preconstruction documentation photographs or video recordings. Comply with requirements in Section 013800 "NRHP Photo Documentation."

F. Notify Architect of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.
   1. Do not proceed with the work in question until directed by Architect.

G. Where missing features are indicated to be repaired or replaced, provide work with appearance based on accurate duplications rather than on conjecture, subject to approval of Architect.

H. Where work requires existing features to be removed or dismantled and reinstalled, perform these operations without damage to the material itself, to adjacent materials, or to the substrate.

I. Identify new and replacement materials and features with permanent marks hidden in the completed Work to distinguish them from original materials. Record a legend of identification marks and the locations of the items on record Drawings.

END OF SECTION 013591
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.

2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.

3. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, Owner, Commissioning Authority, Construction Manager, or authorities having jurisdiction are not limited by provisions of this Section.

4. Specific test and inspection requirements are not specified in this Section.

1.3 DEFINITIONS

A. Experienced: When used with an entity or individual, "experienced" unless otherwise further described means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

B. Field Quality-Control Tests: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.
1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

D. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

E. Source Quality-Control Tests: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.

F. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

G. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

H. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Architect or Construction Manager.

1.4 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

1.5 CONFLICTING REQUIREMENTS

A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements are specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for direction before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are
minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.6 ACTION SUBMITTALS

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

B. Delegated-Design Services Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.7 INFORMATIONAL SUBMITTALS

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

B. Qualification Data: For Contractor's quality-control personnel.

C. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility submitted to authorities having jurisdiction before starting work on the following systems:
   1. Seismic-force-resisting system, designated seismic system, or component listed in the Statement of Special Inspections.
   2. Main wind-force-resisting system or a wind-resisting component listed in the Statement of Special Inspections.

D. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

E. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
   1. Specification Section number and title.
   2. Entity responsible for performing tests and inspections.
   3. Description of test and inspection.
   4. Identification of applicable standards.
   5. Identification of test and inspection methods.
   6. Number of tests and inspections required.
   7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

F. Reports: Prepare and submit certified written reports and documents as specified.

G. Permits, Licenses, and Certificates: For Owner's record, 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.

1.8 REPORTS AND DOCUMENTS

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

1. Date of issue.
2. Project title and number.
3. Name, address, telephone number, and email address of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspection.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, telephone number, and email address of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.
C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, telephone number, and email address of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

1.9 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect
installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.10 QUALITY CONTROL

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

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
2. Payment for these services will be made from testing and inspection allowances, as authorized by Change Orders.
3. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor and the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
2. Engage a qualified testing agency to perform quality-control services.
   a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspection will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
5. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. 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.

1. Notify Architect, Construction Manager, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the locations from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform duties of Contractor.

E. 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 Section 01 33 00 “Submittal Procedures.”

F. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

G. Associated Contractor Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspection equipment at Project site.

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.

1. Schedule times for tests, inspections, obtaining samples, and similar activities. Retain "Schedule of Tests and Inspections" Paragraph below if quality-control services by testing agencies are extensive and job progress might be
hindered if services are not carefully managed. Include option when retaining "Contractor's Quality-Control Plan" Article. Schedule below is not the statement of special tests and inspections required by some model codes and jurisdictions as a condition for obtaining a building permit. Coordinate Contractor requirements below with responsibilities of Commissioning Authority in Section 019113 "General Commissioning Requirements." See the Evaluations.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. General: On completion of testing, inspection, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

   1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and
effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale’s “Encyclopedia of Associations: National Organizations of the U.S.” or in Columbia Books’ “National Trade & Professional Associations of the United States.”

B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

8. ACI - American Concrete Institute; (Formerly: ACI International); www.concrete.org.
10. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
12. AGA - American Gas Association; wwwagma.org.
16. AIA - American Institute of Architects (The); www.aia.org.
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
27. ARI - American Refrigeration Institute; (See AHRI).
29. ASCE - American Society of Civil Engineers; www.asce.org.
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
32. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
33. ASSE - American Society of Sanitary Engineers (The); www.asse.org.
42. AWWA - American Water Works Association; www.awwa.org.
43. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.
44. BIA - Brick Industry Association (The); www.gobrick.com.
46. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); www.bifma.org.
47. BISSC - Baking Industry Sanitation Standards Committee; www.bissc.org.
48. BWF - Badminton World Federation; (Formerly: International Badminton Federation); www.bissc.org.
49. CDA - Copper Development Association; www.copper.org.
50. CE - Conformite Europeenne; http://ec.europa.eu/growth/single-market/ce-marking/
51. CEA - Canadian Electricity Association; www.electricity.ca.
52. CEA - Consumer Electronics Association; www.ce.org.
54. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
56. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
59. CLFM - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
61. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
REFERENCES

63. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
64. CSA - CSA Group; www.csa.ca.
65. CSA - CSA International; (Formerly: IAS - International Approval Services); www.csa-international.org.
66. CSI - Construction Specifications Institute (The); www.csinet.org.
68. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
69. CWC - Composite Wood Council; (See CPA).
71. DHI - Door and Hardware Institute; www.dhi.org.
72. ECA - Electronic Components Association; (See ECIA).
73. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
75. EIA - Electronic Industries Alliance; (See TIA).
78. ESD - ESD Association; (Electrostatic Discharge Association); www.esda.org.
79. ESTA - Entertainment Services and Technology Association; (See PLASA).
80. ETI - Intertek (See Intertek); www.intertek.com.
82. FCI - Fluid Controls Institute; www.fluidcontrolsinstitute.org.
83. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.
84. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.
86. FM Global - FM Global; (Formerly: FMI - FM Global); www.fmglobal.com.
90. GAA - Gypsum Association; www.gypsum.org.
92. GS - Green Seal; www.greenseal.org.
94. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
95. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
100. IAS - International Approval Services; (See CSA).
101. ICBO - International Conference of Building Officials; (See ICC).
103. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
104. ICPA - International Cast Polymer Alliance; www.icpa-hq.org.
105. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
107. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
REFERENCES

109. IESNA - Illuminating Engineering Society of North America; (See IES).
110. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
111. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
114. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
115. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); www.isa.org.
116. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
117. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
119. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
120. ITU - International Telecommunication Union; www.itu.int/home.
121. KCMA - Kitchen Cabinet Manufacturers Association; www.kcma.org.
122. LMA - Laminating Materials Association; (See CPA).
125. MCA - Metal Construction Association; www.metalconstruction.org.
134. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
139. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
140. NCMA - National Concrete Masonry Association; www.ncma.org.
142. NECA - National Electrical Contractors Association; www.necanet.org.
144. NEMA - National Electrical Manufacturers Association; www.nema.org.
146. NFHS - National Federation of State High School Associations; www.nfhs.org.
148. NFPA - NFPA International; (See NFPA).
151. NLGA - National Lumber Grades Authority; www.nlga.org.
152. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
154. NRCA - National Roofing Contractors Association; www.nrca.net.
158. NSSGA - National Stone, Sand & Gravel Association; www.nssa.org.
159. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
161. PCI - Precast/Prestressed Concrete Institute; wwwpci.org.
162. PDI - Plumbing & Drainage Institute; www.pdionline.org.
163. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); http://www.plasa.org.
168. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
169. SDI - Steel Deck Institute; www.sdi.org.
170. SDI - Steel Door Institute; www.steeldoor.org.
171. SEFA - Scientific Equipment and Furniture Association (The); www.sefalabs.com.
172. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
175. SMA - Screen Manufacturers Association; www.smainfo.org.
176. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
177. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
178. SPFA - Spray Polyurethane Foam Alliance; www.spyfoam.org.
186. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
187. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
190. TIA/EIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tia.org.
191. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
194. TPI - Turfgrass Producers International; www.turfgrass.org.
197. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
198. USAV - USA Volleyball; www.usavolleyball.org.
201. WA - Wallcoverings Association; www.wallcoverings.org.
203. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
204. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
205. WDMA - Window & Door Manufacturers Association; www.wDMA.com.
207. WSRCA - Western States Roofing Contractors Association; www.wsRca.com.
208. WWPA - Western Wood Products Association; www.wwpa.org.

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.

1. DIN - Deutsches Institut fur Normung e.V.; www.din.de.
2. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.

1. COE - Army Corps of Engineers; www.usace.army.mil.
3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
5. DOE - Department of Energy; www.energy.gov.
6. EPA - Environmental Protection Agency; www.epa.gov.
7. FAA - Federal Aviation Administration; www.faac.gov.
11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; www.eetd.lbl.gov.
12. OSHA - Occupational Safety & Health Administration; www.osha.gov.
13. SD - Department of State; www.state.gov.
15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
REFERENCES

16. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
17. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.

E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.quicksearch.dla.mil.
3. DSCC - Defense Supply Center Columbus; (See FS).
4. FED-STD - Federal Standard; (See FS).
6. MILSPEC - Military Specification and Standards; (See DOD).
7. USAB - United States Access Board; www.access-board.gov.
8. USA TBBC - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CBHF; State of California; Department of Consumer Affairs; Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation; www.bearfti.ca.gov.
2. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; www.calregs.com.
3. CDHS; California Department of Health Services; (See CDPH).
4. CDPH; California Department of Public Health; Indoor Air Quality Program; www.cal-iaq.org.
5. CPUC; California Public Utilities Commission; www.cpuc.ca.gov.
6. SCAQMD; South Coast Air Quality Management District; www.aqmd.gov.
7. TFS; Texas A&M Forest Service; Sustainable Forestry and Economic Development; www.txforestservice.tamu.edu.
PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION
SECTION 01 43 00
MOCK-UP ASSEMBLIES

PART 1 - GENERAL

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

1.2 SUMMARY
A. This Section specifies administrative and procedural requirements for construction of Mock-up Assemblies as indicated.
   1. Build exterior mock-up assemblies as shown. Exterior mock-up is for purposes of review, demonstration, testing, and final design and quality approval by Owner and Architect. Approved exterior mock-up will represent qualitative standard for workmanship of the construction.

B. Related Section: 01 40 00 - Quality Requirements.

1.3 DEFINITIONS
A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
   1. Integrated Exterior Mockups: Mockups of the exterior specified items(s) are erected separately at designated area(s) of the existing building, consisting of multiple products, assemblies, and subassemblies.

1.4 QUALITY ASSURANCE
A. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
   1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
   2. Notify Architect seven Insert number days in advance of dates and times when mockups will be constructed.
   3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at Project.
4. Demonstrate the proposed range of aesthetic effects and workmanship.
5. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
   a. Allow seven days for initial review and each re-review of each mockup.
6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
7. Demolish and remove mockups when directed.

B. Approval of Mock-Up Assemblies: Reviews will be conducted on completed work as follows:
1. Visual examination of all mock-up assemblies will be made by Owner, Architect, Construction Manager, and other interested parties following construction of mock-ups.
2. Should any mock-up assembly fail to receive Architect's approval, mock-up shall be modified and rebuilt to extent necessary or until Architect's approval has been obtained.
3. Obtain Architect's approval in writing, of finished mock-up assemblies before ordering materials for project use.

PART 2 - PRODUCTS

2.1 MATERIALS
   A. General: Provide necessary materials as indicated; where materials are to match final finishes; refer to appropriate Sections for specified materials and finishes.

PART 3 - EXECUTION

3.1 INSTALLATION
   A. General: Mock-up assemblies shall be constructed substantially in accordance with configurations/details indicated for final Work in designated mock-up areas.

3.2 CLEAN-UP
   A. When directed by Architect, demolish mock-up assemblies and remove all debris from project as specified for other project debris. The room(s) utilized for the mock-up assemblies shall be left in a broom-clean condition for turn-over to the final construction forces.
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

B. Related Requirements:
   1. Section 01 10 00 "Summary" for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.

B. Sewer Service: Owner will pay sewer-service use charges for sewer usage by all entities for construction operations.

C. Water Service: Owner will provide occasional water use from 3/4" hose bibs or interior sinks, however, water for mixing or washing masonry should be obtained from nearby fire hydrant at the Contractor's expense. Protection should be provided by contractor during freezing temperatures.

D. Temporary Electric Power Service: Pay electric-power-service use charges for electricity used by all entities for construction operations.

E. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

F. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
1.4 INFORMATIONAL SUBMITTALS

A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.

B. Implementation and Termination Schedule: Within 15 days of date established for commencement of the Work, submit schedule indicating implementation and termination dates of each temporary utility.

C. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.

D. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

E. Moisture- and Mold-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage and mold.

F. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Include the following:

1. Locations of dust-control partitions at each phase of work.
2. HVAC system isolation schematic drawing.
3. Location of proposed air-filtration system discharge.
5. Other dust-control measures.

1.5 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

C. Accessible Temporary Egress: Comply with applicable provisions in the 2015 Minnesota State Building Code.

1.6 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.
MBC1901
TEMPORARY FACILITIES AND CONTROLS
Section 015000 - 3

PART 2 - PRODUCTS

2.1 MATERIALS

A. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.

B. Dust-Control Adhesive-Surface Walk-Off Mats: Provide mats minimum 36 by 60 inches.

C. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

2.2 TEMPORARY FACILITIES

A. Field Offices, General: Owner will provide conditioned interior space for field offices for duration of Project.

2.3 EQUIPMENT

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

B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.

2. Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.

3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return-air grille in system and remove at end of construction and clean HVAC system as required in Section 01 77 00 "Closeout Procedures."

C. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units with four-stage filtration. Provide single switch for emergency shutoff. Configure to run continuously.

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner’s property.

3.2 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

1. Locate facilities to limit site disturbance as specified in Section 011000 “Summary.”

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.3 TEMPORARY UTILITY INSTALLATION

A. General: Connect to existing service.

1. Arrange with Owner for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Water Service: Connect to Owner’s existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

C. Sanitary Facilities

1. Toilets: Exterior toilets near the exterior work locations required by contractors.

D. Temporary Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

1. Provide temporary dehumidification systems when required to reduce ambient and substrate moisture levels to level required to allow installation or application of finishes and their proper curing or drying.

E. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.

1. Prior to commencing work, isolate the HVAC system in area where work is to be performed.
   a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.
   b. Maintain negative air pressure within work area using HEPA-equipped airfiltration units, starting with commencement of temporary partition
construction, and continuing until removal of temporary partitions is complete.

2. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.

3. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.

F. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

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

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

H. Telephone Service:

1. Post a list of important telephone numbers.
   a. Police and fire departments.
   b. Ambulance service.
   c. Contractor's home office.
   d. Contractor's emergency after-hours telephone number.
   e. Architect's office.
   f. Construction Manager's home office.
   g. Engineers' offices.
   h. Owner's office.
   i. Principal subcontractors' field and home offices.

3.4 SUPPORT FACILITIES INSTALLATION

A. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

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

C. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
2. Remove snow and ice as required to minimize accumulations.

D. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
1. **Identification Signs**: Provide Project identification signs as indicated on Drawings.

2. **Temporary Signs**: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
   
a. Provide temporary, directional signs for construction personnel and visitors.

3. **Maintain and touch up signs so they are legible at all times.**

E. **Waste Disposal Facilities**: Comply with requirements specified in Section 01 74 19 “Construction Waste Management and Disposal.”

F. **Waste Disposal Facilities**: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 01 73 00 “Execution.”

G. **Lifts and Hoists**: Provide facilities necessary for hoisting materials and personnel.
   
   1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

H. **Existing Elevator Use**: Use of Owner's existing elevators will be permitted, provided elevators are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore elevators to condition existing before initial use, including replacing worn cables, guide shoes, and similar items of limited life.
   
   1. Do not load elevators beyond their rated weight capacity.
   2. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevator car and entrance doors and frame. If, despite such protection, elevators become damaged, engage elevator Installer to restore damaged work so no evidence remains of correction work. Return items that cannot be refinished in field to the shop, make required repairs and refinish entire unit, or provide new units as required.

I. **Existing Stair Usage**: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.
   
   1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.

3.5 **SECURITY AND PROTECTION FACILITIES INSTALLATION**

A. **Protection of Existing Facilities**: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

   1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.
B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Section 01 10 00 “Summary.”

C. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

D. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each workday. Install plywood or other non-climbable barrier to the lower 15' of exterior scaffolding to discourage climbing of scaffolding by non-authorized personnel. Remove any ladder or lift promptly that is not in use for secured storage.

E. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

F. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

G. Covered Walkway: Erect protective, covered walkway for passage of individuals through or adjacent to Project site. Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction and requirements indicated on Drawings.

