

**PROJECT MANUAL**

**COURTYARD RENOVATION  
UNION SQUARE CONDOMINIUMS  
CHICAGO, ILLINOIS 60654**

BTC Project: 22-735  
May 3, 2024

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1845 East Rand Road, Suite L-100  
Arlington Heights, Illinois 60004

**Building Technology Consultants, Inc.**

DOCUMENT 00 01 08

PROJECT DIRECTORY

PROJECT NAME: Courtyard Renovation  
Union Square Condominiums

LOCATION: 333 West Hubbard Street  
Chicago, Illinois 60654

OWNER: Union Square Condominium Association  
333 West Hubbard Street  
Chicago, Illinois 60654

MANAGING AGENT: FirstService Residential  
333 West Hubbard Street  
Chicago, Illinois 60654  
Owner's Agent: Christopher Scheeler  
Phone: (312) 494-9306  
  
E-mail: Christopher.scheeler@fsresidential.com

ENGINEER: Building Technology Consultants, Inc. (BTC)  
1845 East Rand Road, Suite L-100  
Arlington Heights, Illinois 60004  
  
Project Manager: Charlie Sietmann  
Direct: (847) 454-8823  
Main: (847) 454-8800  
Fax: (847) 454-8801  
E-mail: csietmann@btc.expert

END OF PROJECT DIRECTORY

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END OF SECTION

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INVITATION TO BID AND INSTRUCTIONS TO BIDDERS

DATE: May 3, 2024

BTC PROJECT NO.: 22-735

ENGINEER: Building Technology Consultants, Inc. (BTC)  
1845 East Rand Road, Suite L-100  
Arlington Heights, Illinois 60004  
Phone: (847) 454-8800 Fax: (847) 454-8801  
Project Manager: Charlie Sietmann, (847) 454-8823

PROJECT: Courtyard Renovation  
Union Square Condominiums  
333 West Hubbard Street  
Chicago, Illinois 60654

ARTICLE 1 - GENERAL

- 1.1 Description: You are invited to bid on a General Contract for Courtyard Renovation at the referenced project. Bids shall be on a Stipulated Sum basis. This project includes renovation of the existing courtyard, including removal and replacement of the existing waterproofing system, overburden, and landscaping, as well as miscellaneous masonry repairs.
- 1.2 Bid Opening: Union Square Condominium Association will receive Bids until TBD. Bids received after this time will not be accepted. Bids will be opened privately.
- 1.3 Procurement of Documents: Electronic copies of Procurement Documents will be sent to bidders of record in electronic Portable Document Format (pdf).
- 1.4 Bid Security: Bid security in the amount of 10% of the Bid must accompany each Bid in accordance with Article 6 – Bidding Procedures.

ARTICLE 2 - DEFINITIONS

- 2.1 Procurement Documents include the "Procurement and Contracting Requirements," "General Requirements", Division 02 through 49 of the technical specifications as enumerated in the Table of Contents, and Drawings
- 2.2 Addenda are written or graphic instruments issued by Engineer prior to execution of Contract and which modify or interpret Procurement Documents by additions, deletions, clarifications, or corrections.



- 2.3 Base Bid is the sum stated in the Bid Form for which Bidder agrees to perform the Work described in Procurement Documents.
- 2.3.1 An Alternate Bid (or Alternate) is an amount stated in the Bid Form to be added to or deducted from amount of the Base Bid if corresponding change in the Work, as described in Alternate Bid in the Procurement Documents is accepted.
- 2.3.2 A Unit Price is an amount stated in the Bid Form as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, as described in Procurement Documents. Refer to "General Requirements" for specifics to be included in each Unit Price. Adjustments to any Unit Price due to an increase or decrease in quantities will not be allowed. Bid amount for each unit price shall include all related items to that work including, but not necessarily limited to, labor, material, access, scaffolding, canopies, protection, finishes, temporary facilities and controls, and all other items necessary for proper performance and completion of unit price work.
- 2.4 Definitions set forth in General Conditions of Contract for Construction, AIA Document A201-2017.

### ARTICLE 3 - BIDDER'S REPRESENTATIONS

- 3.1 By submitting a Bid, Bidder represents that it has read and understands Procurement Documents, has visited the Project Site, and has become familiar with local conditions under which the Work is to be performed, and attests that the Bid is based upon materials, equipment, and systems required by Procurement Documents.
- 3.2 Preparation of Bid Form:
- 3.2.1 All blank spaces on the Bid Form must be filled in, including Addenda, if any are issued during the bid period, in order for the Bid to be valid.
- 3.2.2 Alternate Bids: Spaces for Alternate Bids should be filled in with the amount increased or decreased to the Base Bid. If in the Contractor's opinion the Alternate Bid is impractical, improper, or unsuitable for this Project, enter the words "NO BID".
- 3.2.3 All bid amounts for Base Bid and Alternates shall be given in both words and figures. In the event of a discrepancy between the words and figures, the words shall govern.
- 3.2.4 Each Bidder must base their bid on materials and equipment described in the Contract Documents.
1. The amount of the Base Bid must include, but not necessarily be limited to the following:

- a. All taxes, excises, or other charges by Federal, State, County, Township; or Municipal Governments;
- b. All fees for royalties and patents;
- c. All temporary facilities and controls as required;
- d. All permits and required certifications;
- e. All disposal fees;
- f. Credit for salvaged materials;
- g. Labor;
- h. Material;
- i. Access;
- j. Scaffolding;
- k. Canopies;
- l. Protection;
- m. Finishes; and
- n. All other items necessary for proper performance and completion of work.

#### ARTICLE 4 - PROCUREMENT DOCUMENTS

- 4.1 In making copies of Procurement Documents available, Owner and Engineer do so only for purpose of obtaining Bids on Work and do not confer a license or grant permission for any other use of Procurement Documents.
- 4.2 Bidder shall carefully study and compare Procurement Documents with each other and with other work to extent that it relates to Work for which Bid is submitted, and shall at once report to Engineer errors, inconsistencies, or ambiguities discovered.
  - 4.2.1 Bidders requiring clarification or interpretation of Procurement Documents shall make a written request that shall reach Engineer at least 7 days prior to date for receipt of Bids.
- 4.3 Interpretations, corrections, and changes of Procurement Documents will be made by Addenda, and will be numbered. Any and all Addenda shall be incorporated as part of the Procurement Documents and shall supersede all previous information in these documents they affect. Interpretations, corrections, and changes of Procurement Documents made in any other manner are void.

- 4.4 Materials, products, and equipment described in Procurement Documents establish a standard of required function, dimension, appearance, and quality. Any proposed substitution shall be based on same level of function, dimension, appearance, and quality.
- 4.4.1 No substitutions will be considered prior to receipt of Bids.
- 4.4.2 No substitutions will be considered after Contract award unless specifically provided in Procurement Documents.
- 4.5 Addenda will be mailed or delivered to all known Bidders of Record.
- 4.6 No Addenda will be issued less than 4 days prior to date for receipt of Bids. Addendum withdrawing request for Bids or postponement of Bid due date may be issued less than 4 days prior to Bid due date.

#### ARTICLE 5 - PRE-BID INFORMATION

- 5.1 Bidders shall attend a pre-bid meeting, to be held TBD. At that time, site conditions may be examined, and Engineer will be available to answer questions. The pre-bid meeting will be held at the site. Attendance at the pre-bid meeting will be mandatory.
- 5.2 Bidder shall coordinate pre-bid site access with Owner's Representative at the following contact information:

Christopher Scheeler  
Christopher.scheeler@fsresidential.com  
(312) 494-9306

#### ARTICLE 6 - BIDDING PROCEDURES

- 6.1 Bids shall be submitted on Bid Form included with Procurement Documents. All blanks on Bid Form shall be filled in ink. Interlineations, alterations, and erasures must be initialed by signer of the Bid.
- 6.2 Submitted Bids shall include a Subcontractor Listing (names of persons or entities, including those who are to furnish materials or equipment fabricated to a special design, proposed for principal portions of Work).
- 6.3 The Bid shall include legal name of Bidder and a statement that Bidder is a sole proprietor, partnership, corporation, or other legal entity. The Bid shall be signed by person or persons legally authorized to bind Bidder to a contract. A Bid by a corporation shall further give state of incorporation and have corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached certifying agent's authority to bind the Bidder.
- 6.4 Each Bid shall be accompanied by a Bid Security in amount required under Article "BID SECURITY" as stated above, pledging that Bidder will enter into a Contract with Owner

covering the entire work of the Bid, and will furnish to the Owner all bonds, certifications, insurance documents, and other requirements, within 15 days after issuance of a written Notice of Award of Contract or Letter of Intent by the Owner.

- 6.4.1 The Contractor shall acknowledge acceptance of the terms indicated herein in 00 41 00, Bid Form. If the Contractor has stipulations, they shall list those stipulations clearly in the designated portion of the Bid Form. Failure to enter into the Contract after acceptance of the Bid by the Owner will result in the forfeiture of Bid Security.
- 6.4.2 Bid Security shall not be forfeited to Owner in the event Owner fails to comply with Paragraph 8.1 of this Document.
- 6.5 Bids shall include the following as attachments:
  - 6.5.1 A list of similar projects completed by bidder within the last 10 years. List shall include all waterproofing projects and may include other significant related projects. List shall also include name and address of building, name and phone number of owner or owner's agent (Architect or Structural Engineer) responsible for implementation of project, brief description of Project, Contract Value and year project was performed.
  - 6.5.2 Resumes describing qualifications and experience of Project Manager, Superintendent and full-time Project Foreman to be assigned to the project by successful Bidder for this project.
  - 6.5.3 A copy of Bidder's safety record, including Bidder's Experience Modification Rate (EMR).
- 6.6 If a Surety Bond is required for Bid Security, it shall be written on AIA Document A310, Bid Bond, unless otherwise provided in Procurement Documents, and attorney-in-fact who executes the bond on behalf of surety shall affix to the bond a certified and current copy of power-of-attorney.
- 6.7 Owner will have the right to retain Bid Security of Bidders to whom an award is being considered until: (a) Contract has been executed and "Performance Bond and Payment Bond", if required, have been furnished, (b) specified time has elapsed so that Bids may be withdrawn, or (c) all Bids have been rejected.
- 6.8 Bids shall be received at location or e-mail address designated above prior to time and date for receipt of Bids. Bids received after such time will be rejected. Bidder shall assume full responsibility for timely delivery of their Bid. Telephonic or faxed Bids will not be accepted.

- 6.9 A Bidder may withdraw their bid and bid security at any time before the deadline set for receipt of Bids, either personally or by written request. In such case, no Bid may be resubmitted.
- 6.10 No Bid may be modified after submittal and no Bid may be withdrawn after the Bid Opening, unless the award of the Contract is delayed for a period exceeding 60 days.

#### ARTICLE 7 - CONSIDERATION OF BIDS

- 7.1 Owner shall have the right to reject any or all Bids, reject a Bid not accompanied by a required bid security or by other data required by Procurement Documents, or reject a Bid that is in any way incomplete or irregular.
- 7.2 After the bid opening, Owner and Engineer shall have the right to interview representatives of Bidders and their subcontractors regarding their qualifications and experience. Owner and Engineer shall have the right to negotiate with representatives of Bidders or their subcontractors.
- 7.3 Consideration will be given to the following:
- 7.3.1 Bid Amount.
  - 7.3.2 Experience and qualifications of Bidder and subcontractors: Bidder and subcontractors shall demonstrate a minimum 5 years' experience with similar Scope of Work, and submit project information for at least 3 projects with similar Scope of Work and size.
  - 7.3.3 Bidder and subcontractor involvement in industry organizations: Although not required, Bidder's and subcontractors' involvement in industry organizations related to Work, prior awards on similar projects, accreditations and validations by recognized industry organizations, and internal training programs will be considered.
  - 7.3.4 Qualification of proposed project manager, foremen and superintendents.
- 7.4 Owner shall have the right to waive informalities or irregularities in a Bid received and to accept the Bid that, in Owner's judgment, is in Owner's own best interests.
- 7.5 Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically indicated in Procurement Documents, and to determine low Bidder on the basis of the sum of Base Bid and Alternates accepted.

#### ARTICLE 8 - POST-BID INFORMATION

- 8.1 Owner shall, at request of the successful Bidder to whom award of a Contract is under consideration and no later than seven (7) days prior to expiration of time for withdrawal of Bids, furnish to Bidder reasonable evidence financial arrangements have been made to

fulfill Owner's obligations under Contract. Unless such reasonable evidence is furnished, Bidder will not be required to execute Agreement between Owner and Contractor.

- 8.2 Bidder shall, as soon as practicable after notification of Contract Award, furnish in writing to Owner through Engineer:
- 8.2.1 a designation of the Work to be performed with Bidder's own forces;
  - 8.2.2 names of manufacturers, products, and suppliers of principal items or systems of materials and equipment proposed for Work; and
  - 8.2.3 names of persons or entities proposed for principal portions of Work, if different than that submitted with the Bid.
- 8.3 Bidder will be required to establish, to satisfaction of Engineer and Owner, reliability and responsibility of persons or entities proposed to furnish and perform Work described in Procurement Documents.
- 8.4 Prior to award of Contract, Engineer will notify Bidder in writing if either Owner or Engineer, after due investigation, has reasonable objection to a person or entity proposed by Bidder. If Owner or Engineer has reasonable objection to a proposed person or entity, Bidder may, at Bidder's option, (1) withdraw the Bid or (2) submit an acceptable substitute person or entity with an adjustment in Base Bid or Alternate Bid to cover the difference in cost occasioned by such substitution. Owner may accept the adjusted bid price or disqualify Bidder. In event of either withdrawal or disqualification, bid security will not be forfeited.
- 8.5 Persons and entities proposed by Bidder and to whom Owner and Engineer have made no reasonable objection must be used on Work for which they were proposed and shall not be changed except with written consent of Owner and Engineer.

## ARTICLE 9 - PERFORMANCE BOND AND PAYMENT BOND

- 9.1 If stipulated in Procurement Documents, Bidder shall furnish a Performance Bond and Payment Bond covering faithful performance of Contract and payment of all obligations arising thereunder. Bonds may be secured through Bidder's usual sources.
- 9.2 Cost of the Performance Bond and Payment Bond shall be included in the Bid as Alternate 1.
- 9.3 If furnishing of such bonds is required after receipt of bids and before execution of Contract, cost of such bonds shall be added to the Bid in determining Contract Sum.
- 9.4 Bidder shall deliver required bonds to Owner not later than 15 days following date of execution of Contract. If Work is to be commenced prior thereto in response to a Letter of Intent, Successful Bidder shall submit evidence satisfactory to Owner that such bonds will be furnished and delivered in accordance with this Paragraph.

- 9.5 Unless otherwise provided, bonds shall be written on AIA Document A312, Performance Bond and Payment Bond. Both bonds shall be written in amount of Contract Sum. Bonds shall be dated on or after date of Contract.
- 9.6 Bidder shall require the attorney-in-fact who executes required bonds on behalf of surety to affix thereto a certified and current copy of power-of-attorney.

#### ARTICLE 10 - FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

- 10.1 Agreement for Work will be written on AIA Document A101, Standard Form of Agreement Between Owner and Contractor.

#### ARTICLE 11 - INFORMATION AVAILABLE TO BIDDERS

- 11.1 Photographs from BTC's pre-design evaluation and electronic copies of the original drawings can be provided if requested from Bidders.

#### END OF INVITATION TO BID AND INSTRUCTIONS TO BIDDERS

DOCUMENT 00 41 00

BID FORM

PROJECT Courtyard Renovation  
IDENTIFICATION: Union Square Condominiums

BID TO: Union Square Condominium Association  
333 West Hubbard Street  
Chicago, Illinois 60654

BID FROM: Bidder: \_\_\_\_\_  
Date Submitted: \_\_\_\_\_  
Address: \_\_\_\_\_  
Contact Person: \_\_\_\_\_  
Phone: (     ) \_\_\_\_\_  
Fax: (     ) \_\_\_\_\_  
E-mail Address: \_\_\_\_\_

1. Having carefully examined the Bidding and Contract Documents for the project, including all of the Drawings enumerated on Document 00 01 15 List of Drawing Sheets and the Project Manual, dated May 3, 2024, together with the Contract provisions, the site of the Work and the conditions affecting the Work and Addenda including,

Addendum No.: \_\_\_\_\_ ; Dated: \_\_\_\_\_

Addendum No.: \_\_\_\_\_ ; Dated: \_\_\_\_\_

Addendum No.: \_\_\_\_\_ ; Dated: \_\_\_\_\_

The Undersigned hereby submit the following Bid:

2. BASE BID

Bidder will complete the Work in accordance with Contract Documents for the following price(s):



BASE BID: Stipulated Sum of

\_\_\_\_\_ dollars (\$\_\_\_\_\_).

3. ALTERNATES

A. Alternate 1: Provide Performance and Payment Bonds for Base Bid Work.

\_\_\_\_\_ dollars  
(\$\_\_\_\_\_) (add) (deduct)

4. PROPOSED PROJECT PERSONNEL:

A. Project Manager: \_\_\_\_\_

B. Project Superintendent: \_\_\_\_\_

C. Project Foreman: \_\_\_\_\_

5. PROPOSED MANUFACTURERS:

A. Waterproofing System: \_\_\_\_\_

B. Other: \_\_\_\_\_

6. The undersigned agrees, if this Bid is accepted, to enter into an agreement with Owner, in the form included in Procurement Documents, to perform and furnish the Work as indicated and specified in the Contract Documents for the Base Bid and cost of any accepted alternates stated above.

7. In submitting this Bid, Bidder represents, as more fully set forth in Agreement, that:

A. This Bid will remain subject to acceptance for 60 days after day of Bid opening;

B. Owner has the right to reject this Bid;

C. Bidder accepts provisions of Invitation to Bid and Instructions to Bidders regarding disposition of Bid Security;

- D. Successful Bidder will sign and submit the Agreement with Bonds and other documents required by Bidding Requirements within 15 days after date of Owner's Notice of Award;
- E. Bidder has examined copies of all Procurement Documents and has prepared the Bid based on a complete set of Procurement Documents;
- F. Bidder has visited the site and become familiar with general, local, and site conditions;
- G. Bidder is familiar with federal, state, and local laws and regulations;
- H. Bidder has correlated information known to Bidder, information and observations obtained from visits to site, reports and drawings identified in Procurement Documents, and additional examinations, investigations, exploration, tests, studies, and data with Procurement Documents;
- I. This Bid is genuine and not made in interest of or on behalf of an undisclosed person, firm, or corporation, and is not submitted in conformity with an agreement or rules of a group, association, organization, or corporation; Bidder has not solicited or induced a person, firm, or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself an advantage over another Bidder or over Owner.

8. BASE BID BREAKDOWN

- A. A breakdown of the Base Bid is provided in Table 00 41 13.1. Base Bid is based on quantities indicated in Table 00 41 13.1. When actual quantities vary from those indicated in the table, the Base Bid shall be adjusted in accordance with the indicated unit prices.

9. PROPOSED SCHEDULE: If proposed schedule differs from the schedule specified in the Summary of Work, provide dates listed:

- A. Commencement: \_\_\_\_\_
- B. Substantial Completion: \_\_\_\_\_
- C. Close-Out Documents: \_\_\_\_\_

10. The following documents are attached to and made a condition of this Bid:

- A. Bid Security in the form of a certified or cashier's check made payable to Owner, or Bid Bond. The Bidder acknowledges that it understands the conditions of entering in the proposed contract included in these documents as indicated in Paragraph 6.4 of Document 00 11 16. Please initial one of the following:

\_\_\_\_\_ I, the Bidder, acknowledge acceptance of the conditions indicated in Paragraph 6.4 of Document 00 11 16 and will enter into the Agreement without any modifications to stated Contract.

\_\_\_\_\_ I, the Bidder, agree to the terms of the proposed Contract, with the exception of the following stipulations that are to be clarified (list stipulations in the space provided):

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- B. Subcontractor Listing.

11. CONTRACT PROVISIONS:

- A. By submitting this Bid the undersigned agrees that, if this Bid is accepted within 60 days after bid opening, the bidder will be liable to the Owner for damages the Owner may suffer by failure of the undersigned to enter forthwith into a Contract and deliver the necessary bonds together with required insurance and other documents within timeframe indicated in Paragraph 7.D.

12. BIDDERS SIGNATURE:

Bidder: \_\_\_\_\_  
(Legal name of person, firm or corporation)

( ) Sole Proprietorship      ( ) Partnership      ( ) Corporation

By: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

Incorporated In The State Of \_\_\_\_\_

If a Corporation

ATTEST

\_\_\_\_\_  
Secretary

TABLE 00 41 13.1 – BASIS OF BASE BID

Item No.	Description	Unit	Bid Quantity	Unit Price	Bid Amount
1.	General Conditions	Lump Sum	1	\$_____	\$_____
2.	Mobilization	Lump Sum	1	\$_____	\$_____
3.	Demolition	Lump Sum	1	\$_____	\$_____
4.	Masonry Repairs				
4.a	TWF Repairs Along Base of Wall at Low-Rise Building	Lump Sum	1	\$_____	\$_____
4.b	Modify and Reinstall Stone Panels	Lump Sum	1	\$_____	\$_____
4.c.i	High-Rise Building Entrance Ramp Coping TWF Repairs	Lump Sum	1	\$_____	\$_____
4.c.ii	High-Rise Building Entrance Ramp Repointing	Square Feet	200	\$_____	\$_____
4.c.iii	High-Rise Building Entrance Ramp Brick Replacement	Square Feet	25	\$_____	\$_____
5.	Waterproofing Assembly				
5.a	Survey	Lump Sum	1	\$_____	\$_____
5.b	Existing Membrane Removal	Lump Sum	1	\$_____	\$_____
5.c	Concrete Deck Repairs	Square Feet	200	\$_____	\$_____
5.d.i	New Drain Assemblies at Existing Locations	Lump Sum	1	\$_____	\$_____
5.d.ii	New Planter Drain Assemblies at Existing Locations	Lump Sum	1	\$_____	\$_____

Item No.	Description	Unit	Bid Quantity	Unit Price	Bid Amount
5.e.i	New Hot Fluid-Applied Waterproofing Membrane System	Lump Sum	1	\$_____	\$_____
5.e.ii	Expansion Joints	Lump Sum	1	\$_____	\$_____
5.e.iii	Liquid-Applied Flashings and Accessories	Lump Sum	1	\$_____	\$_____
5.e.iv	Protection Board	Lump Sum	1	\$_____	\$_____
5.f	Integrity Testing	Lump Sum	1	\$_____	\$_____
5.g	Sheet Metal Flashings	Lump Sum	1	\$_____	\$_____
6.	Overburden				
6.a	Bituminous Setting Bed	Lump Sum	1	\$_____	\$_____
6.b	New Brick Paver System	Lump Sum	1	\$_____	\$_____
6.c	Dog Run	Lump Sum	1	\$_____	\$_____
7.	Concrete Replacement at Breezeway and High-Rise Building Entrance Stairs/Ramp	Lump Sum	1	\$_____	\$_____
8.	Breezeway and High-Rise Building Entrance Stairs/Ramp Waterproofing	Lump Sum	1	\$_____	\$_____
9.	Furniture, Fixtures, and Landscaping				
9.a	New Fiberglass Planters	Lump Sum	1	\$_____	\$_____
9.b	New Powder-Coated Kitsap Planters	Lump Sum	1	\$_____	\$_____
9.c	Landscape Plantings	Lump Sum	1	\$_____	\$_____
9.d	Irrigation at Planters	Lump Sum	1	\$_____	\$_____