1. Provide overhead decking, protective enclosure walls, handrails, barricades, warning signs, exit signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.
2. Paint and maintain appearance of walkway for duration of the Work.

H. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.

I. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by [Owner] and [tenants] from fumes and noise.

1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant-treated plywood on construction operations side.
2. Construct dustproof partitions with two layers of 6-mil polyethylene sheet on each side. Cover floor with two layers of 6-mil polyethylene sheet, extending sheets 18 inches up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant-treated plywood.
a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches between doors. Maintain water-dampened foot mats in vestibule.

3. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
4. Insulate partitions to control noise transmission to occupied areas.
5. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.
6. Protect air-handling equipment.
7. Provide walk-off mats at each entrance through temporary partition.

J. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
1. Prohibit smoking in construction areas. Comply with additional limits on smoking specified in other Sections.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.6 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.
1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.

2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.

3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 01 77 00 “Closeout Procedures.”

END OF SECTION
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

B. Related Requirements:

1. Section 01 23 00 "Alternates" for products selected under an alternate.
2. Section 01 25 00 "Substitution Procedures" for requests for substitutions.
3. Section 01 42 00 "References" for applicable industry standards for products specified.

1.3 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
3. Comparable Product: Product that is demonstrated and approved by Architect through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special
features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification.

C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications. Submit a comparable product request, if applicable.

1.4 ACTION SUBMITTALS

A. Comparable Product Request Submittal: Submit request for consideration of each comparable product. Identify basis-of-design product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

   a. Form of Architect's Approval of Submittal: As specified in Section 01 33 00 "Submittal Procedures."
   b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 01 33 00 "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.
1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is not conspicuous.

2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:
   a. Name of product and manufacturer.
   b. Model and serial number.
   c. Capacity.
   d. Speed.
   e. Ratings.

3. See individual identification sections in Divisions 21, 22, 23, and 26 for additional identification requirements.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.

2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.

4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.

2. Store materials in a manner that will not endanger Project structure.

3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.

4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.

5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.

6. Protect stored products from damage and liquids from freezing.

7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.
1.7 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer’s Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.

1. Manufacturer’s Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Section 01 77 00 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

a. Submit additional documentation required by Architect in order to establish equivalency of proposed products. Evaluation of "or equal" product status is by the Architect, whose determination is final.
B. Product Selection Procedures:

1. Sole Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
   a. Sole product may be indicated by the phrase: "Subject to compliance with requirements, provide the following: ..."

2. Sole Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
   a. Sole manufacturer/source may be indicated by the phrase: "Subject to compliance with requirements, provide products by the following: ..."

3. Limited List of Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements.
   a. Limited list of products may be indicated by the phrase: "Subject to compliance with requirements, provide one of the following: ..."

4. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, which complies with requirements.
   a. Non-limited list of products is indicated by the phrase: "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following: ..."

5. Limited List of Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
   a. Limited list of manufacturers is indicated by the phrase: "Subject to compliance with requirements, provide products by one of the following: ..."

6. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, which complies with requirements.
   a. Non-limited list of manufacturers is indicated by the phrase: "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following: ..."

7. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles,
dimensions, and other characteristics that are based on the product named. Comply with requirements in “Comparable Products” Article for consideration of an unnamed product by one of the other named manufacturers.

a. For approval of products by unnamed manufacturers, comply with requirements in Section 01 25 00 “Substitution Procedures” for substitutions for convenience.

C. Visual Matching Specification: Where Specifications require “match Architect’s sample,” provide a product that complies with requirements and matches Architect’s sample. Architect’s decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 01 25 00 “Substitution Procedures” for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase “as selected by Architect from manufacturer’s full range” or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer’s product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration of Comparable Products: Architect will consider Contractor’s request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant product qualities include attributes such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.

2. Evidence that proposed product provides specified warranty.

3. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.

4. Samples, if requested.

B. Submittal Requirements: Approval by the Architect of Contractor’s request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.

PART 3 - EXECUTION (Not Used)

END OF SECTION
SECTION 01 62 00
PRODUCT OPTIONS

1.01 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Select any product meeting those standards.

B. Products Specified by Naming Several Manufacturers: Select any one (1) of the products or manufacturers named, which comply with the Specifications. No options means no substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a Request for Substitution for any manufacturer not specifically named.

1.02 PRODUCTS LIST

A. Within ten (10) calendar days after date of written Contract Notice to Proceed, submit to the Architect for approval, a complete list of major products proposed for use. See Specifications Section 01 33 00-1.04 for details of required information.

1.03 SUBSTITUTIONS BEFORE BID OPENING

A. Submit to the Architect a separate Request for Substitution on a copy of the sample “Request for Substitution” Form as included at the end of this Section for each product proposed for substitution, supported with complete data, drawings and samples as appropriate, including:

   a. Comparison of the qualities of the proposed substitution with that specified.
   b. Changes required in other elements of the Work because of the substitution.
   c. Availability of maintenance service and source of replacement materials.

B. The Architect will be the judge of all Requests for Substitutions received not less than five (5) working days before the Bid Opening.

C. A Request for Substitution constitutes a representation that the person submitting the request:

   a. Has investigated the proposed product and determined that it is equal to or superior in all respects to that specified,
   b. Will provide the same warranties or guarantees for the substitution as for the product specified,
   c. Will coordinate the installation of an accepted substitution into the Work, and make such other changes as may be required to make the Work complete in all respects at no additional cost to the Owner.
   d. Waives all claims for additional costs, under their responsibility that may subsequently become apparent.
e. Ensures accepted substitution maintains compliance with B3. Negative impact to specific B3 guideline requirements is cause for rejection.

D. Architect will review Requests for Substitution with reasonable promptness, and notify all Bidders by Addendum of the decision to accept the requested substitution.

E. Requests for Substitution not submitted in accordance with the procedures described in this Paragraph will not be reviewed or considered by the Architect.

1.04 SUBSTITUTIONS AFTER BID OPENING

A. Requests for Substitutions received after Bid Opening will not be considered except in such cases where it is necessary to make a substitution due to strikes, lockouts, bankruptcy, discontinuance of a product, and similar circumstances. Such Requests for Substitution of materials after Contract Award shall be made in writing to the Architect and shall be made within ten (10) days of the date that the Contractor ascertains they cannot obtain the material or equipment specified.

B. Requests for Substitution will not be considered when they are indicated or implied on Shop Drawings or Product Data submittals without a separate previously submitted Request for Substitution Form, or when acceptance will require substantial revision of the Contract Documents.

C. The Architect with approval by the Owner will be the judge of the acceptability of all Requests for Substitution received after Bid Opening.
REQUEST FOR SUBSTITUTION FORM

MINNEAPOLIS CITY HALL LIFE SAFETY IMPROVEMENTS
MINNEAPOLIS, MN

DATE:

TO:  Attn: MELISSA EKMAN, AIA, NCARB
Miller Dunwiddie
mekman@millerdunwiddie.com
(612) 337-0000

SPECIFICATION NO._________________________ PARAGRAPH NO._____________________

SPECIFIED PRODUCT:______________________________________________________________

PROPOSED SUBSTITUTION:_________________________________________________________

REASON FOR SUBSTITUTION:_______________________________________________________

ATTACH COMPLETE TECHNICAL DATA, LITERATURE AND SAMPLE IF APPLICABLE

A. Does proposed substitution fail to satisfy, in any respect
Characteristics specified for original product(s)?   ___Y   ___N

B. Does substitution affect dimensions shown on Drawings? ___Y   ___N

C. Does substitution affect other trades?    ___Y ___N

D. Does warranty differ from that specified?    ___Y ___N

E. Does substitution affect cost to Owner?    ___Y ___N

If so, how much?   Add $_____________ Deduct $_____________

F. If you indicated “Yes” to any of the items above, attach thorough explanation on your Company letterhead as follows:

a. Explain any differences between proposed substitution and specified product.

b. Summarize experience with product and manufacturer in Project area.
The undersigned states that the function, appearance and quality of the proposed substitution is equivalent or superior to the specified item, unless noted otherwise, and that all information above and attached is true and correct.

Submitted by:______________________________________________

Position:__________________________________________________

Company:__________________________________________________

Address:___________________________________________________

City, State, Zip:____________________________________________

Telephone:_________________________________________________

Date:_____________________________________________________

Signature:__________________________________________________

For use by Architect:

Accepted:_________________________________________________

Accepted as Noted:__________________________________________

Not Accepted:______________________________________________

Received Too Late:__________________________________________

By:________________________________________________________

Date:_______________________________________________________

Remarks:___________________________________________________

Included in Addendum: Yes____ No____

Addendum No.:________________

END OF SECTION
PART 1 - GENERAL

1.01 SURVEYS AND RECORDS

A. Site Control: Working from lines and levels established by the Drawings and/or existing conditions, the Prime Contractor shall establish and maintain benchmarks and other dependable markers for site control. Establish bench marks and markers to set lines and levels for Work, key elevations and elsewhere as needed to properly locate each element of the Project. Calculate and measure required dimensions within recognized tolerances. Drawings shall not be scaled to determine dimensions. Advise all Subcontractors performing Work, of marked lines and levels provided for their use.

B. Survey Procedures: Before proceeding with the layout of actual Work, verify the layout information shown on the Drawings with the Architect/Engineer. As Work proceeds, check every major element for line, level and plumb. Advise the Architect/Engineer promptly upon detection of deviations. Record all deviations from locations, lines and levels shown on the Drawings on Record Drawings.

C. All as-built locations of existing and new utility lines below grade shall be marked on the Record Set drawings for specific grid location and depth.

1.02 SUBCONTRACTOR LAYOUT AND MEASUREMENTS

A. The responsibility for accurate layout and measurement of the Work of each Subcontractor is their own. In addition, each Subcontractor shall verify the dimensional accuracy of the preceding Work upon which their Work relies before they begin their own Work. Each Subcontractor shall report all inaccuracies to the Prime Contractor and shall not proceed until corrections or clarifications are made. If a Contractor or Subcontractor proceeds with their Work on dimensionally inaccurate Work of another Subcontractor, they shall be liable for the cost of corrections to their own Work when the error is corrected, and shall cooperate in the corrective Work at no additional cost to the Owner.

END OF SECTION
SECTION 01 73 00
EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

2. Field engineering and surveying.
3. Installation of the Work.
4. Cutting and patching.
5. Coordination of Owner-installed products.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.

B. Related Requirements:

1. Section 01 10 00 "Summary" for limits on use of Project site.
2. Section 01 33 00 "Submittal Procedures" for submitting surveys.
3. Section 01 77 00 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.
4. Section 02 41 19 "Selective Demolition" for demolition and removal of selected portions of the building.
5. Section 07 84 13 "Penetration Firestopping" for patching penetrations in fire-rated construction.

1.3 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.
1.4 QUALITY ASSURANCE

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
   a. Primary operational systems and equipment.
   b. Fire separation assemblies.
   c. Air or smoke barriers.
   d. Fire-suppression systems.
   e. Plumbing piping systems.
   f. Mechanical systems piping and ducts.
   g. Control systems.
   h. Communication systems.
   i. Fire-detection and -alarm systems.
   j. Conveying systems.
   k. Electrical wiring systems.
   l. Operating systems of special construction.

3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:
   a. Water, moisture, or vapor barriers.
   b. Membranes and flashings.
   c. Exterior curtain-wall construction.
   d. Sprayed fire-resistive material.
   e. Equipment supports.
   f. Piping, ductwork, vessels, and equipment.
   g. Noise- and vibration-control elements and systems.

4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.
PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services; and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

1. Description of the Work.
2. List of detrimental conditions, including substrates.
3. List of unacceptable installation tolerances.
4. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 01 31 00 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

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

B. General:

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish limits on use of Project site.
3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
4. Inform installers of lines and levels to which they must comply.
5. Check the location, level and plumb, of every major element as the Work progresses.
6. Notify Architect and Construction Manager when deviations from required lines and levels exceed allowable tolerances.
7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for
mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

3.4 FIELD ENGINEERING

A. Identification: Owner will identify existing benchmarks, control points, and property corners.

B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

3.5 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
   1. Make vertical work plumb and make horizontal work level.
   2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
   3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Where possible, select tools or equipment that minimize production of excessive noise levels.

G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.

2. Allow for building movement, including thermal expansion and contraction.

3. Coordinate installation of anchorages. 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.

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

J. Repair or remove and replace damaged, defective, or nonconforming Work.

1. Comply with Section 01 77 00 “Closeout Procedures” for repairing or removing and replacing defective Work.

3.6 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 01 10 00 “Summary.”

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to [minimize] [prevent] interruption to occupied areas.

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer’s written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required,
and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.

3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.

4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.

5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.

6. Proceed with patching after construction operations requiring cutting are complete.

H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.

2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

   a. Clean piping, conduit, and similar features before applying paint or other finishing materials.

   b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

   a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.

5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.
3.7 OWNER-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for Owner's construction personnel.

B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.
   1. Construction Schedule: Inform Owner of Contractor’s preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
   2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

3.8 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
   2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
   3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
      a. Use containers intended for holding waste materials of type to be stored.
   4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
   1. Remove liquid spills promptly.
   2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Comply with waste disposal requirements in Section 01 50 00 "Temporary Facilities and Controls" and Section 01 74 19 "Construction Waste Management and Disposal."

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

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

3.9 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 01 91 13 "General Commissioning Requirements."

B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

E. Manufacturer's Field Service: Comply with qualification requirements in Section 01 40 00 "Quality Requirements."

3.10 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.

C. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes procedural requirements for cutting and patching.

B. Related Sections include the following:
   1. Division 01 Section “Temporary Facilities and Controls” for dust and noise control, and protection of adjacent buildings, roofs, structures and finishes.
   2. Division 02 Section "Selective Building Demolition" for demolition of selected portions of the building.
   3. Divisions 02 through 33 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
   4. Division 07 Section "Penetration Firestopping" for patching fire-rated construction.

1.2 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.3 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.

C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

PART 2 - PRODUCTS
2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
   1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
   1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
   2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

3.3 TRANSITIONS

A. Where new Work abuts or aligns with existing, make a smooth and even transition. Patched work shall match existing adjacent Work in texture and appearance.

B. When finished surfaces are cut so that a smooth transition with new Work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect for final treatment.

3.4 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
   1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original installer; comply with original installer’s written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.

3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.

4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.

5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.

6. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.

2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
   a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
   b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
   a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.

5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 01 73 29
PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. Cleaning of Project

1.02 RELATED REQUIREMENTS

A. Document 00 72 00 – General Conditions: Clean-up.
B. Section 01 50 00 – Construction Facilities and Temporary Controls: Cleaning during construction.
C. Section 01 74 19 – Waste Management and Disposal
D. Individual Specifications Sections: Specific cleaning for product or Work.

1.03 DESCRIPTION

A. The Contractor and Subcontractors shall execute cleaning regularly during the progress of the Work, and at completion of the Work, as required by the General Conditions and the Specifications.
B. Maintain premises and public properties free from accumulations of waste, debris, and rubbish caused by operations. Maintain public use areas clear of debris at all times.
C. Conform to the requirements of authorities having jurisdiction.
D. At completion of Work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave Project clean and ready for occupancy.

1.04 SAFETY REQUIREMENTS

A. Standards: Maintain Project in accord with requirements of all authorities having jurisdiction. Contractor must meet all OSHA requirements.
B. Hazards Control:
   1. Store volatile wastes in covered metal containers and remove from premises weekly.
   2. Prevent accumulation of wastes, which create hazardous conditions.
   3. Provide adequate ventilation during use of volatile or noxious substances.
C. Conducting cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
   1. Do not burn or bury rubbish and waste materials on Project site.
2. Do not dispose of volatile wastes, such as mineral spirits, oils, or paint thinner, in storm or sanitary drains.

3. Do not dispose of wastes into streams or waterways.
1.05 SOLID WASTE DISPOSAL SERVICE

   A. The Contractor shall provide containers on the site for the disposal of all types and quantities of construction debris and include the cost of these services in their bid.

   B. The Contractor shall determine and comply with all applicable special requirements and regulations affecting solid waste disposal of materials from the Project site to a legal, off-site disposal location.

   C. Each Subcontractor shall cooperate with the Prime Contractor regarding the disposal service. Any anticipated disposal requirement that is beyond normal workscope operations shall be approved in advance by the Prime Contractor.

   D. Disposal of excess or removed materials for some portions of the Work will not be allowed through the disposal service. Subcontractors involved in handling the following materials shall make their own separate arrangements for disposal off-site:

      3. PCB-Containing Electrical Equipment and Components.

   E. The Contractor shall locate containers only at those locations as approved in advance by the Architect and Owner.

PART 2 – PRODUCTS

2.01 MATERIALS

   A. Use only those cleaning materials that will not create hazards to health or property, and which will not damage surfaces.

   B. Use only those cleaning materials and methods recommended by the manufacturer or the surface material to be cleaned.

   C. Use cleaning materials only on surfaces recommended by the cleaning material manufacturer.

   D. The Contractor shall provide or arrange for cleaning materials and equipment.

PART 3 – EXECUTION

3.01 REGULAR HOUSE KEEPING AND CLEAN-UP

   A. The Contractor shall execute regular daily housekeeping to keep the Work, the site and adjacent properties free from accumulations of waste materials, rubbish and windblown debris, resulting from construction demolition and operations.

   B. The Contractor is financially responsible for its own clean-up operations. Clean-up shall be timely as well as thorough in order to meet safety regulations and permit other Subcontractors to perform without hindrance from dirt and debris. The Prime Contractor shall coordinate Project housekeeping, and take appropriate steps to maintain clean, safe
working conditions. Subcontractors failing to meet housekeeping requirements will be charged for services arranged by the Prime Contractor.
C. If Contractor cleaning is not maintained and regularly executed in accordance with the requirements of these Specifications as determined by the Architect or the Owner, and the Contractor is so notified in writing by the Architect or the Owner, the Owner may complete the necessary cleaning using others and backcharge the costs of all such work to the Contractor.

3.02 CLEANING DURING CONSTRUCTION

A. The Contractor and each Subcontractor shall:

1. Conform to environmental protection requirements of authorities having jurisdiction.

2. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights. Where possible, all materials to be disposed of shall be loaded directly into trucks by means of approved chutes or other methods that will prevent damage to existing, or new, surfaces, adjacent public areas and to control pollution.

3. Remove debris produced by the Work as it occurs, daily, to solid waste disposal containers.

4. Maintain electrical closets, pipe and duct shafts, chases, furred spaces, and similar spaces, which are generally unfinished, free from rubbish, extraneous construction materials, dirt and dust.

5. Execute cleaning at the end of each day’s operations to ensure that building, grounds, and public properties are maintained free from accumulations of waste materials, debris and rubbish.

6. Provide on-site containers for collection of waste materials, debris and rubbish.

7. Remove waste materials, debris and rubbish from site and legally dispose of off Owner’s property.

8. Necessary controls shall be provided to prevent pollution of the air by odors or particulate matter. The location and operation of existing and temporary ventilation and heating equipment shall be coordinated in advance such that no hazard is created and objectionable odors do not enter the building.

3.03 DUST CONTROL

A. Contractor must meet all OSHA requirements for dust control.

B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.

C. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly coated surfaces.

D. Seal all doors, windows and cracks of temporary enclosures with tape and similar means to minimize dust infiltration into occupied spaces.

3.04 PREFINISHED METAL AND GLASS REPLACEMENT
A. The responsible Subcontractor shall assume all costs of replacement of prefinished metal and glass, broken, cracked or damaged prior to Final Completion of the Project. Glass scratched through improper cleaning shall be considered damaged and shall be replaced by the party that caused the damage.
3.05 FINAL CLEANING

A. The Contractor shall employ experienced workers, or professional cleaners, for final cleaning caused by Contractor operations.

B. In preparation for and prior to Substantial Completion or Owner Occupancy, the Prime Contractor shall remove protective coatings, barriers and other protective devices and all temporary Work. The Prime Contractor shall conduct an inspection of exposed interior and exterior surfaces and all Work areas, to verify the entire Project is clean.

C. In preparation for and prior to Substantial Completion or Owner Occupancy, installing Subcontractors shall conduct their own final inspection of sight-exposed interior and exterior surfaces, and of concealed spaces.

D. In addition to removal of debris and cleaning specified in other Sections, clean interior and exterior exposed-to-view surfaces.

E. Repair, patch, replace, and touch-up marred surfaces to specified finish, to match adjacent surfaces.

F. Remove temporary protection and labels not required to remain.

G. Clean finishes free of dirt, dust, stains, films and other foreign substances.

H. Clean transparent and glossy materials to a polished condition; wash and polish glass on both faces; remove foreign substances. Polish reflective surfaces to a clear shine.

I. Remove waste, foreign matter, and debris from roofs, roof drains and drainage systems. Remove snow and ice from accesses to building.

J. Wash down completely and broom clean all paved surfaces.

K. Remove waste, debris and surplus materials from the site. Clean grounds; remove stains, spills, and foreign substances from paved areas and sweep clean. Wash or rake clean other exterior surfaces.

L. The Mechanical Subcontractor shall wash, clean and sterilize plumbing fixtures. Dust, vacuum, wash and otherwise clean unit ventilators, convectors, radiation, grilles, and registers and other mechanical work as necessary to remove stains, dust and dirt. Remove construction dirt and debris from the interior and exterior of all ductwork and air handling equipment. Provide new, clean filters for all air handling equipment just prior to final ductwork testing, adjusting and balancing.

M. The Electrical Subcontractor shall dust, vacuum, wash and otherwise clean light fixtures, lamps, lenses, reflectors and other electrical work to remove stains, dust and dirt. Clean the interior and exterior of all electrical equipment in mechanical rooms, transformer vaults, switchgear rooms and similar spaces. Replace all burned out lamps just prior to Final Completion of the Project.

N. Maintain cleaning until Final Completion of the Project. Low or no-VOC emitting material should be used for cleaning supplies.

3.06 PARTIAL OCCUPANCY
A. **General Requirements:** If the Owner occupies any part of the Work before the remainder of the Project is complete, the portion(s) to be occupied shall be cleaned prior to occupancy as described under Final Cleaning.

END OF SECTION
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Salvaging nonhazardous demolition and construction waste.
2. Recycling nonhazardous demolition and construction waste.
3. Disposing of nonhazardous demolition and construction waste.

1.3 DEFINITIONS

A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.

C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner’s property.

D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition and construction waste becomes property of Contractor.
B. Items of interest to the Owner that may be uncovered during demolition remain the property of Owner.
   1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 ACTION SUBMITTALS

A. Waste Management Plan: Submit plan within 30 days of date established for the Notice to Proceed.

1.6 INFORMATIONAL SUBMITTALS

A. Waste Reduction Progress Reports: Include the following information:
   1. Material category.
   2. Generation point of waste.
   3. Total quantity of waste in tons.
   4. Quantity of waste salvaged, both estimated and actual in tons.
   5. Quantity of waste recycled, both estimated and actual in tons.
   6. Total quantity of waste recovered (salvaged plus recycled) in tons.
   7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.

B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.

C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.

D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.

E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

G. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

H. Refrigerant Recovery: Comply with requirements in Section 02 41 19 "Selective Demolition" for refrigerant recovery submittals.
1.7 QUALITY ASSURANCE

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

B. Refrigerant Recovery Technician Qualifications: Comply with requirements in Section 02 41 19 "Selective Demolition."

C. Regulatory Requirements: Comply with transportation and disposal regulations of authorities having jurisdiction.

D. Waste Management Conference(s): Conduct conference(s) at Project site to comply with requirements in Section 01 31 00 "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss waste management plan including responsibilities of each contractor and waste management coordinator.
2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

1.8 WASTE MANAGEMENT PLAN

A. General: Develop a waste management plan according to requirements in this Section. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

B. Waste Identification: Indicate anticipated types and quantities of demolition and construction waste generated by the Work.

C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work in compliance with Section 02 41 16 "Structure Demolition." Section 02 41 19 "Selective Demolition."
2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.

6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General: Achieve end-of-Project rates for salvage/recycling of 75 percent by weight of total nonhazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials, including the following:

1. Demolition Waste:
   a. Asphalt paving.
   b. Concrete.
   c. Concrete reinforcing steel.
   d. Brick.
   e. Concrete masonry units.
   f. Wood studs.
   g. Wood joists.
   h. Plywood and oriented strand board.
   i. Wood paneling.
   j. Wood trim.
   k. Structural and miscellaneous steel.
   l. Roofing.
   m. Insulation.
   n. Doors and frames.
   o. Door hardware.
   p. Windows.
   q. Glazing.
   r. Metal studs.
   s. Gypsum board.
   t. Acoustical tile and panels.
   u. Carpet.
   v. Carpet pad.
   w. Demountable partitions.
   x. Equipment.
   y. Cabinets.
   aa. Plumbing fixtures.
   bb. Piping.
   cc. Supports and hangers.
   dd. Valves.
   ee. Sprinklers.
   ff. Mechanical equipment.
MBC1901

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
Section 017419 - 5

Exterior Improvements / Restoration Project - Phase 1
July 16, 2019

Bid Documents

2. Construction Waste:

a. Masonry and CMU.
b. Lumber.
c. Wood sheet materials.
d. Wood trim.
e. Metals.
f. Insulation.
g. Carpet and pad.
h. Gypsum board.
i. Piping.
j. Electrical conduit.
k. Packaging: Regardless of salvage/recycle goal indicated in "General" Paragraph above, salvage or recycle 100 percent of the following uncontaminated packaging materials:

1) Paper.
2) Cardboard.
3) Boxes.
4) Plastic sheet and film.
5) Polystyrene packaging.
7) Wood pallets.
8) Plastic pails.

l. Construction Office Waste: Regardless of salvage/recycle goal indicated in "General" Paragraph above, salvage or recycle 100 percent of the following construction office waste materials:

1) Paper.
2) Aluminum cans.
3) Glass containers.

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
1. Comply with operation, termination, and removal requirements in Section 01 50 00 "Temporary Facilities and Controls."

B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
   1. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
   1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged and recycled.
   2. Comply with Section 01 50 00 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

A. Comply with requirements in Section 02 41 19 "Selective Demolition" for salvaging demolition waste.

B. Salvaged Items for Reuse in the Work: Salvage items for reuse and handle as follows:
   1. Clean salvaged items.
   2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
   3. Store items in a secure area until installation.
   4. Protect items from damage during transport and storage.
   5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

C. Salvaged Items for Sale and Donation: Not permitted on Project site.

D. Salvaged Items for Owner's Use: Salvage items for Owner's use and handle as follows:
   1. Clean salvaged items.
   2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
   3. Store items in a secure area until delivery to Owner.
   4. Transport items to Owner's storage area [on-site] [off-site] [designated by Owner].
   5. Protect items from damage during transport and storage.

E. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.
F. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.

G. Plumbing Fixtures: Separate by type and size.

H. Lighting Fixtures: Separate lamps by type and protect from breakage.

I. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.

C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.

D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
   a. Inspect containers and bins for contamination and remove contaminated materials if found.

2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.

4. Store components off the ground and protect from the weather.

5. Remove recyclable waste from Owner’s property and transport to recycling receiver or processor as often as required to prevent overfilling bins.

3.4 RECYCLING DEMOLITION WASTE

A. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.

1. Pulverize concrete to maximum 4-inch size.
B. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
   1. Pulverize masonry to maximum 4-inch size.

C. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.

D. Metals: Separate metals by type.
   1. Structural Steel: Stack members according to size, type of member, and length.
   2. Remove and dispose of bolts, nuts, washers, and other rough hardware.

E. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts. Remove and dispose of nails, staples, and accessories.

F. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.

G. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.

H. Metal Suspension System: Separate metal members, including trim and other metals from acoustical panels and tile, and sort with other metals.

I. Carpet and Pad: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.
   1. Store clean, dry carpet and pad in a closed container or trailer provided by carpet reclamation agency or carpet recycler.

J. Carpet Tile: Remove debris, trash, and adhesive.
   1. Stack tile on pallet and store clean, dry carpet in a closed container or trailer provided by carpet reclamation agency or carpet recycler.

K. Piping: Reduce piping to straight lengths and store by material and size. Separate supports, hangers, valves, sprinklers, and other components by material and size.

L. Conduit: Reduce conduit to straight lengths and store by material and size.

M. Lamps: Separate lamps by type and store according to requirements in 40 CFR 273.

3.5 RECYCLING CONSTRUCTION WASTE

A. Packaging:
   1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.

4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
   a. Comply with requirements in Section 32.93.00 "Plants" for use of clean sawdust as organic mulch.

C. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.

1. Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.
   a. Comply with requirements in Section 32.93.00 "Plants" for use of clean ground gypsum board as inorganic soil amendment.

D. Paint: Seal containers and store by type.

3.6 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. General: Except for items or materials to be salvaged or recycled, remove waste materials and legally dispose of at designated spoil areas on Owner's property.

C. Burning: Do not burn waste materials.

D. Burning: Burning of waste materials is permitted only at designated areas on Owner's property, provided required permits are obtained. Provide full-time monitoring for burning materials until fires are extinguished.

END OF SECTION
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final completion procedures.
3. Warranties.
4. Final cleaning.
5. Repair of the Work.

B. Related Requirements:

1. Section 01 78 23 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
2. Section 01 78 39 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
3. Section 01 79 00 "Demonstration and Training" for requirements to train the Owner's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of cleaning agent.

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at final completion.

1.4 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.

B. Certificate of Insurance: For continuing coverage.

C. Field Report: For pest control inspection.
1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.

3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.

4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Construction Manager. Label with manufacturer's name and model number.

   a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Construction Manager's signature for receipt of submittals.

5. Submit testing, adjusting, and balancing records.

6. Submit sustainable design submittals not previously submitted.

7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

B. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Advise Owner of pending insurance changeover requirements.

2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.

3. Complete startup and testing of systems and equipment.

4. Perform preventive maintenance on equipment used prior to Substantial Completion.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 01 79 00 "Demonstration and Training."

6. Advise Owner of changeover in utility services.

7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.

8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.

9. Complete final cleaning requirements.

10. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

2. Results of completed inspection will form the basis of requirements for final completion.

1.7 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Section 01 29 00 "Payment Procedures."

2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect and Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction, including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.

2. Include the following information at the top of each page:
   a. Project name.
   b. Date.
   c. Name of Architect and Construction Manager.
   d. Name of Contractor.
   e. Page number.

3. Submit list of incomplete items in the following format:

1.9 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. Partial Occupancy: Submit properly executed warranties within [15] <Insert number> days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

D. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

1. Submit on digital media by email to Architect.

E. Warranties in Paper Form:

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.

2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

F. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

   a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.

   b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.

   c. Rake grounds that are not planted, mulched, or paved to a smooth, even-textured surface.

   d. Remove tools, construction equipment, machinery, and surplus material from Project site.

   e. Remove snow and ice to provide safe access to building.

   f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
h. Sweep concrete floors broom clean in unoccupied spaces.
i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
k. Remove labels that are not permanent.
l. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.

1) Clean HVAC system in compliance with NADCA ACR. Provide written report on completion of cleaning.

p. Clean luminaires, lamps, globes, and reflectors to function with full efficiency.
q. Leave Project clean and ready for occupancy.

C. Pest Control: Comply with pest control requirements in Section 01 50 00 "Temporary Facilities and Controls." Prepare written report.

D. Construction Waste Disposal: Comply with waste disposal requirements in Section 01 50 00 "Temporary Facilities and Controls." And Section 01 74 19 "Construction Waste Management and Disposal."

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair, or remove and replace, defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
   
a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for project record documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.
4. Miscellaneous record submittals.

B. Related Requirements:

1. Section 01 77 00 “Closeout Procedures“ for general closeout procedures.
2. Section 01 78 23 “Operation and Maintenance Data“ for operation and maintenance manual requirements.

1.3 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit one set(s) of marked-up record prints.
2. Number of Copies: Submit copies of record Drawings as follows:

   a. Initial Submittal:

      1) Submit one paper-copy set(s) of marked-up record prints.
      2) Submit PDF electronic files of scanned record prints and one of file prints.
      3) Submit record digital data files and one set(s) of plots.
      4) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.

   b. Final Submittal:

      1) Submit one paper-copy set(s) of marked-up record prints.
2) Submit record digital data files and three set(s) of record digital data file plots.

3) Plot each drawing file, whether or not changes and additional information were recorded.

1.4 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.