Item No.	Description	Unit	Bid Quantity	Unit Price	Bid Amount
9.e	Lighting at Planters	Lump Sum	1	\$_____	\$_____
10.	Miscellaneous	Lump Sum	1	\$_____	\$_____
11.	Additional work, time-and-materials	Allowance	1	\$50,000	\$50,000
12.	Demobilization	Lump Sum	1	\$_____	\$_____
<b>Total Base Bid</b>					<b>\$_____</b>

Additional Unit Prices Not Included in Base Bid

Superintendent	Hours	N/A	\$_____	N/A
Foreman	Hours	N/A	\$_____	N/A
Journeyman	Hours	N/A	\$_____	N/A
Laborer	Hours	N/A	\$_____	N/A
Truck and Driver	Hours	N/A	\$_____	N/A
Mark-up on Materials	N/A	N/A	_____%	N/A

Table 00 41 13.1 Notes:

1. Quantities, where stated, are estimated quantities for bidding purposes only. Payment for these tasks will be based on actual quantities of work installed, with an adjustment to Base Bid amount in accordance with stated unit prices. Where no quantities are provided, corresponding work items are to be bid on a lump-sum basis.
2. Indicated mark-up shall be limited to materials only. No additional mark-up shall be allowed on labor rates or unit prices indicated above. Labor rates and unit prices shall include all overhead, profits, mark-ups, and other related costs.

SUBSTITUTION REQUEST FORM

PROJECT: Courtyard Renovation  
Union Square Condominiums

SPECIFIED ITEM: \_\_\_\_\_

Section: \_\_\_\_\_ Page \_\_\_\_ Paragraph \_\_\_\_\_ Description \_\_\_\_\_

The undersigned requests consideration of the following:

PROPOSED  
SUBSTITUTION: \_\_\_\_\_

REASON FOR  
REQUESTING  
SUBSTITUTION:\* \_\_\_\_\_

PROPOSED CHANGE TO: Contract Sum \_\_\_\_\_ Contract Time \_\_\_\_\_

Attached data includes product description, specifications, drawings, photographs, performance, and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proposed installation.

The undersigned certifies that the following paragraphs, unless modified by the attachments, are correct:

1. The proposed substitution does not affect dimensions shown on Drawings.



2. The undersigned will pay for changes to repair design, including engineering design, detailing, and construction costs caused by the requested substitution.
3. The proposed substitution will have no adverse effect on other trades, the construction schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.

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

Submitted by:

Signature \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Date \_\_\_\_\_

Telephone \_\_\_\_\_

For use by BTC

☐ Approved

☐ Approved as Noted

☐ Not Approved

☐ Received Too Late

By: \_\_\_\_\_

Date: \_\_\_\_\_

Remarks: \_\_\_\_\_

SUBCONTRACTOR LISTING

PROJECT IDENTIFICATION: Courtyard Renovation  
Union Square Condominiums

SUBMITTED TO: Union Square Condominium Association  
333 West Hubbard Street  
Chicago, Illinois 60654

1. For portions of Work equaling or exceeding 5% of the total base bid, undersigned proposes to use the following subcontractors. Except as otherwise approved by Owner, undersigned proposes to perform all other portions of Work with their own forces.

2. Portion of the Work: Subcontractor name and address:

_____	_____
	_____
	_____
_____	_____
	_____
	_____
_____	_____
	_____
	_____
_____	_____
	_____
	_____
_____	_____
	_____
	_____

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PROVIDE SIGNATURE  
IDENTICAL TO THAT  
SHOWN ON THE BID  
FORM

BIDDER: \_\_\_\_\_

by: \_\_\_\_\_

END OF SUBCONTRACTOR LISTING

DOCUMENT 00 52 13

AGREEMENT FORM

The Agreement Form for this Work will be AIA Document A101-2017, “Standard Form of Agreement Between Owner and Contractor”.

# DRAFT AIA® Document A101™ – 2017

## *Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum*

**AGREEMENT** made as of the « » day of « » in the year « »  
(In words, indicate day, month and year.)

**BETWEEN** the Owner:  
(Name, legal status, address and other information)

« »  
« »  
« »  
« »

and the Contractor:  
(Name, legal status, address and other information)

« »  
« »  
« »  
« »

for the following Project:  
(Name, location and detailed description)

« »  
« »  
« »

The Architect:  
(Name, legal status, address and other information)

« »  
« »  
« »  
« »

The Owner and Contractor agree as follows.

**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.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101™-2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201™-2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

**ELECTRONIC COPYING** of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

## TABLE OF ARTICLES

- 1 THE CONTRACT DOCUMENTS
- 2 THE WORK OF THIS CONTRACT
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 4 CONTRACT SUM
- 5 PAYMENTS
- 6 DISPUTE RESOLUTION
- 7 TERMINATION OR SUSPENSION
- 8 MISCELLANEOUS PROVISIONS
- 9 ENUMERATION OF CONTRACT DOCUMENTS

## EXHIBIT A INSURANCE AND BONDS

### ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

### ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

### ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:

(Check one of the following boxes.)

- ☐ [ « » ] The date of this Agreement.
- ☐ [ « » ] A date set forth in a notice to proceed issued by the Owner.
- ☐ [ « » ] Established as follows:  
(Insert a date or a means to determine the date of commencement of the Work.)

« »

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

#### § 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

(Check one of the following boxes and complete the necessary information.)

- ☐ [ « » ] Not later than « » ( « » ) calendar days from the date of commencement of the Work.

[ « » ] By the following date: « »

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

#### ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be « » (\$ « » ), subject to additions and deductions as provided in the Contract Documents.

#### § 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement. (Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.3 Allowances, if any, included in the Contract Sum:  
(Identify each allowance.)

Item	Price

§ 4.4 Unit prices, if any:  
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)

§ 4.5 Liquidated damages, if any:  
(Insert terms and conditions for liquidated damages, if any.)

« »

§ 4.6 Other:  
(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

« »

## ARTICLE 5 PAYMENTS

### § 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

« »

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the « » day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the « » day of the « » month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than « » ( « » ) days after the Architect receives the Application for Payment.

*(Federal, state or local laws may require payment within a certain period of time.)*

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™–2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and
- .5 Retainage withheld pursuant to Section 5.1.7.

### § 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

*(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)*

«Ten percent (10%) of completed and stored work.»



§ 5.1.7.1.1 The following items are not subject to retainage:  
(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

<< >>

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:  
(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

«Retainage shall be reduced to five percent (5%) after fifty percent (50%) of the work is complete. »

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:  
(Insert any other conditions for release of retainage upon Substantial Completion.)

<< >>

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

## § 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

<< >>

## § 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.  
(Insert rate of interest agreed upon, if any.)

<< >> % << >>

## ARTICLE 6 DISPUTE RESOLUTION

### § 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.  
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

<< >>

<< >>

<< >>

<< >>

## § 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:

*(Check the appropriate box.)*

☐ Arbitration pursuant to Section 15.4 of AIA Document A201–2017

☐ Litigation in a court of competent jurisdiction

☐ Other *(Specify)*

« »

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

## ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

§ 7.1.1 If the Contract is terminated for the Owner’s convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:

*(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner’s convenience.)*

« »

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

## ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner’s representative:

*(Name, address, email address, and other information)*

« »

« »

« »

« »

« »

« »

§ 8.3 The Contractor’s representative:

*(Name, address, email address, and other information)*

« »

« »

« »

« »

« »

« »

§ 8.4 Neither the Owner’s nor the Contractor’s representative shall be changed without ten days’ prior notice to the other party.

## § 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A101™–2017 Exhibit A, and elsewhere in the Contract Documents.

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:

*(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)*

<< >>

§ 8.7 Other provisions:

<< >>

## ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor
- .2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds
- .3 AIA Document A201™–2017, General Conditions of the Contract for Construction
- .4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:

*(Insert the date of the E203-2013 incorporated into this Agreement.)*

<< >>

- .5 Drawings

Number	Title	Date

- .6 Specifications

Section	Title	Date	Pages

- .7 Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

- .8 Other Exhibits:

*(Check all boxes that apply and include appropriate information identifying the exhibit where required.)*

[ << >> ] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:  
*(Insert the date of the E204-2017 incorporated into this Agreement.)*

<< >>

[ « » ] The Sustainability Plan:

Title	Date	Pages

[ « » ] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

**.9** Other documents, if any, listed below:

*(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™-2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)*

« »

This Agreement entered into as of the day and year first written above.

\_\_\_\_\_  
**OWNER** (Signature)

« »« »

\_\_\_\_\_  
(Printed name and title)

\_\_\_\_\_  
**CONTRACTOR** (Signature)

« »« »

\_\_\_\_\_  
(Printed name and title)

DOCUMENT 00 54 00  
AGREEMENT FORM SUPPLEMENTS

AIA Document A101-2017, Exhibit A “Insurance and Bonds”

# DRAFT AIA® Document A101™ – 2017

## Exhibit A

### Insurance and Bonds

This Insurance and Bonds Exhibit is part of the Agreement, between the Owner and the Contractor, dated the « » day of « » in the year « »  
(In words, indicate day, month and year.)

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

« »  
« »

**THE OWNER:**  
(Name, legal status and address)

« »  
« »

**THE CONTRACTOR:**  
(Name, legal status and address)

« »  
« »

#### TABLE OF ARTICLES

- A.1 GENERAL
- A.2 OWNER'S INSURANCE
- A.3 CONTRACTOR'S INSURANCE AND BONDS
- A.4 SPECIAL TERMS AND CONDITIONS

#### ARTICLE A.1 GENERAL

The Owner and Contractor shall purchase and maintain insurance, and provide bonds, as set forth in this Exhibit. As used in this Exhibit, the term General Conditions refers to AIA Document A201™–2017, General Conditions of the Contract for Construction.

#### ARTICLE A.2 OWNER'S INSURANCE

##### § A.2.1 General

Prior to commencement of the Work, the Owner shall secure the insurance, and provide evidence of the coverage, required under this Article A.2 and, upon the Contractor's request, provide a copy of the property insurance policy or policies required by Section A.2.3. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

##### § A.2.2 Liability Insurance

The Owner shall be responsible for purchasing and maintaining the Owner's usual general liability insurance.

#### 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.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with AIA Document A201™–2017, General Conditions of the Contract for Construction. Article 11 of A201™–2017 contains additional insurance provisions.

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### § A.2.3 Required Property Insurance

§ A.2.3.1 Unless this obligation is placed on the Contractor pursuant to Section A.3.3.2.1, the Owner shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Owner's property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed and materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion and thereafter as provided in Section A.2.3.1.3, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds. This insurance shall include the interests of mortgagees as loss payees.

§ A.2.3.1.1 **Causes of Loss.** The insurance required by this Section A.2.3.1 shall provide coverage for direct physical loss or damage, and shall not exclude the risks of fire, explosion, theft, vandalism, malicious mischief, collapse, earthquake, flood, or windstorm. The insurance shall also provide coverage for ensuing loss or resulting damage from error, omission, or deficiency in construction methods, design, specifications, workmanship, or materials. Sub-limits, if any, are as follows:

*(Indicate below the cause of loss and any applicable sub-limit.)*

Causes of Loss	Sub-Limit

§ A.2.3.1.2 **Specific Required Coverages.** The insurance required by this Section A.2.3.1 shall provide coverage for loss or damage to falsework and other temporary structures, and to building systems from testing and startup. The insurance shall also cover debris removal, including demolition occasioned by enforcement of any applicable legal requirements, and reasonable compensation for the Architect's and Contractor's services and expenses required as a result of such insured loss, including claim preparation expenses. Sub-limits, if any, are as follows:

*(Indicate below type of coverage and any applicable sub-limit for specific required coverages.)*

Coverage	Sub-Limit

§ A.2.3.1.3 Unless the parties agree otherwise, upon Substantial Completion, the Owner shall continue the insurance required by Section A.2.3.1 or, if necessary, replace the insurance policy required under Section A.2.3.1 with property insurance written for the total value of the Project that shall remain in effect until expiration of the period for correction of the Work set forth in Section 12.2.2 of the General Conditions.

§ A.2.3.1.4 **Deductibles and Self-Insured Retentions.** If the insurance required by this Section A.2.3 is subject to deductibles or self-insured retentions, the Owner shall be responsible for all loss not covered because of such deductibles or retentions.

§ A.2.3.2 **Occupancy or Use Prior to Substantial Completion.** The Owner's occupancy or use of any completed or partially completed portion of the Work prior to Substantial Completion shall not commence until the insurance company or companies providing the insurance under Section A.2.3.1 have consented in writing to the continuance of coverage. The Owner and the Contractor shall take no action with respect to partial occupancy or use that would cause cancellation, lapse, or reduction of insurance, unless they agree otherwise in writing.

### § A.2.3.3 Insurance for Existing Structures

If the Work involves remodeling an existing structure or constructing an addition to an existing structure, the Owner shall purchase and maintain, until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, "all-risks" property insurance, on a replacement cost basis, protecting the existing structure against direct physical loss or damage from the causes of loss identified in Section A.2.3.1, notwithstanding the undertaking of the Work. The Owner shall be responsible for all co-insurance penalties.

### § A.2.4 Optional Extended Property Insurance.

The Owner shall purchase and maintain the insurance selected and described below.

(Select the types of insurance the Owner is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance. For each type of insurance selected, indicate applicable limits of coverage or other conditions in the fill point below the selected item.)

- [ ☐ ] **§ A.2.4.1 Loss of Use, Business Interruption, and Delay in Completion Insurance**, to reimburse the Owner for loss of use of the Owner's property, or the inability to conduct normal operations due to a covered cause of loss.

☐ ☐

- [ ☐ ] **§ A.2.4.2 Ordinance or Law Insurance**, for the reasonable and necessary costs to satisfy the minimum requirements of the enforcement of any law or ordinance regulating the demolition, construction, repair, replacement or use of the Project.

☐ ☐

- [ ☐ ] **§ A.2.4.3 Expediting Cost Insurance**, for the reasonable and necessary costs for the temporary repair of damage to insured property, and to expedite the permanent repair or replacement of the damaged property.

☐ ☐

- [ ☐ ] **§ A.2.4.4 Extra Expense Insurance**, to provide reimbursement of the reasonable and necessary excess costs incurred during the period of restoration or repair of the damaged property that are over and above the total costs that would normally have been incurred during the same period of time had no loss or damage occurred.

☐ ☐

- [ ☐ ] **§ A.2.4.5 Civil Authority Insurance**, for losses or costs arising from an order of a civil authority prohibiting access to the Project, provided such order is the direct result of physical damage covered under the required property insurance.

☐ ☐

- [ ☐ ] **§ A.2.4.6 Ingress/Egress Insurance**, for loss due to the necessary interruption of the insured's business due to physical prevention of ingress to, or egress from, the Project as a direct result of physical damage.

☐ ☐

- [ ☐ ] **§ A.2.4.7 Soft Costs Insurance**, to reimburse the Owner for costs due to the delay of completion of the Work, arising out of physical loss or damage covered by the required property insurance: including construction loan fees; leasing and marketing expenses; additional fees, including those of architects, engineers, consultants, attorneys and accountants, needed for the completion of the construction, repairs, or reconstruction; and carrying costs such as property taxes, building permits, additional interest on loans, realty taxes, and insurance premiums over and above normal expenses.

☐ ☐

## **§ A.2.5 Other Optional Insurance.**

The Owner shall purchase and maintain the insurance selected below.

(Select the types of insurance the Owner is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance.)



- [ « » ] § A.2.5.1 **Cyber Security Insurance** for loss to the Owner due to data security and privacy breach, including costs of investigating a potential or actual breach of confidential or private information. *(Indicate applicable limits of coverage or other conditions in the fill point below.)*

« »

- [ « » ] § A.2.5.2 **Other Insurance**  
*(List below any other insurance coverage to be provided by the Owner and any applicable limits.)*

Coverage	Limits
----------	--------

## ARTICLE A.3 CONTRACTOR'S INSURANCE AND BONDS

### § A.3.1 General

§ A.3.1.1 **Certificates of Insurance.** The Contractor shall provide certificates of insurance acceptable to the Owner evidencing compliance with the requirements in this Article A.3 at the following times: (1) prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the Owner's written request. An additional certificate evidencing continuation of commercial liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the periods required by Section A.3.2.1 and Section A.3.3.1. The certificates will show the Owner as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy or policies.

§ A.3.1.2 **Deductibles and Self-Insured Retentions.** The Contractor shall disclose to the Owner any deductible or self-insured retentions applicable to any insurance required to be provided by the Contractor.

§ A.3.1.3 **Additional Insured Obligations.** To the fullest extent permitted by law, the Contractor shall cause the commercial general liability coverage 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 for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 07 04, CG 20 37 07 04, and, with respect to the Architect and the Architect's consultants, CG 20 32 07 04.

### § A.3.2 Contractor's Required Insurance Coverage

§ A.3.2.1 The Contractor shall purchase and maintain the following types and limits of insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:  
*(If the Contractor is required to maintain insurance for a duration other than the expiration of the period for correction of Work, state the duration.)*

« »

### § A.3.2.2 Commercial General Liability

§ A.3.2.2.1 Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than «One Million Dollars» (\$ «1,000,000») each occurrence, «Two Million Dollars» (\$ «2,000,000 ») general aggregate, and «Two Million Dollars» (\$ «2,000,000») aggregate for products-completed operations hazard, providing coverage for claims including

- .1 damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
- .2 personal injury and advertising injury;
- .3 damages because of physical damage to or destruction of tangible property, including the loss of use of such property;

- .4 bodily injury or property damage arising out of completed operations; and
- .5 the Contractor's indemnity obligations under Section 3.18 of the General Conditions.

§ A.3.2.2.2 The Contractor's Commercial General Liability policy under this Section A.3.2.2 shall not contain an exclusion or restriction of coverage for the following:

- .1 Claims by one insured against another insured, if the exclusion or restriction is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the claim.
- .2 Claims for property damage to the Contractor's Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subcontractor.
- .3 Claims for bodily injury other than to employees of the insured.
- .4 Claims for indemnity under Section 3.18 of the General Conditions arising out of injury to employees of the insured.
- .5 Claims or loss excluded under a prior work endorsement or other similar exclusionary language.
- .6 Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language.
- .7 Claims related to residential, multi-family, or other habitational projects, if the Work is to be performed on such a project.
- .8 Claims related to roofing, if the Work involves roofing.
- .9 Claims related to exterior insulation finish systems (EIFS), synthetic stucco or similar exterior coatings or surfaces, if the Work involves such coatings or surfaces.
- .10 Claims related to earth subsidence or movement, where the Work involves such hazards.
- .11 Claims related to explosion, collapse and underground hazards, where the Work involves such hazards.

§ A.3.2.3 Automobile Liability covering vehicles owned, and non-owned vehicles used, by the Contractor, with policy limits of not less than «One Million Dollars» (\$ «1,000,000» ) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage.

§ A.3.2.4 The Contractor may achieve the required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella insurance policies result in the same or greater coverage as the coverages required under Section A.3.2.2 and A.3.2.3, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers.

§ A.3.2.5 Workers' Compensation at statutory limits.

§ A.3.2.6 Employers' Liability with policy limits not less than «One Million Dollars» (\$ «1,000,000» ) each accident, «One Million Dollars» (\$ «1,000,000» ) each employee, and «Five Million Dollars» (\$ «5,000,000» ) policy limit.

§ A.3.2.7 Jones Act, and the Longshore & Harbor Workers' Compensation Act, as required, if the Work involves hazards arising from work on or near navigable waterways, including vessels and docks

§ A.3.2.8 If the Contractor is required to furnish professional services as part of the Work, the Contractor shall procure Professional Liability insurance covering performance of the professional services, with policy limits of not less than « » (\$ « » ) per claim and « » (\$ « » ) in the aggregate.

§ A.3.2.9 If the Work involves the transport, dissemination, use, or release of pollutants, the Contractor shall procure Pollution Liability insurance, with policy limits of not less than « » (\$ « » ) per claim and « » (\$ « » ) in the aggregate.

§ **A.3.2.10** Coverage under Sections A.3.2.8 and A.3.2.9 may be procured through a Combined Professional Liability and Pollution Liability insurance policy, with combined policy limits of not less than « » (\$ « ») per claim and « » (\$ « ») in the aggregate.

§ **A.3.2.11** Insurance for maritime liability risks associated with the operation of a vessel, if the Work requires such activities, with policy limits of not less than « » (\$ « ») per claim and « » (\$ « ») in the aggregate.

§ **A.3.2.12** Insurance for the use or operation of manned or unmanned aircraft, if the Work requires such activities, with policy limits of not less than « » (\$ « ») per claim and « » (\$ « ») in the aggregate.

### § **A.3.3 Contractor's Other Insurance Coverage**

§ **A.3.3.1** Insurance selected and described in this Section A.3.3 shall be purchased from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:

*(If the Contractor is required to maintain any of the types of insurance selected below for a duration other than the expiration of the period for correction of Work, state the duration.)*

« »

§ **A.3.3.2** The Contractor shall purchase and maintain the following types and limits of insurance in accordance with Section A.3.3.1.

*(Select the types of insurance the Contractor is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance. Where policy limits are provided, include the policy limit in the appropriate fill point.)*

- [ « » ] § **A.3.3.2.1** Property insurance of the same type and scope satisfying the requirements identified in Section A.2.3, which, if selected in this section A.3.3.2.1, relieves the Owner of the responsibility to purchase and maintain such insurance except insurance required by Section A.2.3.1.3 and Section A.2.3.3. The Contractor shall comply with all obligations of the Owner under Section A.2.3 except to the extent provided below. The Contractor shall disclose to the Owner the amount of any deductible, and the Owner shall be responsible for losses within the deductible. Upon request, the Contractor shall provide the Owner with a copy of the property insurance policy or policies required. The Owner shall adjust and settle the loss with the insurer and be the trustee of the proceeds of the property insurance in accordance with Article 11 of the General Conditions unless otherwise set forth below:  
*(Where the Contractor's obligation to provide property insurance differs from the Owner's obligations as described under Section A.2.3, indicate such differences in the space below. Additionally, if a party other than the Owner will be responsible for adjusting and settling a loss with the insurer and acting as the trustee of the proceeds of property insurance in accordance with Article 11 of the General Conditions, indicate the responsible party below.)*

« »

- [ « » ] § **A.3.3.2.2 Railroad Protective Liability Insurance**, with policy limits of not less than « » (\$ « ») per claim and « » (\$ « ») in the aggregate, for Work within fifty (50) feet of railroad property.