1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

   a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
   b. Accurately record information in an acceptable drawing technique.
   c. Record data as soon as possible after obtaining it.
   d. Record and check the markup before enclosing concealed installations.
   e. Cross-reference record prints to corresponding photographic documentation.

2. Content: Types of items requiring marking include, but are not limited to, the following:

   a. Dimensional changes to Drawings.
   b. Revisions to details shown on Drawings.
   c. Depths of foundations.
   d. Locations and depths of underground utilities.
   e. Revisions to routing of piping and conduits.
   f. Revisions to electrical circuitry.
   g. Actual equipment locations.
   h. Duct size and routing.
   i. Locations of concealed internal utilities.
   j. Changes made by Change Order or Construction Work Change Directive.
   k. Changes made following Architect's written orders.
   l. Details not on the original Contract Drawings.
   m. Field records for variable and concealed conditions.
   n. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.

4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.

5. Mark important additional information that was either shown schematically or omitted from original Drawings.

6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
B. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Format: Annotated PDF electronic file with comment function enabled.
3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
4. Identification: As follows:
   a. Project name.
   b. Date.
   c. Designation "PROJECT RECORD DRAWINGS."
   d. Name of Architect and Construction Manager.
   e. Name of Contractor.

1.5 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
5. Note related Change Orders, record Product Data, and record Drawings where applicable.

B. Format: Submit record Specifications as scanned PDF electronic file(s) of marked-up paper copy of Specifications.

1.6 RECORD PRODUCT DATA

A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.

B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.

3. Note related Change Orders, record Specifications, and record Drawings where applicable.

C. Format: Submit record Product Data as scanned PDF electronic file(s) of marked-up paper copy of Product Data.

1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

1.7 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Format: Submit miscellaneous record submittals as scanned PDF electronic file(s) of marked-up miscellaneous record submittals.

1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

1.8 MAINTENANCE OF RECORD DOCUMENTS

A. Maintenance of Record Documents: Store record documents in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's and Construction Manager's reference during normal working hours.

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Demolition and removal of selected portions of building or structure.
   2. Salvage of existing items to be reused or recycled.

B. Related Requirements:
   1. Section 01 10 00 “Summary” for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.
   2. Section 01 35 91 “Historic Treatment Procedures”.
   3. Section 01 73 00 “Execution”.
   4. Section 01 73 29 “Cutting and Patching”.

1.3 DEFINITIONS

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

B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and store.

C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.

D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.4 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.
B. Historic items, relics, antiques, and similar objects including, but not limited to, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 PREINSTALLATION MEETINGS

A. Pre-demolition Conference: Conduct conference at Project site.

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

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For refrigerant recovery technician.

B. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and, for noise control. Indicate proposed locations and construction of barriers.

C. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's building manager's and other tenants' on-site operations are uninterrupted.
2. Interruption of utility services. Indicate how long utility services will be interrupted.
3. Coordination for shutoff, capping, and continuation of utility services.
4. Use of elevator and stairs.
5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

D. Pre-demolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations. Comply with Section 01 32 33 "Photographic Documentation." Submit before Work begins.

E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
1.7 CLOSEOUT SUBMITTALS

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

1.8 QUALITY ASSURANCE

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

1.9 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

1. Before selective demolition, Owner will remove the following items:

   a. Furniture, fixtures, and equipment.
   b. Wall hangings,
   c. Signage

C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

   1. Hazardous materials will be removed by Owner before start of the Work.
   2. 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. Hazardous Materials: Present in buildings and structures to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.

   1. Hazardous material remediation is specified elsewhere in the Contract Documents.
   2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
   3. Owner will provide material safety data sheets for suspected hazardous materials that are known to be present in buildings and structures to be selectively demolished because of building operations or processes performed there.

F. Storage or sale of removed items or materials on-site is not permitted.
G. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

1.10 COORDINATION

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

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

C. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.

1. Comply with requirements specified in Section 01 32 33 "Photographic Documentation."
2. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
3. 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 PREPARATION

A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.
3.3 **UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS**

A. **Existing Services/Systems to Remain:** Maintain services/systems indicated to remain and protect them against damage.

B. **Existing Services/Systems to Be Removed, Relocated, or Abandoned:** Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
2. Arrange to shut off utilities with utility companies.
3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.
   a. **Piping to Be Removed:** Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
   b. **Piping to Be Abandoned in Place:** Drain piping and cap or plug piping with same or compatible piping material and leave in place.
   c. **Equipment to Be Removed:** Disconnect and cap services and remove equipment.
   d. **Equipment to Be Removed and Reinstalled:** Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
   e. **Equipment to Be Removed and Salvaged:** Disconnect and cap services and remove equipment and deliver to Owner.
   f. **Ducts to Be Removed:** Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
   g. **Ducts to Be Abandoned in Place:** Cap or plug ducts with same or compatible ductwork material and leave in place.

3.4 **PROTECTION**

A. **Temporary Protection:** Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
4. Cover and protect furniture, furnishings, and equipment that have not been removed.
5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 01 50 00 "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.

3.5 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid maring 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 fire watch during and for at least 24 hours after flame-cutting operations.
7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
10. Dispose of demolished items and materials promptly. Comply with requirements in Section 01 74 19 "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. Protect items from damage during transport and storage.
D. Removed and Reinstalled Items:
   1. Clean and repair items to functional condition adequate for intended reuse.
   2. Pack or crate items after cleaning and repairing. Identify contents of containers.
   3. Protect items from damage during transport and storage.
   4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch 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.

E. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction and recycle or dispose of them according to Section 01 74 19 "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 01 74 19 "Construction Waste Management and Disposal."
3.8 CLEANING

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

END OF SECTION
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 historic treatment procedures in the form of special types of selective demolition work for designated historic surfaces and the following specific work:
   1. Removal and dismantling of indicated portions of building or structure and debris hauling.
   2. Removal and dismantling of indicated site elements and debris hauling.
   3. Salvage of existing items to be reused or recycled.
B. Coordination: Coordinate the work of this Section with the following:
   1. Section 015240 - Demolition/Construction Waste Management.

1.3 DEFINITIONS
A. Dismantle: To disassemble or detach a historic item from a surface, or a nonhistoric item from a historic surface, using gentle methods and equipment to prevent damage to historic items and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
   1. Do not cut materials that can be disassembled by mechanical means, unless otherwise approved by Architect or Owner.
B. Existing to Remain: Existing items that are not to be removed or dismantled, except to the degree indicated for performing required Work.
   1. Drawings may indicate existing items and materials to remain for clarity or to distinguish from new items.
   2. Take measures to protect existing items of construction that are not to be demolished or salvaged from damage resulting from demolition and new construction activities, through Substantial Completion.
C. Remove: To take down or detach a nonhistoric item using methods and equipment to prevent damage to historic items and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
   1. Remove materials and items from existing construction, using methods that comply with specified work results.
   2. Recycle materials in accordance with requirements specified in Section 015240 - Demolition/Construction Waste Management.
   3. Materials and items that cannot be recycled shall be legally disposed of off-site.
D. Retain: To keep existing items that are not to be removed or dismantled.
E. Salvage: To protect removed or dismantled items and deliver them to Owner ready for reuse.
   1. Salvaging includes materials and elements indicated for reuse or reinstallation in new work, and for salvage by Owner for their storage or future work. Salvaged items may include items indicated to be cleaned and prepared, and materials processed on site.
   2. Carefully detach items from existing construction and deliver them to designated areas for storage, cleaning, and preparation for reuse in new construction. Requirements for salvaged products used in new construction are specified in other applicable Sections.

1.4 PRECONSTRUCTION MEETINGS

A. Preconstruction Conference(s): Conduct conference(s) at Project site.
   1. Review minutes of Preliminary Historic Treatment Conference that pertain to removal and dismantling procedures and protection of historic areas and surfaces.
   2. Review list of items indicated to be salvaged.
   3. Verify qualifications of personnel assigned to perform removal and dismantling.
   4. Inspect and discuss condition of each construction type to be removed or dismantled.
   5. Review requirements of other work that depends on condition of substrates exposed by removal and dismantling work.
   6. Review methods and procedures related to removal and dismantling work, including, but not limited to, the following:
      a. Historic removal and dismantling specialist’s personnel, equipment, and facilities needed to make progress and avoid delays.
      b. Materials, material application, sequencing, tolerances, and required clearances.
      c. Fire prevention.
      d. Coordination with building occupants.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For historic removal and dismantling specialist and historic removal and dismantling specialist’s field supervisors.

B. Preconstruction Documentation: Show preexisting conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by Contractor's removal and dismantling operations.

C. Removal and Dismantling Historic Treatment Program: Submit 30 days before work begins.

D. List of Items Indicated to Be Salvaged: Prepare a list of items indicated on Drawings to be salvaged for Owner’s use or for reinstallation. Submit 15 days before preconstruction conference.
E. Inventory of Salvaged Items: After removal or dismantling work is complete, submit a list of items that have been salvaged.
   1. Include item description, item condition, number of items if more than one of a type, and tag number. Include photo of item in original location.
   2. As work proceeds, include on the inventory items that were indicated to be salvaged and items of historic importance discovered during the work. Document reasons, if any, why an item indicated to be salvaged was not salvaged.

1.6 QUALITY ASSURANCE

A. Historic Removal and Dismantling Specialist Qualifications: A qualified historic treatment specialist. General selective demolition experience is insufficient experience for historic removal and dismantling work.

B. Removal and Dismantling Historic Treatment Program: Prepare a written, detailed description of materials, methods, equipment, and sequence of operations to be used for each phase of removal and dismantling work, including protection of surrounding and substrate materials and Project site.
   1. Dust and Noise Control: Include locations of proposed temporary dust- and noise-control partitions and means of egress from occupied areas coordinated with continuing on-site operations and other known work in progress.
   2. Debris Hauling: Include plans clearly marked to show debris hauling routes, turning radii, and locations and details of temporary protective barriers.

C. Regulatory Requirements: Comply with notification regulations of authorities having jurisdiction before beginning removal and dismantling work. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.7 FIELD CONDITIONS

A. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with removal and dismantling work.

C. Hazardous Materials: Hazardous materials are present in construction affected by removal and dismantling work. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
   1. Hazardous material remediation is specified elsewhere in the Contract Documents.
   2. Do not disturb hazardous materials or items suspected of containing hazardous materials, except under procedures specified elsewhere in the Contract Documents.
   3. If unanticipated asbestos is suspected, stop work in the area of potential hazard, shut off fans and other air handlers ventilating the area, and rope off area until the questionable material is identified. Reassign workers to continue work in unaffected areas. Resume work in the area of concern after safe working conditions are verified.
D. Storage or sale of removed or dismantled items on-site is not permitted unless otherwise indicated.

PART 2 - PRODUCTS - (Not Used)

PART 3 - EXECUTION

3.1 HISTORIC REMOVAL AND DISMANTLING EQUIPMENT

A. Removal Equipment: Use only hand-held tools, except as follows or unless otherwise approved by Architect on a case-by-case basis:
   1. Light jackhammers are allowed subject to Architect's approval.
   2. Large air hammers are not permitted.

B. Dismantling Equipment: Use manual, hand-held tools, except as follows or otherwise approved by Architect on a case-by-case basis:
   1. Hand-held power tools and cutting torches are permitted only as submitted in the historic treatment program. They must be adjustable so as to penetrate or cut only the thickness of material being removed.
   2. Pry bars more than 18 inches long and hammers weighing more than 2 lb are not permitted for dismantling work.

3.2 EXAMINATION

A. Preparation for Removal and Dismantling: Examine construction to be removed or dismantled to determine best methods to safely and effectively perform removal and dismantling work. Examine adjacent work to determine what protective measures are necessary. Make explorations, probes, and inquiries as necessary to determine condition of construction to be removed or dismantled and location of utilities and services to remain that may be hidden by construction that is to be removed or dismantled.
   1. Verify that affected utilities are disconnected and capped.
   2. Inventory and record the condition of items to be removed and dismantled for reinstallation or salvage. Enter this information on the submittal of inventory of salvaged items.
   3. Before removal or dismantling 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.
   4. Engineering Survey: Engage a professional engineer to survey 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 as a result of removal and dismantling work.

B. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.

C. Perform surveys as the Work progresses to detect hazards resulting from historic removal and dismantling procedures.
3.3 HISTORIC REMOVAL AND DISMANTLING

A. General: Have removal and dismantling work performed by a qualified historic removal and dismantling specialist. Ensure that historic removal and dismantling specialist's field supervisors are present when removal and dismantling work begins and during its progress.

B. Perform work according to the historic treatment program.
   1. Perform removal and dismantling to the limits indicated.
   2. Provide supports or reinforcement for existing construction that becomes temporarily weakened by removal and dismantling work, until the Project Work is completed unless otherwise indicated.
   3. Perform cutting by hand or with small power tools wherever possible. Cut holes and slots neatly to size required, with minimum disturbance of adjacent work.
   4. Do not operate air compressors inside building unless approved by Architect in each case.
   5. Do not drill or cut columns, beams, joints, girders, structural slabs, or other structural supporting elements, without having Contractor's professional engineer's written approval for each location before such work is begun.
   6. Dispose of removed and dismantled items off-site unless indicated to be salvaged or reinstalled.

C. Water-Mist Sprinkling: Use water-mist sprinkling and other wet methods to control dust only with adequate, approved procedures and equipment according to the historic treatment program to ensure that such water does not create a hazard or adversely affect other building areas or materials.

D. Unacceptable Equipment: Keep equipment that is not permitted for historic removal or dismantling work away from the vicinity where such work is being performed.

E. Removing and Dismantling Items on or Near Historic Surfaces:
   1. Use only dismantling equipment and procedures within 12 inches of historic surface. Do not use pry bars. Protect historic surface from contact with or damage by tools.
   2. Unfasten items in the opposite order from which they were installed.
   3. Support each item as it becomes loosened to prevent stress and damage to the historic surface.
   4. Dismantle anchorages.

F. Masonry Walls:
   1. Remove masonry carefully, and erect temporary bracing and supports as needed to prevent collapse of materials being removed.
   2. Dismantle top edge and sides before removing wall. Stop removal work and immediately inform Architect if any structural elements above or adjacent to the work show signs of distress or dislocation during any phase of removal work.
   3. Remove wall in easily managed pieces.
   4. During removal, maintain the stability of the partially remaining wall. Notify Architect of the condition of temporary bracing for wall if work is temporarily stopped during the wall's removal.

G. Anchorages:
   1. Remove anchorages associated with removed items.
   2. Dismantle anchorages associated with dismantled items.
3. In nonhistoric surfaces, patch holes created by anchorage removal or dismantling according to the requirements for new work.
4. In historic surfaces, patch or repair holes created by anchorage removal or dismantling according to Section that is specific to the historic surface being patched.

END OF SECTION 024296
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 maintenance of stone assemblies consisting of stone masonry restoration and cleaning as follows:
   1. Preliminary cleaning, including removing plant growth.
   2. Cleaning exposed stone unit masonry surfaces.
   4. Repairing stone unit masonry, including replacing stone units.
   5. Painting steel uncovered during the work.
   6. Reanchoring stone veneers.
   7. Repointing stone joints with mortar and sealant.
   8. Final Cleaning.

B. Related Sections:
   1. Section 079200 “Joint Sealants.”

1.3 DEFINITIONS

A. Very Low-Pressure Spray: Under 100 psi.

B. Low-Pressure Spray: 100 to 200 psi; 4 to 6 gpm.

C. Medium-Pressure Spray: 200 to 800 psi; 4 to 6 gpm.

D. High-Pressure Spray: 800 to 1200 psi; 4 to 6 gpm.

E. Saturation Coefficient: Ratio of the weight of water absorbed during immersion in cold water to weight absorbed during immersion in boiling water; used as an indication of resistance of masonry units to freezing and thawing.

1.4 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Contractor shall engage a qualified testing agency to perform preconstruction testing on masonry units as follows:
   1. Existing Stone: Test each type of existing masonry unit indicated for replacement, according to testing methods in ASTM C 67 for compressive strength, 24-hour cold-water absorption, 5-hour boil absorption, saturation coefficient, and initial rate of absorption (suction). Carefully remove two existing stone units from locations designated by Architect. Take testing samples from these units.
2. **Existing Mortar:** Test according to ASTM C 1324, modified as agreed by testing service and Architect for Project requirements, to determine proportional composition of original ingredients, sizes and colors of aggregates, and approximate strength. Use X-ray diffraction, infrared spectroscopy, and differential thermal analysis as necessary to supplement microscopical methods. Carefully remove existing mortar from within joints at two locations for stone mortar joints, as designated by Architect.

### 1.5 SUBMITTALS

A. **Product Data:** For each type of product indicated. Include recommendations for application and use. Include test data substantiating that products comply with requirements.

B. **Samples for Initial Selection:** For the following:

1. **Pointing Mortar:** Submit sets of mortar for pointing in the form of sample mortar strips, 6 inches long by existing joint width, set in aluminum or plastic channels.
   a. Have each set contain a close color range of at least three Samples of different mixes of colored sands and cements that produce a mortar matching the cleaned masonry when cured and dry.
   b. Submit with precise measurements on ingredients, proportions, gradations, and sources of colored sands from which each Sample was made.

2. **Patching Compound:** Submit sets of patching compound Samples in the form of plugs (patches in drilled holes) in sample units of masonry representative of the range of masonry colors on the building.
   a. Have each set contain a close color range of at least three Samples of different mixes of patching compound that matches the variations in existing masonry when cured and dry.

3. Include similar Samples of accessories involving color selection.

C. **Samples:** Submit, for verification purposes, prior to mock-up erection, samples of the following:

1. Each new exposed masonry material to be used for replacing existing materials. Include in each set of samples the full range of colors, colors and textures to be expected in completed work.
   a. For stone provide samples not less than 12 x 12 inches in size.

2. Each type of sand used for pointing mortar; minimum 1 lb of each in plastic screw-top jars.
   a. For blended sands, provide Samples of each component and blend.
   b. Identify sources, both supplier and quarry, of each type of sand.

3. Each type, color, and texture of pointing mortar in the form of sample mortar strips, 6 inches long by existing joint width, set in aluminum or plastic channels.
   a. Include with each Sample a list of ingredients with proportions of each.
   b. Identify sources, both supplier and quarry, of each type of sand and brand names of cementitious materials and pigments if any.

4. Each type of masonry patching compound in the form of briquettes, at least 3 inches long by 1-1/2 inches wide. Document each Sample with manufacturer and stock number or other information necessary to order additional material.

5. Each type of chemical cleaning material.


7. Each type of anchor.

8. **Sealant Materials:** See Section 079200 - Joint Sealants.
9. **Accessories**: Each type of anchor, accessory, and miscellaneous support.

D. Quality-Control Program.

E. Restoration Program.

F. Cleaning Program.

1.6 **QUALITY ASSURANCE**

A. **Historic Preservation Standards**: Comply with recommended practices and procedures in National Park Service, Technical Preservation Services, Preservation Briefs:
   1. No. 1 “Assessing Cleaning and Water-Repellent Treatments for Historic Masonry Buildings.”
   2. No. 2 “Repointing Mortar Joints in Historic Masonry Building.”

B. **Restoration Specialist Qualifications**: Engage an experienced, preapproved masonry restoration and cleaning firm to perform work of this Section. Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance. Experience installing standard unit masonry is not sufficient experience for masonry restoration work.
   1. **Field Supervision**: Restoration specialist firms shall maintain experienced full-time supervisors on Project site during times that masonry restoration and cleaning work is in progress. Supervisors shall not be changed during Project except for causes beyond the control of restoration specialist firm.
   2. **Restoration Worker Qualifications**: Persons who are experienced and specialize in restoration work of types they will be performing. When masonry units are being patched, assign at least one worker among those performing patching work who is trained and certified by manufacturer of patching compound to apply its products.

C. **Chemical-Cleaner Manufacturer Qualifications**: A firm regularly engaged in producing masonry cleaners that have been used for similar applications with successful results, and with factory-trained representatives who are available for consultation and Project-site inspection and assistance at no additional cost.

D. **Source Limitations**: Obtain each type of material for masonry restoration (stone, cement, sand, and similar items) from one source with resources to provide materials of consistent quality in appearance and physical properties.

E. **Quality-Control Program**: Prepare a written quality-control program for this Project to systematically demonstrate the ability of personnel to properly follow methods and use materials and tools without damaging masonry. Include provisions for supervising performance and preventing damage due to worker fatigue.

F. **Restoration Program**: Prepare a written, detailed description of materials, methods, equipment, and sequence of operations to be used for each phase of restoration work including protection of surrounding materials and Project site.
   1. Include methods for keeping pointing mortar damp during curing period.
2. If materials and methods other than those indicated are proposed for any phase of restoration work, add to the Quality-Control Program a written description of such materials and methods, including evidence of successful use on comparable projects, and demonstrations to show their effectiveness for this Project and worker's ability to use such materials and methods properly.

G. Cleaning Program: Prepare a written cleaning program that describes cleaning process in detail, including materials, methods, and equipment to be used, protection of surrounding materials, and control of runoff during operations.

1. If materials and methods other than those indicated are proposed for any phase of restoration work, add to the Quality-Control Program a written description of such materials and methods, including evidence of successful use on comparable projects, and demonstrations to show their effectiveness for this Project and worker's ability to use such materials and methods properly.

H. Cleaning and Repair Appearance Standard: Cleaned and repaired surfaces shall have a uniform appearance as viewed from 10 feet away by Architect. Perform additional paint and stain removal, general cleaning, and spot cleaning of small areas that are noticeably different, so that surface blends smoothly into surrounding areas.

I. Mockups: Prepare mockups of restoration and cleaning to demonstrate aesthetic effects and set quality standards for materials and execution and for fabrication and installation.

1. Cleaning: Clean an area approximately 25 sq. ft. for each type of masonry and surface condition.
   a. Clean masonry by beginning with the gentlest methods and cleaning materials, and proceed systematically with stronger methods and materials only as required by the conditions and only as approved by the Architect.
   b. Test cleaners and methods on samples of adjacent materials for possible adverse reactions. Do not use cleaners and methods known to have deleterious effect.
   c. Allow a waiting period of not less than seven days after completion of sample cleaning to permit a study of sample panels for negative reactions.

2. Masonry Repair: Prepare sample areas for each type of masonry material indicated to have repair work performed. If not otherwise indicated, size each mockup not smaller than 2 adjacent whole units or approximately 48 inches in least dimension. Erect sample areas in existing walls unless otherwise indicated, to demonstrate quality of materials, workmanship, and blending with existing work. Include the following as a minimum:
   a. Replacement:
      1) Two stone masonry units replaced.
   b. Reanchoring Veneers: Install three masonry repair anchors in mockup wall assembly of each anchor type required.

3. Stone Repair: Prepare sample areas for each type of stone indicated to have repair work performed. If not otherwise indicated, size each mockup not smaller than 2 adjacent whole units or approximately 48 inches in least dimension. Erect sample areas in existing walls unless otherwise indicated, to demonstrate quality of materials, workmanship, and blending with existing work. Include the following as a minimum:
   a. Crack Injection: Apply crack injection in 2 separate areas as directed.
   b. Patching: Three small holes or chips as directed.
4. Repointing: Rake out joints in 2 separate areas, each approximately 36 inches high by 48 inches wide for each type of repointing required and repoint one of the areas.

5. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

6. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion as determined by Architect.

J. Preinstallation Conference: Conduct conference at Project site.
   1. Review methods and procedures related to masonry restoration and cleaning including, but not limited to, the following:
      b. Materials, material application, sequencing, tolerances, and required clearances.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver masonry units to Project site strapped together in suitable packs or pallets or in heavy-duty cartons.

B. Deliver other materials to Project site in manufacturer’s original and unopened containers, labeled with manufacturer’s name and type of products.

C. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

D. Store hydrated lime in manufacturer’s original and unopened containers. Discard lime if containers have been damaged or have been opened for more than two days.

E. Store sand where grading and other required characteristics can be maintained and contamination avoided.

1.8 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit masonry restoration and cleaning work to be performed according to manufacturers’ written instructions and specified requirements.

B. Repair masonry units and repoint mortar joints only when air temperature is between 40 and 90 deg F and is predicted to remain so for at least 7 days after completion of the Work unless otherwise indicated.

C. Cold-Weather Requirements: Comply with the following procedures for masonry repair and mortar-joint pointing unless otherwise indicated:
   1. When air temperature is below 40 deg F, heat mortar ingredients, masonry repair materials, and existing masonry walls to produce temperatures between 40 and 120 deg F.
   2. When mean daily air temperature is below 40 deg F, provide enclosure and heat to maintain temperatures above 32 deg F within the enclosure for 7 days after repair and pointing.
D. Hot-Weather Requirements: Protect masonry repair and mortar-joint pointing when temperature and humidity conditions produce excessive evaporation of water from mortar and repair materials. Provide artificial shade and wind breaks and use cooled materials as required to minimize evaporation. Do not apply mortar to substrates with temperatures of 90 deg F and above unless otherwise indicated.

E. For manufactured repair materials, perform work within the environmental limits set by each manufacturer.

F. Clean masonry surfaces only when air temperature is 40 deg F and above and is predicted to remain so for at least 7 days after completion of cleaning.

1.9 COORDINATION

A. Coordinate masonry restoration and cleaning with public circulation patterns at Project site. Some work is near public circulation patterns. Public circulation patterns cannot be closed off entirely, and in places can be only temporarily redirected around small areas of work. Plan and execute the Work accordingly.

1.10 SEQUENCING AND SCHEDULING

A. Order replacement materials at earliest possible date to avoid delaying completion of the Work.

B. Order sand and gray portland cement for pointing mortar immediately after approval of mockups. Take delivery of and store at Project site a sufficient quantity to complete Project.

C. Perform masonry restoration work in the following sequence:
   1. Remove plant and biological growth.
      a. Inspect for open mortar joints and repair before cleaning to prevent the intrusion of water and other cleaning materials into the wall.
   2. Clean masonry surfaces.
   3. Rake out mortar from joints surrounding masonry to be replaced and from joints adjacent to masonry repairs along joints.
   4. Repair masonry, including replacing existing masonry with new masonry materials.
   5. Rake out mortar from joints to be repointed.
   6. Point mortar and sealant joints.
   7. After repairs and repointing have been completed and cured, perform a final cleaning to remove residues from this work.

D. As scaffolding is removed, patch anchor holes used to attach scaffolding. Patch holes in masonry units to comply with "Masonry Unit Patching" Article. Patch holes in mortar joints to comply with "Repointing Masonry" Article.
PART 2 - PRODUCTS

2.1 STONE MATERIALS

A. Stone: Provide natural building stone of variety, color, texture, grain, veining, finish, size, and shape to match existing stone and with physical properties within 10 percent of those determined from preconstruction testing of selected existing stone.
   1. For existing stone that exhibits a range of colors, texture, grain, veining, finishes, sizes, or shapes, provide stone that proportionally matches that range rather than stone that matches an individual color, texture, grain, veining, finish, size, or shape within that range.
   2. Subject to compliance with requirements, provide stone from the original quarry, if possible. Contact Dakota Granite.

B. Quarrying New Stone: Have quarry clearly label the direction of bedding planes when rough stone is quarried, to facilitate cutting stones so that natural bedding planes will be as required in “Cutting New Stone” Paragraph.

C. Cutting New Stone: Regardless of how existing stone was cut and set, cut each new stone so that, when it is set in final position, natural bedding planes are essentially horizontal.

D. Date Identification: Stamp with permanent ink on an interior surface of each new stone in easily read 1/2-inch-high characters, “MADE 20XX.”

E. Salvaged Stone: Salvage existing stone as indicated for reinstallation on the Drawings. Clean off residual mortar.

2.2 MORTAR MATERIALS

A. Portland Cement: ASTM C 150, Type I or Type II, white or gray, or both, where required for color matching of exposed mortar.
   1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C 114.

B. Hydrated Lime: ASTM C 207, Type S.

C. Quicklime: ASTM C 5, pulverized lime.

D. Mortar Sand: ASTM C 144 unless otherwise indicated.
   1. Color: Provide natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.
   2. For pointing mortar, provide sand with rounded edges.
   3. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.

E. Mortar Pigments: Natural and synthetic iron oxides, compounded for mortar mixes. Use only pigments with a record of satisfactory performance in masonry mortars.

F. Water: Potable.
2.3 MANUFACTURED REPAIR MATERIALS

A. Stone Patching Compound: Factory-mixed cementitious product that is custom manufactured for patching stone.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. Edison Coatings, Inc.; Custom System 45.
   2. Use formulation that is vapor- and water permeable (equal to or more than the stone), exhibits low shrinkage, has lower modulus of elasticity than the stone units being repaired, and develops high bond strength to all types of stone.
   3. Use formulation having working qualities and retardation control to permit forming and sculpturing where necessary.
   4. Formulate patching compound in colors, textures, and grain to match stone being patched. Provide sufficient number of colors to enable matching each piece of stone.

B. Cementitious Crack Filler: An ultrafine superplasticized grout that can be injected into cracks, is suitable for application to wet or dry cracks, exhibits low shrinkage, and develops high bond strength to all types of stone.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

C. Stone-to-Stone Adhesive: 2-part polyester or epoxy-resin stone adhesive with a 15- to 45-minute cure at 70 deg F, recommended by adhesive manufacturer for type of stone repair indicated, and matching stone color.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. Two-Part Polyester or Epoxy-Resin Stone Adhesive:
         1) Edison Coatings, Inc.; Flexi-Weld 520T.

D. Masonry Patching Compound: Factory-mixed cementitious product that is custom manufactured for patching masonry.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. Edison Coatings, Inc.; Custom System 45.
   2. Use formulation that is vapor- and water permeable (equal to or more than the masonry unit), exhibits low shrinkage, has lower modulus of elasticity than the masonry units being repaired, and develops high bond strength to all types of masonry.
   3. Use formulation having working qualities and retardation control to permit forming and sculpturing where necessary.

2.4 CLEANING MATERIALS AND EQUIPMENT

A. Water: Potable.

B. Hot Water: Water heated to a temperature of 140 to 160 deg F.

C. Job-Mixed Detergent Solution: Solution prepared by mixing 2 cups of tetrasodium polyphosphate, 1/2 cup of laundry detergent, and 20 quarts of hot water for every 5 gal. of solution required.
D. Job-Mixed Mold, Mildew, and Algae Remover: Solution prepared by mixing 2 cups of tetrasodium polyphosphate, 5 quarts of 5 percent sodium hypochlorite (bleach), and 15 quarts of hot water for every 5 gal. of solution required.

E. Nonacidic Gel Cleaner: Manufacturer's standard gel formulation, with pH between 6 and 9, that contains detergents with chelating agents and is specifically formulated for cleaning masonry surfaces.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. Price Research, Ltd.; Price Marble Cleaner-Gel.
      b. PROSOCO; Sure Klean 942 Limestone and Marble Cleaner.

F. Nonacidic Liquid Cleaner: Manufacturer's standard mildly alkaline liquid cleaner formulated for removing mold, mildew, and other organic soiling from ordinary building materials, including polished stone, brick, aluminum, plastics, and wood.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. Diedrich Technologies Inc.; Diedrich 910PM Polished Marble Cleaner.
      c. Dumond Chemicals, Inc.; Safe n' Easy Architectural Cleaner/Restorer.
      d. Price Research, Ltd.; Price Non-Acid Masonry Cleaner.
      e. PROSOCO; Enviro Klean 2010 All Surface Cleaner.

G. Mild Acidic Cleaner: Manufacturer's standard mildly acidic cleaner containing no muriatic (hydrochloric), hydrofluoric, or sulfuric acid; or ammonium bifluoride or chlorine bleaches.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. ABR Products, Inc.; X-190 Limestone & Concrete Cleaner.
      b. Diedrich Technologies Inc.; Envirorestore 100.
      c. Dominion Restoration Products, Inc.; DR-60 Stone and Masonry Cleaner.
      d. PROSOCO; Enviro Klean BioWash.