- [ « » ] § **A.3.3.2.3 Asbestos Abatement Liability Insurance**, with policy limits of not less than « » (\$ « ») per claim and « » (\$ « ») in the aggregate, for liability arising from the encapsulation, removal, handling, storage, transportation, and disposal of asbestos-containing materials.

- [ « » ] § **A.3.3.2.4** Insurance for physical damage to property while it is in storage and in transit to the construction site on an "all-risks" completed value form.

- [ « » ] § **A.3.3.2.5** Property insurance on an "all-risks" completed value form, covering property owned by the Contractor and used on the Project, including scaffolding and other equipment.

[ « » ] **§ A.3.3.2.6 Other Insurance**

*(List below any other insurance coverage to be provided by the Contractor and any applicable limits.)*

Coverage	Limits
----------	--------

**§ A.3.4 Performance Bond and Payment Bond**

The Contractor shall provide surety bonds, from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located, as follows:

*(Specify type and penal sum of bonds.)*

Type	Penal Sum (\$0.00)
Payment Bond	100% of Contract Sum
Performance Bond	100% of Contract Sum

Payment and Performance Bonds shall be AIA Document A312™, Payment Bond and Performance Bond, or contain provisions identical to AIA Document A312™, current as of the date of this Agreement.

**ARTICLE A.4 SPECIAL TERMS AND CONDITIONS**

Special terms and conditions that modify this Insurance and Bonds Exhibit, if any, are as follows:

« »

DOCUMENT 00 60 00

PROJECT FORMS

The following project forms shall apply to the project:

- A. Contractor's 3 year warranty (see Section 01 11 00, Article 1.06) in accordance with Form 00 60 00.1.

FORM 00 60 00.1 - CONTRACTOR'S WARRANTY FORM

*[Contractor Name]* hereby warrants all material and labor provided by *[Contractor Name]* in relation to Courtyard Renovation, Union Square Condominiums, 333 West Hubbard Street, Chicago, Illinois, 60654 against defects. *[Contractor Name]* further warrants that all Work has been performed in accordance with Contract Documents dated *[insert the date of the Agreement]*, unless deviations have been approved in writing through Change Orders or Bulletins issued by Engineer.

This warranty shall remain in full force until *[date warranty expires]*. Upon notification of defects or deviations in materials and/or workmanship, *[Contractor Name]* will make repairs to remedy such defects and/or deviations at no cost to Owner. This warranty shall not include consequential damages.

*[Contractor Name]*

By: *[Authorized Representative Name]*

*[Authorized Representative Title]*

---

Signature

Date: *[date]*

Corporate Seal:

DOCUMENT 00 61 13

BONDS

The bond forms for this Work will be AIA Document A312-2010 “Performance Bond” and “Payment Bond”.

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# AIA<sup>®</sup> Document A312<sup>™</sup> – 2010

## Performance Bond

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**CONTRACTOR:**

(Name, legal status and address)

« »  
« »

**SURETY:**

(Name, legal status and principal  
place of business)

« »  
« »

**OWNER:**

(Name, legal status and address)

« »  
« »

**CONSTRUCTION CONTRACT**

Date: « »

Amount: \$ « »

Description:

(Name and location)

« »  
« »

**BOND**

Date:

(Not earlier than Construction Contract Date)

« »

Amount: \$ « »

Modifications to this  
Bond:

☐

None

☐

See Section 16

**CONTRACTOR AS PRINCIPAL**

Company: (Corporate Seal)

Signature:

Name and « »

Title:

**SURETY**

Company: (Corporate Seal)

Signature:

Name and « »

Title:

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

**AGENT or BROKER:**

« »  
« »  
« »

**OWNER'S REPRESENTATIVE:**

(Architect, Engineer or other party:)

« »  
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**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.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

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

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

**§ 3** If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

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

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

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

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

**§ 5.3** Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

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

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

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

**§ 7** If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to

the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

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

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

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

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

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

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

#### **§ 14 Definitions**

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

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

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

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

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

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

§ 16 Modifications to this bond are as follows:

« »

*(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)*

**CONTRACTOR AS PRINCIPAL**

Company: (Corporate Seal)

Signature:

Name and Title: « »« »

Address: « »

**SURETY**

Company: (Corporate Seal)

Signature:

Name and Title: « »« »

Address: « »

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# AIA<sup>®</sup> Document A312<sup>™</sup> – 2010

## Payment Bond

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**CONTRACTOR:**

(Name, legal status and address)

« »  
« »

**SURETY:**

(Name, legal status and principal  
place of business)

« »  
« »

**OWNER:**

(Name, legal status and address)

« »  
« »

**CONSTRUCTION CONTRACT**

Date: « »

Amount: \$ « »

Description:

(Name and location)

« »  
« »

**BOND**

Date:

(Not earlier than Construction Contract Date)

« »

Amount: \$ « »

Modifications to this Bond:

« »

None

« »

See Section  
18

**CONTRACTOR AS PRINCIPAL**

Company: (Corporate Seal)

**SURETY**

Company: (Corporate  
Seal)

Signature:

Name and « »

Title:

Signature:

Name and « »

Title:

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

**AGENT or BROKER:**

« »  
« »  
« »

**OWNER'S REPRESENTATIVE:**

(Architect, Engineer or other  
party:)

« »  
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**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.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

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

**§ 2** If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

**§ 3** If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

**§ 4** When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

**§ 5** The Surety's obligations to a Claimant under this Bond shall arise after the following:

**§ 5.1** Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

**§ 5.2** Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

**§ 6** If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

**§ 7** When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

**§ 7.1** Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

**§ 7.2** Pay or arrange for payment of any undisputed amounts.

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

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

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

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

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

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

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

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

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

## **§ 16 Definitions**

**§ 16.1 Claim.** A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

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

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

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

**§ 16.5 Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

**§ 17** If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

**§ 18** Modifications to this bond are as follows:

« »

*(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)*

**CONTRACTOR AS PRINCIPAL**

Company: \_\_\_\_\_ (Corporate Seal)

**SURETY**

Company: \_\_\_\_\_ (Corporate Seal)

Signature: \_\_\_\_\_

Name and Title: « »« »

Address: « »

Signature: \_\_\_\_\_

Name and Title: « »« »

Address: « »

DOCUMENT 00 72 13

GENERAL CONDITIONS

The general conditions for this Work will be AIA Document A201-2017 "General Conditions of the Contract for Construction."



# DRAFT AIA® Document A201™ – 2017

## General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

<< >>  
<< >>

THE OWNER:

(Name, legal status and address)

<< >>< >>  
<< >>

THE ARCHITECT:

(Name, legal status and address)

<< >>< >>  
<< >>

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## **ARTICLE 1 GENERAL PROVISIONS**

### **§ 1.1 Basic Definitions**

#### **§ 1.1.1 The Contract Documents**

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, 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. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

#### **§ 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 the 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. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

### **§ 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 results.

**§ 1.2.1.1** The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

**§ 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.

### **§ 1.3 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** The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and 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 the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

**§ 1.5.2** The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, 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 suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

### **§ 1.6 Notice**

**§ 1.6.1** Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

**§ 1.6.2** Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

### **§ 1.7 Digital Data Use and Transmission**

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

### **§ 1.8 Building Information Models Use and Reliance**

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or

relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

## **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 shall designate in writing a representative who shall have express authority to bind the Owner with respect to all 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.

**§ 2.1.2** The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

### **§ 2.2 Evidence of the Owner's Financial Arrangements**

**§ 2.2.1** Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

**§ 2.2.2** Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

**§ 2.2.3** After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

**§ 2.2.4** Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

### **§ 2.3 Information and Services Required of the Owner**

**§ 2.3.1** 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.

**§ 2.3.2** 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.

**§ 2.3.3** If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

**§ 2.3.4** 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.

**§ 2.3.5** 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 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.

**§ 2.3.6** 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.

#### **§ 2.4 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.

#### **§ 2.5 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 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 default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for 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 current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

### **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.

**§ 3.1.3** The Contractor shall not be relieved of its 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.

**§ 3.2.2** Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as

the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

**§ 3.2.3** The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

**§ 3.2.4** If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

### **§ 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 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 notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

**§ 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.

### **§ 3.4 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 facilities and 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.

**§ 3.4.2** Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

**§ 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 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.

**§ 3.5.2** All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

### **§ 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 applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

**§ 3.7.3** If the Contractor performs Work knowing 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 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 Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 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 that an equitable adjustment be made 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, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim 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 Superintendent**

**§ 3.9.1** 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.

**§ 3.9.2** The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

**§ 3.9.3** The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

### **§ 3.10 Contractor's Construction and Submittal Schedules**

**§ 3.10.1** The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

**§ 3.10.2** The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably 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, or fails to provide submittals in accordance with the approved 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 make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and

similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and 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 how 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.

**§ 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 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 the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect 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 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.

**§ 3.12.10.1** 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 be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately 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 and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and 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.

**§ 3.12.10.2** If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

### **§ 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, 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, or patching shall be restored to the condition existing prior to the cutting, fitting, or 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 construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its 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 and 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 the Owner shall be entitled to reimbursement from the Contractor.

### **§ 3.16 Access to Work**

The Contractor shall provide the Owner and Architect with 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 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 an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

### **§ 3.18 Indemnification**

**§ 3.18.1** To the fullest extent permitted by law, the Contractor shall 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 bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent 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. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

**§ 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 Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

**§ 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, Contractor, and Architect. Consent shall not be unreasonably withheld.

### **§ 4.2 Administration of the Contract**

**§ 4.2.1** The Architect will provide administration of the Contract as described in the Contract Documents 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.

**§ 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 generally familiar with the progress and quality of the portion of the Work completed, and to determine in general 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.

**§ 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 promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) 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**

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 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 13.4.2 and 13.4.3, whether or not the 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, 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 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 order 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 Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 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 the subcontractors of a Separate Contractor.

**§ 5.1.2** 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, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

**§ 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.

**§ 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 responsively in submitting names as required.

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

## **§ 5.3 Subcontractual Relations**

By appropriate 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 that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights 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.

## **§ 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 by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

**§ 5.4.2** Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

**§ 5.4.3** Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

## **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 term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

**§ 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 any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its 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 or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has 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 notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work 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. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

**§ 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. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

**§ 6.2.4** The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor 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.

### **§ 6.3 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 or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

**§ 7.1.2** A Change Order 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.

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

### **§ 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.

### **§ 7.3 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 Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.4.

**§ 7.3.4** If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine 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 the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. 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 7.3.4 shall be limited to the following:

- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;

- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.

**§ 7.3.5** If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

**§ 7.3.6** 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.

**§ 7.3.7** 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.

**§ 7.3.8** 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.

#### **§ 7.4 Minor Changes in the Work**

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

### **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 Agreement.

**§ 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, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

**§ 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 (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

**§ 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 under other provisions of the Contract Documents.

## **ARTICLE 9 PAYMENTS AND COMPLETION**

### **§ 9.1 Contract Sum**

**§ 9.1.1** 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.

**§ 9.1.2** If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

### **§ 9.2 Schedule of Values**

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

### **§ 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, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and 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 supplier, unless such Work has been performed by others whom the Contractor intends to pay.



**§ 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 title 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, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

#### **§ 9.4 Certificates for Payment**

**§ 9.4.1** The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole 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 in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. 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. 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 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 suppliers 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 either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

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

**§ 9.5.4** 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 supplier 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 Contractor shall reflect such payment on its next Application 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.

**§ 9.6.2** The Contractor shall pay each Subcontractor, no later than seven 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 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 and suppliers 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 or supplier, except as may otherwise be required by law.

**§ 9.6.5** The Contractor's payments to 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** Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by 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, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

**§ 9.6.8** Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

## **§ 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' 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 shutdown, delay and start-up, plus 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.

**§ 9.8.2** When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

**§ 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; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and 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 the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the 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 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.

**§ 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.

**§ 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 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. 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 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.

**§ 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, (3) a written statement that the Contractor knows of no 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, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and 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 to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance 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 the lien, claim, security interest, or encumbrance, 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, corrected, 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 the 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 constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

**§ 9.10.5** Acceptance of final payment by the Contractor, a Subcontractor, or a 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**

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

### **§ 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, a Subcontractor, or a Sub-subcontractor; 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.

**§ 10.2.3** The Contractor shall implement, 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 the owners and users of adjacent sites and utilities of the safeguards.

**§ 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.

**§ 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. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is 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 designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

**§ 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.

#### **§ 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, notice of the 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 and Substances**

**§ 10.3.1** The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. 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 notify the Owner and Architect of the condition.

**§ 10.3.2** Upon receipt of the Contractor's 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 the material or substance or who are to perform the task of removal or safe containment of the 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 by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

**§ 10.3.3** To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, 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 in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

**§ 10.3.4** The Owner shall not be responsible under this Section 10.3 for hazardous 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 hazardous 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.

**§ 10.3.5** The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances 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.

**§ 10.3.6** If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

#### **§ 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 Insurance and Bonds**

**§ 11.1.1** The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

**§ 11.1.2** The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

**§ 11.1.3** 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.

**§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance.** Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the

procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

## **§ 11.2 Owner's Insurance**

**§ 11.2.1** The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

**§ 11.2.2 Failure to Purchase Required Property Insurance.** If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

**§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance.** Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

## **§ 11.3 Waivers of Subrogation**

**§ 11.3.1** 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; (2) the Architect and Architect's consultants; and (3) Separate Contractors, 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 those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

**§ 11.3.2** 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, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

## **§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance**

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

#### **§11.5 Adjustment and Settlement of Insured Loss**

**§ 11.5.1** A loss insured under the property insurance required by the Agreement 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 mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

**§ 11.5.2** Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

### **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, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

#### **§ 12.2 Correction of Work**

##### **§ 12.2.1 Before Substantial Completion**

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before 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 any 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 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. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.



**§ 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.

**§ 12.2.2.3** The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

**§ 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 of the Owner or Separate Contractors, whether completed or partially completed, 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, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

### **§ 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 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 the assignment.

### **§ 13.3 Rights and Remedies**

**§ 13.3.1** 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.

**§ 13.3.2** 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 of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

### **§ 13.4 Tests and Inspections**

**§ 13.4.1** 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 tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

**§ 13.4.2** If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

**§ 13.4.3** If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 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.

**§ 13.4.4** 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.

**§ 13.4.5** 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.

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

### **§ 13.5 Interest**

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

## **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, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, 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
- .4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

**§ 14.1.2** The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, 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' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

**§ 14.1.4** If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work 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' 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 or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .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.

**§ 14.2.2** When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, 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' 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, 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 Initial Decision Maker, 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 under 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.

#### **§ 14.4 Termination by the Owner for Convenience**

**§ 14.4.1** The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

**§ 14.4.2** Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

**§ 14.4.3** In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work

properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

## **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, a change in the Contract Time, 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. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

#### **§ 15.1.2 Time Limits on Claims**

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

#### **§ 15.1.3 Notice of Claims**

**§ 15.1.3.1** Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall 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.

**§ 15.1.3.2** Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

#### **§ 15.1.4 Continuing Contract Performance**

**§ 15.1.4.1** 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.

**§ 15.1.4.2** The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker’s decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

#### **§ 15.1.5 Claims for Additional Cost**

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

#### **§ 15.1.6 Claims for Additional Time**

**§ 15.1.6.1** If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 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.

**§ 15.1.6.2** 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.

#### **§ 15.1.7 Waiver of 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 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

## **§ 15.2 Initial Decision**

**§ 15.2.1** Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

**§ 15.2.2** The Initial Decision Maker 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 Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

**§ 15.2.3** In evaluating Claims, the Initial Decision Maker 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 Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

**§ 15.2.4** If the Initial Decision Maker 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 the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

**§ 15.2.5** The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

**§ 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 receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, 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.

**§ 15.2.8** If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

### **§ 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 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

**§ 15.3.2** The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

**§ 15.3.3** Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

**§ 15.3.4** 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.

### **§ 15.4 Arbitration**

**§ 15.4.1** If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation 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. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. 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** 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 Joinder**

**§ 15.4.4.1** Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party 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** Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party 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 those of the Owner and Contractor under this Agreement.

SUPPLEMENTARY CONDITIONS

The following supplements modify AIA Document A101-2017 Exhibit A, Insurance and Bonds, and AIA Document A201-2017, General Conditions of the Contract for Construction. Where a portion of Exhibit A or the General Conditions are modified or deleted by these Supplementary Conditions, the unaltered portions of Exhibit A or the General Conditions shall remain in effect.

Supplements to AIA Document A101-2017 Exhibit A, Insurance and Bonds are as follows:

ARTICLE A.3 CONTRACTOR'S INSURANCE AND BONDS

A3.1 GENERAL

*A3.1.1 Add the following sentence to Subparagraph A3.1.1:*

If this insurance is written on a Commercial General Liability policy form, the certificates shall be ACORD form 25-S, completed and supplemented in accordance with AIA Document G715, Instruction Sheet and Supplemental Attachment for ACORD Certificate of Insurance 25-5.

A3.2 CONTRACTOR'S REQUIRED INSURANCE COVERAGE

*A3.2.2.1.1 Delete the semicolon at the end of Clause A3.2.2.1.1 and add:*

or persons or entities excluded by statute but required by the Contract Documents to provide insurance;

*Add the following Clauses A3.2.2.3 through A3.2.2.5 to Subparagraph A3.2.2.:*

A3.2.2.3 The Contractor's Commercial General Liability policy shall be endorsed to have the General Aggregate apply to this Project only.

A3.2.2.4 The Contractual Liability insurance shall include coverage sufficient to meet the obligations in AIA Document A201-2017 under Paragraph 3.18.

A3.2.2.5 Products and Completed Operations insurance shall be maintained for a minimum period of at least 4 years after either 90 days following Substantial Completion or final payment, whichever is earlier.



*Add the following Clause A3.2.13 to Subparagraph A3.2:*

A3.2.13 The carrier ratings for the Contractor's insurance are subject to Owner's approval in its sole and absolute discretion. In the absence of other specification, Contractor's insurance carriers shall maintain a rating of at least A-10 under the A.M. Best rating system. All insurance policies required herein to be obtained by Contractor shall be primary and non-contributory to any other insurance or indemnity as may be available to any additional insured. Contractor shall furnish Owner with certificates, policies, or binders which evidence that the Contractor is covered and the Owner and Architect are insured by the required insurance, showing type, amount, class of operations covered, effective dates and dates of expiration of policies, and Contractor shall furnish Owner with an "Endorsement to Policy" naming Owner and Building Technology Consultants, Inc. as additional insureds under the insurance required to be procured by Contractor. Such certificates, policies, binders, and Endorsement to Policy shall be delivered to the Owner prior to the commencement of the Work.

Supplements to AIA Document A201–2017, General Conditions of the Contract for Construction are as follows:

## ARTICLE 1 GENERAL PROVISIONS

### 1.1 BASIC DEFINITIONS

*Add the following sentence to the end of Subparagraph 1.1.1:*

Contractor's Bid Form submitted during the bidding process shall be incorporated into the Contract Documents. The Contract Documents executed or identified in accordance with Subparagraph 1.1.2 shall prevail in case of an inconsistency with subsequent versions made through manipulatable electronic operations involving computers.

*Add the following subparagraph 1.1.9 to Paragraph 1.1:*

#### 1.1.9 Days

Where number of days is indicated in Contract Documents, they refer to Calendar Days.

### 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

*Add Clause 1.2.1.2 to Subparagraph 1.2.1:*

1.2.1.2 In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following priorities:

1. Modifications.
2. The Agreement.
3. Addenda, with those of later date having precedence over those of earlier date.
4. The Supplementary Conditions.
5. The General Conditions of the Contract for Construction.
6. Division 1 of the Specifications.
7. Drawings and Divisions 02-49 of the Specifications.
8. Other documents specifically enumerated in the Agreement as part of the Contract Documents.

In the case of conflicts or discrepancies between Drawings and Divisions 02-49 of the Specifications or within either Document not clarified by Addendum, the Architect will determine which takes precedence in accordance with Subparagraph 4.2.11. In the event that Architect's interpretation or clarification has not been requested, or an addendum has not been issued to clarify or interpret any uncertainties or ambiguities as to quality or quantity of any work required by the Specifications or Drawings, the better quality and larger quantity shall be applicable.

## 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

*Add the following Subparagraphs 1.5.3 and 1.5.4 to Paragraph 1.5:*

1.5.3 The Architect may, with the concurrence of the Owner, furnish to the Contractor versions of instruments of Service in electronic form. The Contract Documents executed or identified in accordance with Subparagraph 1.2.1.2 shall prevail in case of an inconsistency with subsequent versions made through manipulatable electronic operations involving computers.

1.5.4 The Contractor shall not transfer or reuse instruments of Service in electronic or machine readable form without the prior written consent of the Architect.

## 1.9

*Add the following Paragraph 1.9 to Article 1:*

### 1.9 COOPERATION BETWEEN PARTIES

1.9.1 Representatives of the Owner, Contractor, and Architect shall meet periodically at mutually agreed-upon intervals for the purpose of establishing procedures to facilitate cooperation, communication, and timely responses among the participants. By participating in this arrangement, the parties do not intend to create additional contractual obligations or modify the legal relationships that may otherwise exist.

## ARTICLE 2 OWNER

### 2.1 GENERAL

*Add the following Paragraph 2.1.3 to Article 2:*

2.1.3 It is understood that the Owner is an Illinois condominium association, that the property is owned by the unit owners as tenants in common, and that the Owner is operated by and through its duly elected board of managers (Board). The members of the Board are acting only as agents for the unit owners and shall have no personal liability hereunder (except as unit owners) and each unit owner's liability hereunder shall be limited to such proportion to the total liability hereunder as their percentage of interest in the Common Elements bears to the total percentage interest of all unit owners in the Common Elements.

### 2.3 INFORMATION AND SERVICES REQUIRED OF THE OWNER

*Delete Subparagraph 2.3.1 in its entirety.*

*Add the following Clause 2.3.2.1:*

2.3.2.1 Whenever the term "Architect" is used throughout these Contract Documents, it shall refer to Engineer, Building Technology Consultants, Inc. or BTC.

*Delete Subparagraph 2.3.4 in its entirety and substitute the following in its place:*

2.3.4 Owner shall provide Contractor with any information it may have as to the location of utility lines and services. However, Owner makes no representation or warranty as to the accuracy of any such information, and Owner shall have no duty to verify or update any

such information. Contractor shall be responsible for locating and avoiding damage to utility lines and services and Contractor shall be responsible for its failure to do so.