H. Acidic Cleaner: Manufacturer's standard acidic masonry cleaner composed of hydrofluoric acid or ammonium bifluoride blended with other acids, detergents, wetting agents, and inhibitors.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. ABR Products, Inc.; 801 Heavy Duty Masonry Cleaner.
      b. Diedrich Technologies Inc.; Diedrich 101 Masonry Restorer or Diedrich 101G Granite, Terra Cotta, and Brick Cleaner.
      c. Dumond Chemicals, Inc.; Safe n' Easy Ultimate Stone and Masonry Cleaner or Safe n' Easy Heavy Duty Restoration Cleaner.
      d. EaCo Chem, Inc.; GS-Restoration or HD-Acid.
      e. Hydroclean, Hydrochemical Techniques, Inc.; Hydroclean Brick, Granite, Sandstone and Terra Cotta Cleaner (HT-626).
      f. Price Research, Ltd.; Price Heavy Duty Restoration Cleaner or Price Restoration Cleaner.
      g. PROSOCO; Enviro Klean Restoration Cleaner, Sure Klean Restoration Cleaner or Sure Klean Heavy-Duty Restoration Cleaner.
I. One-Part Limestone Cleaner: Manufacturer’s standard one-part acidic formulation for cleaning limestone.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. ABR Products, Inc.; X-190 Limestone & Concrete Cleaner.
      b. Hydroclean, Hydrochemical Techniques, Inc.; Hydroclean Limestone and Marble Cleaner and Brightener (HT-907).
      c. Price Research, Ltd.; Price Limestone Restorer.
      d. PROSOCO; Sure Klean Limestone Restorer.

J. Two-Part Limestone Cleaner: Manufacturer’s standard system consisting of potassium or sodium hydroxide based, alkaline prewash cleaner and acidic afterwash cleaner that does not contain hydrofluoric acid.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. ABR Products, Inc.; 500 Limestone Prewash Cleaner followed by 500 Limestone Afterwash.
      b. Diedrich Technologies Inc.; Diedrich 707X Limestone Cleaner Pre-Rinse or Diedrich 808X Black Encrustation Remover - Super Strong followed by 707N Limestone Neutralizer After-Rinse.
      c. Hydroclean, Hydrochemical Techniques, Inc.; Hydroclean Limestone and Marble Precleaner (HT-704) and Hydroclean Limestone and Marble Cleaner and Brightener (HT-907).
      d. Price Research, Ltd.; Price Limestone Pre-Wash followed by Limestone After-Wash System.
      e. PROSOCO; Enviro Klean BioKlean followed by Sure Klean Limestone & Masonry Afterwash or Sure Klean 766 Limestone Prewash followed by SureKlean Limestone & Masonry Afterwash.

K. Brushes: Fiber bristle only.

L. Spray Equipment: Provide equipment for controlling spray application of water and chemical cleaners, if any, at rates indicated for pressure, measured at spray tip, and for volume.
   1. For spray application of chemical cleaners provide low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with cone-shaped spray-tip.
   2. For spray application of water provide fan-shaped spray-tip which disperses water at angle of not less than 15 degrees.
   3. For spray application of heated water provide equipment capable of maintaining temperature, at flow rates indicated, between 140°F and 160°F.

2.5 ACCESSORY MATERIALS

A. Liquid Strippable Masking Agent: Manufacturer’s standard liquid, film-forming, strippable masking material for protecting glass, metal, and polished stone surfaces from damaging effects of acidic and alkaline masonry cleaners.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. PROSOCO; Sure Klean Strippable Masking.
B. Stone Anchors and Pins: Type and size indicated or, if not indicated, to match existing anchors in size and type. Fabricate anchors and pins from Type 304 stainless steel.

C. Masonry Repair Anchors, Expansion Type: Mechanical fasteners designed for masonry veneer stabilization consisting of 1/4-inch-diameter, Type 304 stainless-steel rod with brass expanding shells at each end and water-shedding washer in the middle. Expanding shells shall be designed to provide positive mechanical anchorage to veneer on one end and backup masonry on the other.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. BLOK-LOK Limited; Torq-Lok.
      b. Dur-O-Wal, a division of Dayton Superior; Dur-O-Wal Repair Anchor.
      c. Hohmann & Bamard, Inc.; #521RA-B Restoration Anchor.

D. Masonry Repair Anchors, Spiral Type: Type 304 stainless-steel spiral rods designed to anchor to backing and veneer. Anchors are flexible in plane of veneer but rigid perpendicular to it.
   1. Provide driven-in anchors designed to be installed in drilled holes and relying on screw effect rather than adhesive to secure them to backup and veneer.
   2. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. BLOK-LOK Limited; Spira-Lok.
      b. Dur-O-Wal, a division of Dayton Superior; Dur-O-Flex Friction Pin Anchor.
      c. Heckmann Building Products Inc.; #391 Remedial Tie.
      d. Hohmann & Bamard, Inc.; Helix Spiro-Ties.

E. Masonry Repair Anchors, Rod/Screen Tube Type: Stainless-steel screen tube with or without Type 304 stainless-steel rod, adhesive installed by injection with manufacturer's standard epoxy adhesive, complete with other devices required for installation.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. BLOK-LOK Limited; Chem-Lok.
      b. Hohmann & Bamard, Inc.; #520RA.

F. Sealant Materials:
   1. Provide manufacturer's standard chemically curing, elastomeric sealant(s) of base polymer and characteristics indicated below that comply with applicable requirements in Section 079200 - Joint Sealants.
      a. Multi-component, nonsag urethane sealant.
   2. Colors: Provide colors of exposed sealants to match colors of masonry adjoining installed sealant unless otherwise indicated.

G. Joint-Sealant Backing:
   1. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
   2. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where acceptable.
H. Setting Buttons: Resilient plastic buttons, nonstaining to masonry, sized to suit joint thicknesses and bed depths of masonry units without intruding into required depths of pointing materials.

I. Masking Tape: Nonstaining, nonabsorbent material, compatible with pointing mortar, joint primers, sealants, and surfaces adjacent to joints; that will easily come off entirely, including adhesive.

J. Antirust Coating: Fast-curing, lead- and chromate-free, self-curing, universal modified-alkyd primer complying with MPI #79, Alkyd Anticorrosive Metal Primer or SSPC-Paint 20 or SSPC-Paint 29 zinc-rich coating.
1. Use coating requiring no better than SSPC-SP 2, "Hand Tool Cleaning" surface preparation according to manufacturer's literature or certified statement.

K. Miscellaneous Products: Select materials and methods of use based on the following, subject to approval of a mockup:
1. Previous effectiveness in performing the work involved.
2. Little possibility of damaging exposed surfaces.
3. Consistency of each application.
4. Uniformity of the resulting overall appearance.
5. Do not use products or tools that could do the following:
   a. Remove, alter, or in any way harm the present condition or future preservation of existing surfaces, including surrounding surfaces not in contract.
   b. Leave a residue on surfaces.

2.6 MORTAR MIXES

A. Preparing Lime Putty: Slake quicklime and prepare lime putty according to appendix to ASTM C 5 and manufacturer's written instructions.

B. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
1. Mixing Pointing Mortar: Thoroughly mix cementitious materials and sand together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 15 to 30 minutes. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not retemper or use partially hardened material.

C. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Architect's approval.
1. Mortar Pigments: Where mortar pigments are indicated, do not exceed a pigment-to-cement ratio of 1:10 by weight.

D. Do not use admixtures in mortar unless otherwise indicated.

E. Mortar Proportions: Mix mortar materials in proportions as determined by the preconstruction testing.
1. Proportion setting mortar the same as pointing mortar except mortar pigments are not required.
2.7 CHEMICAL CLEANING SOLUTIONS

A. Dilute chemical cleaners with water to produce solutions not exceeding concentration recommended by chemical-cleaner manufacturer.

B. Acidic Cleaner Solution for Stone: Dilute with water to produce hydrofluoric acid content of 3 percent or less, but not greater than that recommended by chemical-cleaner manufacturer.

PART 3 - EXECUTION

3.1 PROTECTION

A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from masonry restoration work.
   1. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during course of restoration and cleaning work.

B. Comply with chemical-cleaner manufacturer's written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical-cleaning solutions from coming into contact with people, motor vehicles, landscaping, buildings, and other surfaces that could be harmed by such contact.
   1. Cover adjacent surfaces with materials that are proven to resist chemical cleaners used unless chemical cleaners being used will not damage adjacent surfaces. Use materials that contain only waterproof, UV-resistant adhesives. Apply masking agents to comply with manufacturer's written instructions. Do not apply liquid masking agent to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.
   2. Keep wall wet below area being cleaned to prevent streaking from runoff.
   3. Do not clean masonry during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
   4. Neutralize and collect alkaline and acid wastes for disposal off Owner's property.
   5. Dispose of runoff from cleaning operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.

C. Prevent mortar from staining face of surrounding masonry and other surfaces.
   1. Cover sills, ledges, and projections to protect from mortar droppings.
   2. Keep wall area wet below rebuilding and pointing work to discourage mortar from adhering.
   3. Immediately remove mortar in contact with exposed masonry and other surfaces.
   4. Clean mortar splatters from scaffolding at end of each day.

3.2 CLEANING MASONRY, GENERAL

A. Clean masonry by beginning with the gentlest possible methods and cleaning materials as determined by the approved cleaning mockup. Proceed systematically with stronger methods and materials only as required by the conditions and only as approved by the Architect.
B. Proceed with cleaning in an orderly manner; work from bottom to top of the test cleaning area of each scaffold width and from one end of the test area to the other. Ensure that dirty residues and rinse water will not wash over cleaned, dry surfaces.

C. Use only those cleaning methods indicated for each masonry material and location.
   1. Do not use wire brushes or brushes that are not resistant to chemical cleaner being used. Do not use plastic-bristle brushes if natural-fiber brushes will resist chemical cleaner being used.
   2. Use spray equipment that provides controlled application at volume and pressure indicated, measured at spray tip. Adjust pressure and volume to ensure that cleaning methods do not damage masonry.
      a. Equip units with pressure gages.
   3. For chemical-cleaner spray application, use low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with cone-shaped spray tip.
   4. For water-spray application, use fan-shaped spray tip that disperses water at an angle of 25 to 50 degrees.

D. Perform each cleaning method indicated in a manner that results in uniform coverage of all surfaces, including comers, moldings, and interstices, and that produces an even effect without streaking or damaging masonry surfaces.

E. Water Application Methods:
   1. Water-Spray Applications: Unless otherwise indicated, hold spray nozzle at least 12 inches from surface of masonry and apply water in horizontal back and forth sweeping motion, overlapping previous strokes to produce uniform coverage.

F. Chemical-Cleaner Application Methods: Apply chemical cleaners to masonry surfaces to comply with chemical-cleaner manufacturer's written instructions; use brush or spray application. Do not spray apply at pressures exceeding 50 psi. Do not allow chemicals to remain on surface for periods longer than those indicated or recommended by manufacturer.

G. Rinse off chemical residue and soil by working upward from bottom to top of each treated area at each stage or scaffold setting. Periodically during each rinse, test pH of rinse water running off of cleaned area to determine that chemical cleaner is completely removed.
   1. Apply neutralizing agent and repeat rinse if necessary to produce tested pH of between 6.7 and 7.5.

H. After cleaning is complete, remove protection no longer required. Remove tape and adhesive marks.

3.3 PRELIMINARY CLEANING

A. Removing Plant Growth: Completely remove visible plant, moss, and shrub growth from masonry surfaces. Carefully remove plants, creepers, and vegetation by cutting at roots and allowing to dry as long as possible before removal. Remove loose soil and debris from open masonry joints to whatever depth they occur.
B. Preliminary Cleaning: Before beginning general cleaning, remove extraneous substances that are resistant to cleaning methods being used. Extraneous substances include paint, calking, asphalt, and tar.
   1. Carefully remove heavy accumulations of material from surface of masonry with a sharp chisel. Do not scratch or chip masonry surface.
   2. Remove asphalt and tar with solvent-type paint remover.
      b. Apply paint remover only to asphalt and tar by brush without prewetting.
      c. Allow paint remover to remain on surface for 10 to 30 minutes.
      d. Repeat application if needed.

3.4 CLEANING STONE WORK

A. Cold-Water Wash: Use cold water applied by very low-pressure spray.

B. Mold, Mildew, and Algae Removal:
   1. Wet masonry with cold water applied by low-pressure spray.
   2. Apply mold, mildew, and algae remover by brush or very low-pressure spray.
   3. Scrub masonry with medium-soft brushes until mold, mildew, and algae are thoroughly dislodged and can be removed by rinsing. Use small brushes for mortar joints and crevices. Dip brush in mold, mildew, and algae remover often to ensure that adequate fresh cleaner is used and that masonry surface remains wet.
   4. Rinse with cold water applied by very low-pressure spray to remove mold, mildew, and algae remover and soil.
   5. Repeat cleaning procedure above where required to produce cleaning effect established by mockup.

C. Acidic Chemical Cleaning:
   1. Wet masonry with cold water applied by very low-pressure spray.
   2. Apply cleaner to masonry in two applications by brush or very low-pressure spray. Let cleaner remain on surface for period indicated below:
      a. As recommended by chemical-cleaner manufacturer.
   3. Rinse with cold water applied by very low-pressure spray to remove chemicals and soil.
   4. Repeat cleaning procedure above where required to produce cleaning effect established by mockup. Do not repeat more than once

3.5 UNUSED ANCHOR REMOVAL

A. Remove masonry anchors, brackets, wood nailers, and other extraneous items no longer in use unless identified as historically significant or indicated to remain.
   1. Remove items carefully to avoid spalling or cracking masonry.
   2. Where directed, if an item cannot be removed without damaging surrounding masonry, do the following:
      a. Cut or grind off item approximately 3/4 inch beneath surface and core drill a recess of same depth in surrounding masonry as close around item as practical.
      b. Immediately paint exposed end of item with two coats of antirust coating, following coating manufacturer's written instructions and without exceeding manufacturer's recommended dry film thickness per coat. Keep paint off sides of recess.
3. Patch the hole where each item was removed unless directed to remove and replace the masonry unit.

3.6 STONE REMOVAL AND REPLACEMENT

A. At locations indicated, remove stone that has deteriorated or is damaged beyond repair or is indicated to be removed and reinstalled to facilitate repairs to underlying structure. Carefully demolish or remove entire units from joint to joint, without damaging surrounding stone, in a manner that permits replacement with full-size units.

B. Support and protect remaining stonework that surrounds removal area. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.

C. Notify Architect of unforeseen detrimental conditions including voids, cracks, bulges, and loose units in existing stone or unit masonry backup, rotted wood, rusted metal, and other deteriorated items.

D. Remove in an undamaged condition as many whole stone units as possible.
   1. Remove mortar, loose particles, and soil from stone by cleaning with hand chisels, brushes, and water.
   2. Remove sealants by cutting close to stone with utility knife and cleaning with solvents.
   3. Store stone for reuse. Store off ground, on skids, and protected from weather.
   4. Deliver cleaned stone not required for reuse to Owner unless otherwise indicated.

E. Clean stone surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.

F. Replace removed damaged stone with other removed stone and salvaged stone in good quality, where possible, or with new stone matching existing stone, including size. Do not use broken units unless they can be cut to usable size.

G. Install replacement stone into bonding and coursing pattern of existing stone. If cutting is required, use a motor-driven saw designed to cut stone with clean, sharp, unchipped edges. Finish edges to blend with appearance of edges of existing stone.
   1. Maintain joint width for replacement stone to match existing joints.
   2. Use setting buttons or shims to set stone accurately spaced with uniform joints.

H. Set replacement stone with completely filled bed, head, and collar joints. Butter vertical joints for full width before setting and set units in full bed of mortar unless otherwise indicated. Replace existing anchors with new anchors of size and type indicated.
   1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing stonework.
   2. Rake out mortar used for laying stone before mortar sets and point new mortar joints in repaired area to comply with requirements for repointing existing stone, and at same time as repointing of surrounding area.
   3. When mortar is sufficiently hard to support units, remove shims and other devices interfering with pointing of joints.
3.7 SETTING REPLACEMENT DIMENSION STONE WORK WITH MORTAR

A. Set stones in full bed of mortar with vertical joints slushed full, unless otherwise indicated.
   1. Install stone anchors, pins, and dowels where indicated and as required.
   2. Place setting buttons of adequate size, in sufficient quantity, and of same thickness as indicated joint width, to prevent mortar from squeezing out to maintain uniform joint widths. Hold buttons at least one joint width back from face of stones.
   3. Do not set heavy stones or projecting courses until mortar in courses below has hardened sufficiently to resist being squeezed out of joint.
   4. Fill anchor holes with mortar.

B. Rake out mortar from joints to depths of not less than 1/2 inch nor less than that required to expose sound mortar for joints pointed with mortar, or to provide sufficient depth for sealant and sealant backing for joints pointed with sealants.

C. Prepare stone joint surfaces for pointing with mortar by removing dust and mortar particles. Where setting mortar was removed to depths greater than surrounding areas, apply first layer of pointing mortar in layers not greater than 3/8 inch until a uniform depth is formed; compact each layer thoroughly and allow to become thumbprint hard before applying next layer.

D. Point stone joints by placing and compacting pointing mortar in layers not greater than 3/8 inch.

E. Tool joints with a round joiner having a diameter 1/8 inch larger than width of joint, when pointing mortar is thumbprint hard.

3.8 SETTING REPLACEMENT DIMENSION STONE WORK WITH SEALANT JOINTS

A. Examine surfaces indicated to receive stone, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of stone units. Do not proceed with installation until unsatisfactory conditions have been corrected.

B. Attach anchors securely to stones and to backup surfaces.

C. Set stone units with a minimum joint width as indicated to match existing, using spacer bars to maintain uniform joint spacing, being careful not to disturb leveling base. Use string lines to keep straight lines. Select units to blend color and texture variations.

D. Fill anchor holes with sealant.

E. Where dowel holes occur at pressure-relieving joints, provide compressive material above and below dowels.

F. For stones supported on clip or continuous angles, set stones on setting buttons, setting shims, or sheets of resilient low-durometer material.
   1. Place setting buttons of adequate size, in sufficient quantity, and of same thickness as indicated joint width, to maintain uniform joint widths. Hold buttons at least one joint width back from face of stones.
G. Install concealed flashing at continuous shelf angles, lintels, ledges, and similar obstructions to the downward flow of water so as to divert such water to the exterior.

H. Keep cavities open where unfilled space is indicated between back of stone cladding and backup wall; do not fill cavities with mortar or grout.

I. Place weepholes/vents in joints where moisture may accumulate including base of cavity walls, above shelf angles, and flashing. Locate weepholes/vents at intervals not exceeding 2 feet and those serving as vents only, at intervals not exceeding 5 feet horizontally and 20 feet vertically.

J. Install compressible joint filler, backer rod, and sealant at joints as indicated and as specified in Section 079200 - Joint Sealants.

3.9 STONE-FRAGMENT REPAIR

A. Carefully remove cracked or fallen stone fragment indicated to be repaired. Reuse only stone fragment that is in sound condition.

B. Remove soil, loose particles, mortar, and other debris or foreign material, from fragment surfaces to be bonded and from parent stone where fragment had broken off, by cleaning with stiff-fiber brush.

C. Pinning: Before applying adhesive, prepare for mechanical anchorage consisting of 1/4-inch-diameter, stainless-steel pins set into 1/4-inch-diameter holes drilled at a 45-degree downward angle through face of fragment and into parent stone. Center and space pins between 3 and 5 inches apart and at least 2 inches from any edge. Insert pins at least 2 inches into parent stone and 2 inches into fragment with end countersunk at least 3/4 inch from exposed face of fragment.

D. Apply stone-to-stone adhesive to comply with adhesive manufacturer's written instructions. Coat bonding surfaces of fragment and parent stone, completely filling all crevices and voids.

E. Fit stone fragment onto parent stone while adhesive is still tacky and hold fragment securely in place until adhesive has cured. Use shims, clamps, wedges, or other devices as necessary to align face of fragment with face of parent stone.

F. Clean adhesive residue from exposed surfaces and patch chipped areas and exposed drill holes as specified in "Stone Patching" Article.

3.10 CRACK INJECTION

A. General: Comply with cementitious crack-filler manufacturer's written instructions.

B. Drill 1/4-inch-diameter injection holes as follows:
   1. Transverse Cracks Less Than 3/8 inch Wide: Drill holes through center of crack at 12 to 18 inches o.c.
   2. Transverse Cracks More Than 3/8 inch Wide: Drill holes through center of crack at 18 to 36 inches o.c.
   3. Delaminations: Drill holes at approximately 18 inches o.c. both vertically and horizontally.
C. Clean out drill holes and cracks with compressed air and water. Remove dirt and organic matter, loose material, sealants, and failed crack repair materials.

D. Place plastic injection ports in drilled holes and seal face of cracks between injection ports with clay or other nonstaining, removable plugging material. Leave openings at upper ends of cracks for air release.

E. Inject cementitious crack filler through ports sequentially, beginning at one end of area and working to opposite end; where possible, begin at lower end of injection area and work upward. Inject filler until it extrudes from adjacent ports. After port has been injected, plug with clay or other suitable material and begin injecting filler at adjacent port, repeating process until all ports have been injected.

F. Clean cementitious crack filler from face of stone before it sets by scrubbing with water.

G. After cementitious crack filler has set, remove injection ports, plugging material, and excess filler. Patch injection holes and surface of cracks as specified in “Stone Patching” Article.

3.11 STONE PATCHING

A. Patch the following stone units unless another type of replacement or repair is indicated:
   1. Units indicated to be patched.
   2. Units with holes.
   3. Units with chipped edges or corners.
   4. Units with small areas of deep deterioration.

B. Remove and replace existing patches unless otherwise indicated or approved by Architect.

C. Remove deteriorated material and remove adjacent material that has begun to deteriorate. Carefully remove additional material so patch will not have feathered edges but will have square or slightly undercut edges on area to be patched and will be at least 1/4 inch thick, but not less than recommended by patching compound manufacturer.

D. Mask adjacent mortar joint or rake out for repointing if patch will extend to edge of stone unit.

E. Mix patching compound in individual batches to match each stone unit being patched. Combine one or more colors of patching compound, as needed, to produce exact match.

F. Brush-coat stone surfaces with slurry coat of patching compound according to manufacturer's written instructions.

G. Place patching compound in layers as recommended by patching compound manufacturer, but not less than 1/4 inch or more than 2 inches thick. Roughen surface of each layer to provide a key for next layer.
   1. Trowel, scrape, or carve surface of patch to match texture and surrounding surface plane or contour of the stone. Shape and finish surface before or after curing, as determined by testing, to best match existing stone.
2. Build patch up 1/4 inch above surrounding stone and carve surface to match adjoining stone after patching compound has hardened.

H. Keep each layer damp for 72 hours or until patching compound has set.

I. Remove and replace patches with hairline cracks or that show separation from stone at edges, and those that do not match adjoining stone in color or texture.

3.12 REANCHORING VENEERS

A. Install masonry repair anchors in horizontal mortar joints and according to manufacturer's written instructions. Install at not more than 16 inches o.c. vertically and 32 inches o.c. horizontally unless otherwise indicated. Install at locations to avoid penetrating flashing.

B. Recess anchors at least 5/8 inch from surface of mortar joint and fill recess with pointing mortar.

3.13 PAINTING STEEL UNCOVERED DURING THE WORK

A. Inspect steel exposed during masonry removal. Where Architect determines that it is structural, or for other reasons cannot be totally removed, prepare and paint it as follows:
   1. Remove paint, rust, and other contaminants according to SSPC-SP 2, "Hand Tool Cleaning", SSPC-SP 3, "Power Tool Cleaning" or SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning", as applicable to meet paint manufacturer's recommended preparation.
   2. Immediately paint exposed steel with two coats of antirust coating, following coating manufacturer's written instructions and without exceeding manufacturer's recommended rate of application (dry film thickness per coat).

B. If on inspection and rust removal, the cross section of a steel member is found to be reduced from rust by more than 1/16 inch, notify Architect before proceeding.

3.14 REPOINTING MASONRY

A. Rake out and repoint joints to the following extent:
   1. All joints as indicated.

B. Rake out joints as follows, according to procedures demonstrated in approved mockup:
   1. Remove mortar from joints to depth of 2-1/2 times joint width, but not less than 1/2 inch or not less than that required to expose sound, unweathered mortar.
   2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
   3. Do not spall edges of masonry units or widen joints. Replace or patch damaged masonry units as directed by Architect.
      a. Cut out mortar by hand with chisel and resilient mallet. Do not use power-operated grinders without Architect's written approval based on approved quality-control program.
C. Notify Architect of unforeseen detrimental conditions including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted metal, and other deteriorated items.

D. Pointing with Mortar:
   1. Rinse masonry joint surfaces with water to remove any dust and mortar particles. Time application of rinsing so that, at time of pointing, excess water has evaporated or run off, and joint surfaces are damp but free of standing water.
   2. Apply first layer of pointing mortar to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8 inch until a uniform depth is formed. Compact each layer thoroughly and allow to become thumbprint-hard before applying next layer.
   3. After joints have been filled to a uniform depth, place remaining pointing mortar in 3 layers with each of first and second layers filling approximately 2/5 of joint depth and third layer the remaining 1/5. Fully compact each layer and allow to become thumbprint-hard before applying next layer. Where existing units have rounded edges recess final layer slightly from face. Take care not to spread mortar over edges onto exposed masonry surfaces, or to featheredge mortar.
   4. When mortar is thumbprint hard, tool joints to match original appearance of joints, unless otherwise indicated. Remove excess mortar from edge of joint by brushing.
      a. Match existing mortar joint profiles.
   5. Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours including weekends and holidays.
   6. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.

E. Pointing with Sealant:
   1. After raking out, rinse masonry joint surfaces with water to remove any dust and mortar particles. Time application of rinsing so that, at time of pointing, excess water has evaporated or run off, and joint surfaces are damp but free of standing water.
   2. Apply first layer of pointing mortar to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8 inch until a uniform depth is formed. Compact each layer thoroughly and allow to become thumbprint-hard before applying next layer.
   3. After joints have been filled to a uniform depth as required for installation of sealant backer or bond breaker as detailed and specified, allow to cure.
   4. Clean and prepare joint surfaces according to Section 079200 - Joint Sealants. Prime joint surfaces unless sealant manufacturer recommends against priming. Do not allow primer to spill or migrate onto adjoining surfaces.
   5. Fill sealant joints with specified joint sealant according to Section 079200 - Joint Sealants and the following:
      a. Install cylindrical sealant backing beneath the sealant, except where space is insufficient. There, install bond-breaker tape.
      b. Install sealant using only proven installation techniques that will ensure that sealant will be deposited in a uniform, continuous ribbon, without gaps or air pockets, and with complete wetting of the joint bond surfaces equally on both sides. Fill joint flush with surrounding masonry and matching the contour of adjoining mortar joints.
c. Install sealant as recommended by sealant manufacturer but within the following general limitations, measured at the center (thin) section of the bead:
   1) Fill joints to a depth equal to joint width, but not more than 1/2 inch deep or less than 1/4 inch deep.

d. Do not allow sealant to overflow or spill onto adjoining surfaces, or to migrate into the voids of adjoining surfaces, particularly rough textures. Remove excess and spillage of sealant promptly as the work progresses. Clean adjoining surfaces by the means necessary to eliminate evidence of spillage, without damage to adjoining surfaces or finishes, as demonstrated in an approved mockup.

6. Cure sealant according to Section 079200 - Joint Sealants.

3.15 FINAL CLEANING

A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water, spray applied at low pressure.
   1. Do not use metal scrapers or brushes.
   2. Do not use acidic or alkaline cleaners.

B. Wash adjacent woodwork and other nonmasonry surfaces. Use detergent and soft brushes or cloths.

C. Clean mortar and debris from roofs; remove debris from gutters and downspouts. Rinse off roof and flush gutters and downspouts.

D. Sweep and rake adjacent pavement and grounds to remove mortar and debris. Where necessary, pressure wash pavement surfaces to remove mortar, dust, dirt, and stains.

3.16 FIELD QUALITY CONTROL

A. Architect’s Project Representatives: Architect will assign Project representatives to help carry out Architect’s responsibilities at the site, including inspection and documentation of existing conditions and failures, as well as observing progress and quality of testing and sample portions of the Work. Allow Architect’s Project representatives use of lift devices and scaffolding, as needed, to observe progress and quality of portion of the Work uncovered and testing completed.

B. Notify Architect’s Project representatives in advance of times when lift devices and scaffolding will be relocated. Do not relocate lift devices and scaffolding until Architect’s Project representatives have had reasonable opportunity to make inspections and observations of work areas at lift device or scaffold location.
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. To include rough hardware, loose bearing and leveling plates, loose steel lintels, miscellaneous steel trim.

B. Related Requirements:
   1. Section 04 42 00 Exterior Stone Cladding

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. Paint products.

B. Sustainable Design Submittals:
   1. Product Data: For recycled content, indicating postconsumer and preconsumer recycled content and cost.

C. Shop Drawings: Show fabrication and installation details. Provide Shop Drawings for the following:
   1. Steel framing and supports for countertops.
   2. Steel framing and supports for applications where framing and supports are not specified in other Sections.
   3. Metal ships' ladders.
   4. Loose steel lintels.

1.5 INFORMATIONAL SUBMITTALS

A. Welding certificates.
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."
   2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
   3. AWS D1.6/D1.6M, "Structural Welding Code - Stainless 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. 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. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

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

D. Stainless-Steel Sheet, Strip, and Plate: ASTM A 240/A 240M or ASTM A 666, Type 304.

E. Slotted Channel Framing: Cold-formed metal box channels (struts) complying with MFMA-4.
   1. Size of Channels: As indicated.
   2. Material: Cold-rolled steel, ASTM A 1008/A 1008M, commercial steel, Type B.

2.3 MISCELLANEOUS MATERIALS

A. Shop Primers: Provide primers that comply with Section 09 91 13 "Exterior Painting," Section 09 91 23 Interior Painting," and Section 09 96 00 "High-Performance Coatings."
2.4  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.

2.5  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.

C. Prime miscellaneous framing and supports with zinc-rich primer where indicated.

2.6 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 as indicated on Drawings, but not less than 8 inches unless otherwise indicated.

C. Galvanize loose steel lintels located in exterior walls.

2.7 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.

2.8 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. Shop prime iron and steel items unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.

C. Preparation for Shop Priming: Prepare surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."

D. 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.

F. Corrosion Protection: Coat concealed surfaces of aluminum that come into contact with grout, concrete, masonry, wood, or dissimilar metals with the following:
1. Extruded Aluminum: Two coats of clear lacquer.

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 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. Touchup Painting: Cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint are specified in Section 09 91 23 "Interior Painting."

END OF SECTION
PART 1 GENERAL

1.1 CONTRACT CONDITIONS

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

1.2 SECTION INCLUDES

A. Concealed wood blocking, nailers, and supports.

B. Miscellaneous wood nailers, furring, and grounds.

1.3 REFERENCE STANDARDS

A. ANSI/ASME Standard B18.2.1 - Square and Hex Bolts and Screws (Inch Series); 1981

B. ANSI/ASME Standard B18.6.1 - Wood Screws (Inch Series); 1981


D. ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength; 2002


1.4 SUBMITTALS

A. See Division 1 for submittal procedures.

B. Product Data: Provide technical data on metal framing connectors and power-driven fasteners.

1.5 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS
2.1 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. Species as indicated below for each use.
   2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

B. Lumber fabricated from old growth timber is not permitted.

2.2 DIMENSION LUMBER

A. Sizes: Nominal sizes as indicated on drawings, S4S.

B. Moisture Content: S-dry or MC 19.

C. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, SPF Grade No. 2.

2.3 ACCESSORIES

A. Fasteners and Anchors:
   1. Metal and Finish: Hot-dipped galvanized steel per ASTM A 153/A 153M or stainless steel for high humidity and treated wood locations and to match finish on metal connectors, unfinished steel elsewhere.
   2. Nails: ASTM F1667, common wire nails, unless otherwise specified.
   4. Lag Screws: ANSI/ASME Standard B18.2.1

B. Metal Framing Connectors: Includes hangers and framing angles. Hot dipped galvanized steel, sized to suit framing conditions.

2.4 SOURCE QUALITY CONTROL

A. Provide dimension lumber with each piece factory marked with grade stamp of an accredited grading agency identifying grade, species, and moisture content at
time of surfacing.

PART 3 EXECUTION

3.1 PREPARATION
A. Coordinate installation of rough carpentry members specified in other sections.

3.2 INSTALLATION - GENERAL
A. Select material sizes to minimize waste.

3.3 FRAMING INSTALLATION
A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.
B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.
C. Install structural members full length without splices unless otherwise specifically detailed.
D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by AFPA Wood Frame Construction Manual and [IBC Table 2304.9.1].
E. Strictly comply with manufacturer's installation instructions for product installation. Install all bolts and nails in metal framing connectors.

3.4 BLOCKING, NAILERS, AND SUPPORTS
A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
B. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.

3.5 CLEANING
A. After erection and attachment of lumber, remove clay, mud, or other foreign materials from all members.
B. Waste Disposal: Comply with the requirements of Section 01 7419.
1. Comply with applicable regulations.

2. Do not burn scrap on project site.

3. Do not burn scraps that have been pressure treated.

4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

C. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.

D. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION
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. Urethane joint sealants.
   2. Butyl joint sealants.

1.3 ACTION SUBMITTALS

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

B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

C. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch-wide joints formed between two 6-inch-long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

D. Joint-Sealant Schedule: Include the following information:
   1. Joint-sealant application, joint location, and designation.
   2. Joint-sealant manufacturer and product name.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

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

C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.

D. Sample Warranties: For special warranties.
1.5 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

B. Product Testing: Test joint sealants using a qualified testing agency.
   1. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

C. Preinstallation Conference: Conduct conference at Project site.

D. Mock-Up: Demonstrate surface preparation techniques and workmanship of sealant application.
   1. Prepare and install minimum 2-foot long, mock-ups sealant joint for each type of joint and surface using procedures, tools, materials, equipment intended for actual surface preparation and application.
   2. Prior to installing exterior sealants, field test sealants adhesion to actual Project joint substrates as follows:
      a. Notify Architect seven days in advance of dates and times when test joints will be performed.
      b. Arrange for manufacturer's technical representative to observe, monitor, and review the mock-up process.
      c. Test sealant per Field Quality Control requirements in Part 3 of this Section.
   3. Observe sealant for surface staining or discoloration.
   4. Retain approved mock-ups as intended standards for the duration of the Project.

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: 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 warranties specified in this Article exclude deterioration or failure of joint sealants from the following:
   1. Movement of the structure caused by 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 JOINT SEALANTS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

C. 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.

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

2.2 URETHANE JOINT SEALANTS

A. Urethane, M, NS, 25, NT: Multicomponent, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, urethane joint sealant; ASTM C 920, Type M, Grade NS, Class 25, Use NT.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
   a. BASF Corporation-Construction Systems; MasterSeal NP 2.
   c. Pecora Corporation; Dynatred.
   d. Sika Corporation; Sikaflex - 2c NS.

2.3 BUTYL JOINT SEALANTS

A. Butyl-Rubber-Based Joint Sealants: ASTM C 1311.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
   b. Pecora Corporation; BC-158.
2.4 JOINT SEALANT BACKING

A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
   1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
      a. BASF Corporation-Construction Systems.
      b. Construction Foam Products, a division of Nomaco, Inc.

B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), 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.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

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 performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.
3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
   1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
   2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
      a. Concrete.
      b. Masonry.
   3. Remove laitance and form-release agents from concrete.
   4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
      a. Metal.
      b. Glass.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM 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 bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
   1. Place sealants so they directly contact and fully wet joint substrates.
   2. Completely fill recesses in each joint configuration.
   3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
   1. Remove excess sealant from surfaces adjacent to joints.
   2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
   3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
   4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.
   5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C 1193.
      a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.4 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
   1. Extent of Testing: Test completed and cured sealant joints as follows:
      a. Perform 10 tests for the first 1000 feet of joint length for each kind of sealant and joint substrate.
      b. Perform 1 test for each 1000 feet of joint length thereafter or 1 test per each floor per elevation.
      a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
   3. Inspect tested joints and report on the following:
      a. Whether sealants filled joint cavities and are free of voids.
      b. Whether sealant dimensions and configurations comply with specified requirements.
      c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field-adhesion hand-pull test criteria.
   4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.
5. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

B. Evaluation of Field-Adhesion Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

C. Sealants failing adhesion test shall be removed, substrates cleaned, sealants reinstalled, and re-testing performed.

D. Maintain test log and submit report to Architect indicating tests, locations, dates, results, and remedial actions.

3.5 CLEANING

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

3.6 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.7 JOINT-SEALANT SCHEDULE

   1. Joint Locations:
      a. Joints as indicated on Drawings.
   3. Joint-Sealant Colors: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Concealed mastics.
   1. Joint Locations:
      a. Joints as indicated on Drawings.
   3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 079200
SECTION 08 80 00
GLASS & GLAZING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes:
1. Glass for doors and lites.
2. Glazing sealants and accessories.

1.3 DEFINITIONS

A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as
defined in referenced glazing publications.
B. Glass Thicknesses: Indicated by thickness designations in millimeters according to
ASTM C 1036.
D. Interspace: Space between lites of an insulating-glass unit.

1.4 COORDINATION

A. Coordinate glazing channel dimensions to provide necessary bite on glass, minimum
edge and face clearances, and adequate sealant thicknesses, with reasonable
tolerances.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.
B. Glass Samples: For each type of glass product other than clear monolithic vision glass
the following products; 12 inches square.
   1. Insulating glass.
C. Glazing Accessory Samples: For sealants and colored spacers, in 12-inch lengths. Install
   sealant Samples between two strips of material representative in color of the adjoining
   framing system.
D. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.

E. Delegated-Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturers of insulating-glass units with sputter-coated, low-E coatings.

B. Product Certificates: For glass.

C. Product Test Reports: For insulating glass and glazing sealants, for tests performed by a qualified testing agency.
   1. For glazing sealants, provide test reports based on testing current sealant formulations within previous 36-month period.

D. Sample Warranties: For special warranties.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications for Insulating-Glass Units with Sputter-Coated, Low-E Coatings: A qualified insulating-glass manufacturer who is approved and certified by coated-glass manufacturer.

B. Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

C. Glass Testing Agency Qualifications: A qualified independent testing agency accredited according to the NFRC CAP 1 Certification Agency Program.

D. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

B. Comply with insulating-glass manufacturer's written instructions for venting and sealing units to avoid hermetic seal ruptures due to altitude change.
1.9 FIELD CONDITIONS

A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.
   1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or are below 40 deg F.

1.10 WARRANTY

A. Manufacturers’ Warranty for Tempered Safety Glass: Provide written manufacturers’ warranties for replacement of deteriorated tempered safety glass, associated glazing product accessories and units, due to normal conditions of use and not to handling, installation, protection and maintenance practices contrary to the glass manufacturers’ published instructions. Defects shall include edge seal separation, delamination, cracks, blemishes or material obstructing vision through the glass. Should any defect develop during warranty period, the Contractor shall replace the glass, pay for the cost of replacement labor, including all incidental costs as a result of breakage. Costs of such Work shall be borne by the defective product manufacturer. Provide written warranties for a ten (10) year warranty period from the date of final Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:
   1. Viracon.
   2. Oldcastle BuildingEnvelope.

B. Source Limitations for Glass: Obtain from single source from single manufacturer for each glass type.
   1. Obtain tinted glass from single source from single manufacturer.

C. Source Limitations for Glazing Accessories: Obtain from single source from single manufacturer for each product and installation method.

2.2 PERFORMANCE REQUIREMENTS

A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
B. Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design glazing.

C. Structural Performance: Glazing shall withstand the following design loads within limits and under conditions indicated determined according to the IBC and ASTM E 1300.
   1. Design Wind Pressures: As indicated on Drawings.
   2. Design Wind Pressures: Determine design wind pressures applicable to Project according to ASCE/SEI 7, based on heights above grade indicated on Drawings.
      a. Wind Design Data:
      b. Basic Wind Speed: 90 mph.
      c. Importance Factor: 1.0.
      d. Exposure Category: B.
   3. Maximum Lateral Deflection: For glass supported on all four edges, limit center-of-glass deflection at design wind pressure to not more than 1/50 times the short-side length or 1 inch, whichever is less.

D. Windborne-Debris-Impact Resistance: Exterior glazing shall comply with basic-protection testing requirements in ASTM E 1996 for Wind Zone 2 when tested according to ASTM E 1886.

E. Safety Glazing: Where safety glazing is indicated, provide glazing that complies with 16 CFR 1201, Category II.

F. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:
   1. U-Factors: Center-of-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as Btu/sq. ft. x h x deg F.
   2. Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
   3. Visible Reflectance: Center-of-glazing values, according to NFRC 300.

2.3 GLASS PRODUCTS, GENERAL

A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below unless more stringent requirements are indicated. See these publications for glazing terms not otherwise defined in this Section or in referenced standards.
   2. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction or manufacturer. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.
   3. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of IGCC.
D. **Thickness:** Where glass thickness is indicated, it is a minimum. Provide glass that complies with performance requirements and is not less than the thickness indicated.
   1. **Minimum Glass Thickness for Exterior Lites:** 1/4”.

E. **Strength:** Where annealed float glass is indicated, provide annealed float glass, heat-strengthened float glass, or fully tempered float glass as needed to comply with “Performance Requirements” Article. Where heat-strengthened float glass is indicated, provide heat-strengthened float glass or fully tempered float glass as needed to comply with “Performance Requirements” Article. Where fully tempered float glass is indicated, provide fully tempered float glass.

### 2.4 GLASS PRODUCTS

A. **Clear Annealed Float Glass:** ASTM C 1036, Type I, Class 1 (clear), Quality-Q3.

### 2.5 INSULATING GLASS

A. **Insulating-Glass Units:** Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, qualified according to ASTM E 2190.
   1. **Sealed Low “E” Coated Insulating Glass Units:** Preassembled units complying with ASTM E 774 and with other requirements indicated.
   2. **For properties of individual glass lites making up units, refer to requirements specified elsewhere in this Section applicable to glass products comprising lites of insulating glass units.
   3. **Provide heat-treated, coated float glass of kind indicated or, if not otherwise indicated, Kind HS where recommended by manufacturer to comply with system performance requirements specified and Kind FT where safety glass is designed or required. Permanently marked with a certification label of Safety Glazing Certification Council or other certifying agency acceptable to the building official. The designation marking shall be of a type that once applied cannot be removed without destroying the glass.
   4. **Glass manufacturer’s warranty shall guarantee insulating glass seal, deterioration of coated glass, deterioration of laminated glass and deterioration of insulating glass for a period of ten years after the Date of Substantial Completion. Guarantee shall be in writing and delivered to the A/E for transmittal to the Owner.
   5. **Insulating glass units shall be dual-sealed with primary and secondary seals.
   6. **Argon filled, hermetically sealed.** Sealed Insulating Glass Units to be double sealed with a primary seal of polyisobutylene and a secondary seal of silicone. Lites shall be separated by Viracon Extremedge warm edge spacer with bent corners and straight butyl injected zinc plated steel straight key joints.
   7. **Daylight Transmittance – 67%**
   8. **Daylight Reflectance – 29%**
   9. **U Value Summer – 0.26.**
   10. **U Value Winter – 0.29.**
   11. **Shading Coefficient – 0.43.**
   12. **Relative Heat Gain – 90.**
2.6 GLAZING SEALANTS

A. General:
   1. Compatibility: Compatible with one another and with other materials they contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
   2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
   3. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.

B. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.
   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
      a. Dow Coming Corporation.
      b. Sika Corporation.
      c. Tremco Incorporated.
   2. Applications: Hollow metal doors and sectional doors.

2.7 GLAZING TAPES

A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; non-staining and non-migrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
   1. AAMA 804.3 tape, where indicated.
   2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
   3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

B. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:
   1. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.
   2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.8 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with referenced glazing standard, with requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.
C. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.

D. Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

F. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

2.9 FABRICATION OF GLAZING UNITS

A. Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

1. Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.

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

B. Clean-cut or flat-grind vertical edges of butt-glazed monolithic lites to produce square edges with slight chamfers at junctions of edges and faces.

C. Grind smooth and polish exposed glass edges and comers.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine framing, glazing channels, and stops, with Installer present, for compliance with the following:

1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at comers.

2. Presence and functioning of weep systems.

3. Minimum required face and edge clearances.

4. Effective sealing between joints of glass-framing members.

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

3.2 PREPARATION

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

3.3 GLAZING, GENERAL

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass includes glass with edge damage or other imperfections that, when installed, could weaken glass, impair performance, or impair appearance.

C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.

D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

F. Provide spacers for glass lites where length plus width is larger than 50 inches.
   1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
   2. Provide 1/8-inch minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

G. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

H. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

I. Set glass lites with proper orientation so that coatings face exterior or interior as specified.

J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.

K. Square cut wedge-shaped gaskets at comers and install gaskets in a manner recommended by gasket manufacturer to prevent comers from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.
3.4 TAPE GLAZING

A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.

B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.

C. Cover vertical framing joints by applying tapes to heads and sills first, then to jambs. Cover horizontal framing joints by applying tapes to jambs, then to heads and sills.

D. Place joints in tapes at comers of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.

E. Do not remove release paper from tape until right before each glazing unit is installed.

F. Apply heel bead of elastomeric sealant.

G. Center glass lites in openings on setting blocks, and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at comers and work toward centers of openings.

H. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.5 CLEANING AND PROTECTION

A. Immediately after installation remove nonpermanent labels and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains.
   1. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer. Remove and replace glass that cannot be cleaned without damage to coatings.

C. Remove and replace glass that is damaged during construction period.

D. Wash glass on both exposed surfaces not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

3.6 INSULATING GLASS SCHEDULE

A. Glass Type: Low-E-coated, clear insulating glass.
   2. Overall Unit Thickness: 1 inch
   3. Minimum Thickness of Each Glass Lite: 1/4".
   4. Outdoor Lite: Fully tempered float glass.
5. Interspace Content: Argon.
6. Indoor Lite: Fully tempered float glass.
7. Low-E Coating: on #4 surface.
10. Visible Light Transmittance: 70 percent minimum.
12. Safety glazing required.

END OF SECTION
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 the application of paint systems on interior substrates including but not limited to:

1. Steel and iron.
2. Galvanized metal.

B. Related Requirements:

1. Section 05 50 00 - Metal Fabrications

1.3 DEFINITIONS

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

1.4 ACTION SUBMITTALS

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

1. Include Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
2. Indicate VOC content.

B. Samples for Initial Selection: For each type of topcoat product.

C. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.

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

D. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.
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. Paint: Provide, not less than 1 gal. of each material and color applied.

1.6 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system.
   a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft.
   b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.
   a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 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.

1.8 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.

B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
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. Diamond Vogel Paints.
3. Pratt & Lambert.

2.2 PAINT, GENERAL

A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."

B. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

C. Emissions Requirements: Field-applied paints and coatings that are inside the weatherproofing system shall comply with either of the following:

2. VOC content shall not exceed limits of authorities having jurisdiction and the following:

   D. Flat Coatings: 50 g/L.

   E. Colors: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
1. Concrete: 12 percent.
2. Masonry (Clay and CMUs): 12 percent.
3. Gypsum Board: 12 percent.

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

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. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

D. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:

1. SSPC-SP 11.

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

F. 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 paints.

G. Aluminum Substrates: Remove loose surface oxidation.
3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
   1. Use applicators and techniques suited for paint and substrate indicated.
   2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
   3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
   4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
   5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

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

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

D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
   1. Contractor shall touch up and restore painted surfaces damaged by testing.
   2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

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

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

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 EXTERIOR PAINTING SCHEDULE

A. Exterior:

1. Ferrous Metal (existing and new metal):
   a. Spot Prime: Rust-inhibitive waterborne self cross-linking acrylic primer
      DFT: 2.0 – 4.0 mils
      Min. Volume Solids: 39%
      i. S-W Pro-Cryl Universal Primer B66_310
   b. 2nd Coat: Non-blocking, acrylic, semi-gloss
   c. 3rd Coat: Non-blocking, acrylic, semi-gloss
      Pencil Hardness (ASTM D3363): H or harder
      Min. DFT: 1.3 mils per coat
      Min. Volume Solids: 33%
      Sheen: 34-45 units @ 60 degrees
      i. S-W PRO Industrial Pre-Catalyzed Waterbased Epoxy (K46-150 Series Semi-Gloss)

2. Zinc-coated metal:
   a. Spot Prime: Rust-inhibitive waterborne self cross-linking acrylic primer
      DFT: 2.0 – 4.0 mils
      Min. Volume Solids: 39%
      i. S-W Pro-Cryl Universal Primer B66_310
   b. 2nd Coat: Non-blocking, acrylic, semi-gloss
   c. 3rd Coat: Non-blocking, acrylic, semi-gloss
      Pencil Hardness (ASTM D3363): H or harder
      Min. DFT: 1.3 mils per coat
      Min. Volume Solids: 33%
      Sheen: 34-45 units @ 60 degrees
      i. S-W PRO Industrial Pre-Catalyzed Waterbased Epoxy (K46-150 Series Semi-Gloss)

END OF SECTION