*Delete Subparagraph 2.3.6 and substitute the following:*

2.3.6 The Contractor will be furnished, free of charge, 1 printed copy of Drawings and Project Manuals plus an electronic copy of same. Owner will also furnish the Contractor required printed sets of Drawings and Project Manual required to obtain permits. Additional sets will be furnished at the cost of reproduction, postage, and handling.

### ARTICLE 3 CONTRACTOR

#### 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

*Add the following Subparagraph 3.2.5 to Paragraph 3.2:*

3.2.5 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, where such information was available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

#### 3.4 LABOR AND MATERIALS

*Add the following Subparagraph 3.4.2.1 to Subparagraph 3.4.2:*

3.4.2.1 After the Contract has been executed, the Owner and Architect will consider a formal request for the substitution of products in place of those specified only under the conditions set forth in the General Requirements (Division 1 of the Specifications). By making requests for substitutions, the Contractor:

3.4.2.1.1 represents that the Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;

3.4.2.1.2 represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified;

3.4.2.1.3 certifies that the cost data presented is complete and includes all related costs under this Contract except the Architect's redesign costs, and waives all claims for additional costs related to the substitution which subsequently become apparent; and

3.4.2.1.4 will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.

Architect shall be the sole judge of equivalency of a proposed substitution. Architect's decision pertaining to substitution request shall be final.

*Add the following Subparagraph 3.4.2.2 to Subparagraph 3.4.2:*

3.4.2.2 The Owner shall be entitled to reimbursement from the Contractor for amounts paid to the Architect for reviewing the Contractor's proposed substitutions and making agreed-upon changes in the Drawings and Specifications resulting from such substitutions..

### 3.8 ALLOWANCES

*3.8.2.2 Delete the semicolon and "and" at the end of Clause 3.8.2.2 and add the following:*

, except that if installation is included as part of an allowance in Divisions 1-16 of the Specifications, the installation and labor cost for greater or lesser quantities of work shall be determined in accordance with Subparagraph 7.3.4; and

### 3.9 SUPERINTENDENT

*Add the following Subparagraphs 3.9.4, 3.9.5, and 3.9.6 to 3.9:*

3.9.4 The Contractor shall employ a superintendent or an assistant to the superintendent who will perform as a coordinator for necessary mechanical and electrical Work. The coordinator shall be knowledgeable in mechanical and electrical systems and capable of reading, interpreting, and coordinating Drawings, Specifications, and shop drawings pertaining to such systems. The coordinator shall assist the Subcontractors in arranging space conditions to eliminate interference between the mechanical and electrical systems and other work and shall supervise the preparation of coordination drawings documenting the spatial arrangements for such systems within restricted spaces. The coordinator shall assist in planning and expediting the proper sequence of delivery of mechanical and electrical equipment to the site.

3.9.5 Superintendent shall be present periodically throughout the project when the Work of the Contract is being performed and shall be available to receive instructions from Owner's representative or Architect as to work which is required to be done or improved upon.

3.9.6 Owner shall have the right to approve the Contractor's project manager, superintendent, and project foreman. In the event the Contractor's project manager, superintendent, and/or project foreman is not approved by the Owner, Owner shall have the right to request replacement of the Contractor's project manager, superintendent, and/or project foreman.

### 3.10 CONTRACTOR'S CONSTRUCTION AND SUBMITTAL SCHEDULES

*Add the following Clause 3.10.1.1 to Subparagraph 3.10.1:*

3.10.1.1 The Owner may authorize construction activities to commence prior to completion of the Drawings and Specifications. If the Drawings and Specifications require further development at the time the initial construction schedule is prepared, the Contractor shall 1) allow time in the schedule for further development of the Drawings and Specifications by the Architect, including time for review by the Owner and Contractor and for the Contractor's coordination of Subcontractors' Work and 2) furnish to the Owner in a timely manner information regarding anticipated market conditions and construction cost; availability of labor, materials and equipment; and proposed methods, sequences, and time schedules for construction of the Work.

### 3.12 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

*Add Subparagraph 3.12.11 to Paragraph 3.12:*

3.12.11 The Architect's review of Contractor's submittals will be limited to examination of an initial submittal and one (1) resubmittal. 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 obtain reimbursement from the Contractor for amounts paid to the Architect for evaluation of such additional resubmittals.

### 3.15 CLEANING UP

*Amend Paragraph 3.15.1 by adding the words "On a daily basis, " to the beginning of the paragraph.*

### 3.18 INDEMNIFICATION

*Amend Subparagraph 3.18.1 by adding the words “to the extent covered by insurance” after the word “itself” inside the parenthesis in the first sentence.*

## ARTICLE 4 ARCHITECT

### 4.2 ADMINISTRATION OF THE CONTRACT

*Add Clause 4.2.2.1 to Subparagraph 4.2.1:*

4.2.2.1 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for site visits made necessary by the fault of the Contractor or by defects and deficiencies in the Work.

*Add Clause 4.2.7.1 to Subparagraph 4.2.7:*

4.2.7.1 In no case will the Architect’s review period on any submittal be less than 5 working days after receipt of the submittal from the Contractor.

*Add Clause 4.2.14.1 to Subparagraph 4.2.14:*

4.2.14.1 Contractor’s requests for information shall be prepared and submitted in accordance with Division 1 “General Requirements” sections on AIA Document G716–2004. The Architect will return without action requests for information that do not conform to requirements of the Contract Documents.

## ARTICLE 5 SUBCONTRACTORS

### 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

*5.2.1 Add the following clause:*

5.2.1.1 On the Subcontractor Listing Form, Contractor shall furnish names of persons or entities proposed for principal portions of the Work defined in bidding requirements. Acceptance of the Bid shall constitute notice of no reasonable objection to proposed persons or entities.

*Add Clause 5.2.5 to Subparagraph 5.2:*

#### 5.2.5 MANUFACTURERS AND FABRICATORS

5.2.5.1 Not later than 5 working days after the date of commencement of the Work, the Contractor shall furnish in writing to the Owner through the Architect the names of persons or entities proposed as manufacturers or fabricators for certain products, equipment and systems identified in the General Requirements (Division 1 of the Specifications) and, where applicable, the name of the installing Subcontractor. 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 to review. Failure of the Owner or Architect to reply within the 14-day period shall constitute notice of no reasonable objection.

5.2.5.2 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.

5.2.5.3 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 manufacturer or fabricator 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 manufacturer's or fabricator'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 responsively in submitting names as required.

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

## ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

### 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

*Amend Paragraph 6.1.1 by deleting the words "under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation" from the first sentence.*

*Amend Paragraph 6.1.3 by adding the words "by the Owner" after the word "necessary" in the 3<sup>rd</sup> sentence.*



*Delete Paragraph 6.1.4 in its entirety.*

## ARTICLE 7 CHANGES IN THE WORK

### 7.1 GENERAL

*Add the following Subparagraph 7.1.4 to Paragraph 7.1:*

7.1.4 The combined overhead and profit included in the total cost to the Owner of a change in the Work shall be based on the following schedule:

7.1.4.1 For the Contractor, for Work performed by the Contractor's own forces, 20 percent of the cost.

7.1.2.2 For the Contractor, for work performed by the Contractor's Subcontractors, 20 percent of the amount due the Subcontractors.

7.1.4.3 For each Subcontractor involved, for Work performed by that Subcontractor's own forces, 20 percent of the cost.

7.1.4.4 For each Subcontractor involved, for Work performed by the Subcontractor's Sub-subcontractors, 20 percent of the amount due the Sub-subcontractor.

7.1.4.5 Cost to which overhead and profit is to be applied shall be determined in accordance with Subparagraph 7.3.7.

7.1.4.6 In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs, including labor, materials, and Subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also. In no case will a change involving over \$500 be approved without such itemization.

### 7.3 CONSTRUCTION CHANGE DIRECTIVES

*Amend Subparagraph 7.3.8 by adding the words “plus allocable overhead and profit” after the word “cost” in the first sentence.*

## ARTICLE 9 PAYMENTS AND COMPLETION

### 9.3 APPLICATIONS FOR PAYMENTS

*9.3.1 Add the following sentence to Subparagraph 9.3.1:*

The form of Application for Payment, duly notarized, shall be a current authorized edition of AIA Document G702, Application and Certificate for Payment, supported by a current authorized edition of AIA Document G703, Continuation Sheet. Other similar forms may be substituted for AIA Documents G702 and G703 with prior approval from Architect.

*Amend Subparagraph 9.3.1.2 by adding the following sentence at the end of the subparagraph:*

"Contractor shall promptly inform Owner as to Contractor's intention not to pay a Subcontractor or material supplier who may assert a lien or other claim against the Owner or the Owner's property."

*Add the following Clause 9.3.1.3 to Subparagraph 9.3.1:*

9.3.1.3 Prior to the start of the Work and with the application for payment, Contractor shall deliver to the Owner, a sworn statement setting forth the total amount of the Contract and containing the names of all subcontractors and material suppliers employed in connection with the Work together with the amount of each subcontract. The Contractor shall be required to provide any other documents that may be required by an escrow trustee, if an escrow is utilized.

*Amend Subparagraph 9.3.3 by adding the following language:*

"Contractor shall furnish waivers of mechanic's and materialmen's lien for that portion of the Work for which Application for Payment is being made, including all subcontractors and suppliers. At the Owner's discretion, the Owner may only require lien waivers for previously approved payment applications from subcontractors and material suppliers. Also, at the discretion of Owner, payments may be made directly by Owner to subcontractors and material suppliers in exchange for their lien waivers."

*Add the following Clause 9.3.4 to Subparagraph 9.3:*

"The parties hereby agree that, in exchange for the payment terms and conditions contained in this Contract, Contractor hereby waives any and all rights and remedies contained in the Illinois Contractor Prompt Payment Act."

## 9.6 PROGRESS PAYMENTS

*Add the following at the end of Paragraph 9.6.1:*

A retainage in the amount of 10% of completed work and stored materials, or up to a maximum of \$100,000, whichever is less, shall be deducted from each application for payment until 50% completion. After such time, retainage shall be 5% of completed work and stored materials, up to \$100,000. This retainage shall be released as part of Final Payment.

## 9.8 SUBSTANTIAL COMPLETION

*Add the following Clause 9.8.3.1 to Subparagraph 9.8.3:*

9.8.3.1 The Architect will perform no more than two (2) inspections to determine whether the Work or a designated portion thereof has attained Substantial Completion in accordance with the Contract Documents. The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for any additional inspections.

*9.8.5 Delete the 2<sup>nd</sup> sentence and substitute the following:*

Upon such acceptance and consent of surety, if any, the Owner shall make payment sufficient to increase the total payments to 95 percent of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work and unsettled claims.

## 9.9 PARTIAL OCCUPANCY OR USE

*Amend Subparagraph 9.9.1 by adding the words “or delayed” at the end of the 4<sup>th</sup> sentence.*

## 9.10 FINAL COMPLETION AND FINAL PAYMENT

*Add the following Clause 9.10.1.1 to Subparagraph 9.10.1:*

9.10.1.1 The Architect will perform no more than one (1) inspection to determine whether the Work or a designated portion thereof has attained Final Completion in accordance with the Contract Documents. The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for any additional inspections. If closeout submittals are not submitted within 30 days of Substantial Completion, Owner shall have the right to withhold retainage permanently.

## 9.11

*Add the following Paragraph 9.11 to Article 9:*

### 9.11 LIQUIDATED DAMAGES

9.11.1 The Contractor and the Contractor's surety, if any, shall be liable for and shall pay the Owner the sums hereinafter stipulated as liquidated damages, and not as a penalty, for each calendar day of delay after the date established for Substantial Completion in the Contract Documents until the Work is substantially complete: \$300.

## ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

### 10.2 SAFETY OF PERSONS AND PROPERTY

*Add the following Clauses 10.2.4.1 and 10.2.4.2 to Subparagraph 10.2.4:*

10.2.4.1 When use or storage of explosives, or other hazardous materials, substances or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall give the Owner reasonable advance notice.

10.2.4.2 If the Contract Documents require the Contractor to handle materials or substances that under certain circumstances may be designated as hazardous, the Contractor shall handle such materials in an appropriate manner.

### 10.3 HAZARDOUS MATERIALS AND SUBSTANCES

*Amend Subparagraph 10.3.2 by replacing the words “licensed laboratory” with the words “qualified professional person or entity” in the first sentence.*

*Amend Subparagraph 10.3.3 by adding to the beginning of the first line of Paragraph 10.3.3 the following:*

“In the event of any claim, damage, loss, or expense attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, which such claimed damage, loss, or expense arises solely due to Owner’s negligence, and,”

## ARTICLE 11 INSURANCE AND BONDS

### 11.1 CONTRACTOR'S INSURANCE AND BONDS

*Delete Subparagraph 11.1.2 and substitute the following:*

11.1.2 If required by the Contract Documents, the Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder. Bonds may be obtained through the Contractor's usual source and the cost thereof shall be included in the Contract Sum. The amount of each bond shall be as stipulated in AIA Document A101-2017 Exhibit A, Insurance and Bonds.

11.1.2.1 The Contractor shall deliver the required bonds to the Owner not later than 15 days following the date the Agreement is entered into, or if the Work is to be commenced prior thereto in response to a letter of intent, the Contractor shall, prior to the commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished.

11.1.2.2 The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

## ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

### 12.2 CORRECTION OF WORK

*Add the following to the end of Subparagraph 12.2.1*

“If Contractor fails to correct defective or nonconforming work, Owner may, but shall not be obligated, to correct it at Contractor's cost, which shall be charged to Contractor.

Correction of defective work shall include all damage done to the Project as a result of corrective action. Approval of any material or work at any time or stage of construction will not prevent its subsequent rejection for failure to conform to the requirements of the Contract Documents. No election by the Owner to correct work shall constitute a waiver of any obligation of a surety upon its Performance and Labor and Material Payment Bonds.”

*Add the following Clause 12.2.2.4 to Subparagraph 12.2.2:*

12.2.2.4 Upon request by the Owner and prior to the expiration of 1 year from the date of Substantial Completion, the Architect will conduct and the Contractor shall attend a meeting with the Owner to review the facility operations and performance.

## ARTICLE 13 MISCELLANEOUS PROVISIONS

*Add Paragraph 13.6. as follows:*

### 13.6 OWNER'S DAMAGES

13.6.1 As used herein, the Owner's expenses, damages or costs shall include attorneys' or other professional fees incurred by the Owner with respect to the specified event or situation.

## ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

*Amend Subparagraph 14.3.2.1 by adding the words "and/or its subcontractors, sub-subcontractors or companies which are to provide labor, materials or work included in the Work," after the word "Contractor".*

## ARTICLE 15 CLAIMS AND DISPUTES

### 15.1 CLAIMS

*Add the following Clauses 15.1.6.3 and 15.1.6.4 to Subparagraph 15.1.6:*

15.1.6.3 Claims for increase in the Contract Time shall set forth in detail the circumstances that form the basis for the Claim, the date upon which each cause of delay began to affect the progress of the Work, the date upon which each cause of delay ceased to affect the progress of the Work, and the number of days' increase in the Contract Time claimed as a consequence of each such cause of delay. The Contractor shall provide such supporting documentation as the Owner may require, including, where appropriate, a revised construction schedule indicating all the activities affected by the circumstances forming the basis of the Claim.

15.1.6.4 The Contractor shall not be entitled to a separate increase in the Contract Time for each one of the number of causes of delay which may have concurrent or interrelated effects on the progress of the Work or for concurrent delays due to the fault of the Contractor.

*15.1.7 Add the following sentence to Subparagraph 15.1.7:*

If, before expiration of 30 days from the date of execution for this Agreement, the Owner obtains by separate agreement and furnishes to the Contractor a similar mutual waiver of all claims from the Architect against the Contractor for consequential damages which the

Architect may incur as a result of any act or omission of the Owner or Contractor, then the waiver of consequential damages by the Owner and Contractor contained in this Subparagraph 15.1.7 shall be applicable to claims by the Contractor against the Architect.

## 15.5 CLAIM EXPENSES

*Add the following new Paragraph 15.5:*

### 15.5 Claim Expenses

15.5.1 In the event that either party institutes legal action against the other under this Agreement, then in that event the prevailing party shall be entitled to recover all damages (including but not limited to, consequential damages) and to be paid its costs and professional fees (including, but not limited to, reasonable attorney's fees) from the losing party.

END OF SUPPLEMENTARY CONDITIONS

SECTION 00 71 13

ADDITIONAL SUPPLEMENTARY CONDITIONS (RIDER)



## **RIDER TO AIA DOCUMENT A101-2017**

This Rider to AIA Document A101-2017 (the "Rider") is attached to and made part of the "Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum" (AIA Document A101-2017) (the "Contract") by and between \_\_\_\_\_ (the "Contractor"), and UNION SQUARE CONDOMINIUM ASSOCIATION, an Illinois not-for-profit corporation (the "Owner"). **THE PROVISIONS OF THIS RIDER SHALL CONTROL AND PREVAIL OVER ANY CONTRARY PROVISIONS CONTAINED IN THE CONTRACT DOCUMENTS, INCLUDING, BUT NOT LIMITED TO, ANY ADDITIONAL SUPPLEMENTARY PROVISIONS, BID DOCUMENTS, RIDERS, ADDENDA, EXHIBITS OR AGREEMENTS PERTAINING TO THE SUBJECT MATTER OF THE CONTRACT DOCUMENTS, INCLUDING SUCH REFERENCED IN ARTICLE 9 OF THE A101-2017.**

In consideration of the mutual covenants and agreements herein stated, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Contractor and the Owner agree that the Contract Documents shall be amended as provided below.

### **AIA A101-2017:**

1. Article 6, Section 6.2 is clarified to provide that for any Claim, the method of binding dispute resolution is litigation in a court of competent jurisdiction. Venue shall be set in Cook County, Illinois.

### **AIA A201-2017:**

#### **GENERAL CONDITIONS**

1. AIA Document A201-2017, "General Conditions of the Contract for Construction," (the "General Conditions"), AIA Document A312-2010, "Performance Bond," and AIA Document A312-2010, "Payment Bond," are hereby incorporated by reference into the Contract Documents with the same force and effect as if repeated herein.
2. The following Supplementary Conditions modify, change, delete from and/or add to the General Conditions. Where any article of the General Conditions is modified, or any paragraph, subparagraph, section or clause thereof is modified or deleted by these supplements, the unaltered provisions of the article, paragraph, subparagraph, section or clause shall remain in effect. Capitalized terms used herein shall have the meaning set forth in the Contract Documents.

#### **GENERAL CONDITIONS, ARTICLE 1 - GENERAL PROVISIONS**

3. Section 1.1.1 of the General Conditions is amended to provide that, unless specifically excluded in the Contract, the Contract Documents, in addition to other documents listed, shall also include any advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner or Engineer in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements, including Specifications/scope of work for the Project, any Modifications and/or or further amendments.

#### **GENERAL CONDITIONS, ARTICLE 2 - OWNER**

4. Section 2.1.1 of the General Conditions is amended by adding the following sentence at the end of the Section: "All Contract Documents shall identify the Owner as Union Square Condominium Association, an Illinois not-for-profit corporation. The Owner was formed pursuant to the recording of its Declaration for the purpose of the administration and operation of Union Square Condominium. The Work described in the Contract Documents shall be performed upon the common elements of the Association (the "Project Site"), which may be owned by the owners as tenants in common. The members of the Board of Managers of the Owner and the managing agent for the Owner are acting only as agents of the Owner and shall have no personal liability hereunder."
5. Section 2.1 of the General Conditions is amended to delete Section 2.1.2 of the General Conditions in its entirety.

6. Section 2.2 of the General Conditions is amended by deleting Section 2.2.1 of the General Conditions in its entirety.
7. Section 2.2 of the General Conditions is further amended by deleting Section 2.2.2 of the General Conditions in its entirety.
8. Section 2.2 of the General Conditions is further amended by deleting Section 2.2.3 of the General Conditions in its entirety.
9. Section 2.2 of the General Conditions is further amended by deleting Section 2.2.4 of the General Conditions in its entirety.
10. Section 2.4 of the General Conditions is amended by deleting the term “repeatedly” from the first sentence.

#### GENERAL CONDITIONS, ARTICLE 3 - CONTRACTOR

11. Section 3.3.1 of the General Conditions is amended to clarify that the neither the Engineer, the Owner, the Owner’s Board of Managers, the Owner’s managing agent nor any consultant employed by any of them, shall not participate in any way in the administration or supervision of the Work. The means, methods, techniques, sequences, procedures, Subcontractors, including any incidental aspects of the Work, and safety measures utilized in the performance of the Work are the sole responsibility of the Contractor. Under no circumstances shall the review of the general quality and progress of the Work by the Engineer, the Owner, the Owner’s Board of Managers or the Owner’s managing agent (including review of submittals and observation of the Work) be construed as the assumption of authority or supervision over the performance of the Work.
12. Section 3.3 of the General Conditions is amended through the addition of Section 3.3.4, which shall provide as follows: “If any of the Work is required to be inspected or approved by any public authority, the Contractor shall be responsible for ensuring that such inspection or approval is requested and secured prior to moving forward with the Work. No inspection performed or failed to be performed by the Engineer, the Owner or any public authority shall be a waiver of any of the Contractor’s obligations hereunder. The Contractor shall report errors or inconsistencies to the Engineer and the Owner before commencing any further Work. The Contractor shall provide the Engineer, the Owner, other persons designated by the Engineer and Owner, and governmental inspectors access to the Work.”
13. Section 3.3 of the General Conditions is further amended through the addition of Section 3.3.5, which shall provide as follows: “The Contractor warrants that it retains sufficient forces and shall furnish sufficient forces to ensure the prosecution of the Work within the time stated in the Contract. Work shall be performed during regular working hours, except in the event of an emergency, and when required to complete the Work within the time stated in the Contract, subject to municipal ordinances and the approval of the Owner, which approval shall not be unreasonably withheld.”
14. Section 3.5.1 of the General Conditions is amended by inserting after “the requirements of the Contract Documents” (second sentence, third line) the words “and to all laws, ordinances, codes and regulations applicable to the Contractor’s means and methods of construction.”
15. Section 3.7.1 of the General Conditions is amended to add the following at the end of the sentence: “A photocopy of each permit application and each permit issued and delivered to the Contractor shall be delivered to the Engineer and the Owner as soon as reasonably possible after each such document is submitted or obtained. Upon final completion, the Contractor shall deliver to the Owner all original permits, licenses and certificates of inspection in possession of the Contractor and shall deliver photocopies to the Engineer to the extent same are requested by the Engineer.”
16. Section 3.10.3 of the General Conditions is amended by deleting the word “general.”
17. Section 3.11 of the General Conditions is amended to provide that Product Data includes manufacturers’ instructions, and material safety data sheets for all material used on the Project Site.

18. Section 3.18.1 of the General Conditions is amended by inserting the following after the word “law” in the first line thereof: “and notwithstanding any limitation or allocation of liability arising under the doctrine of indemnity of the Illinois Joint Tortfeasor Contribution Act, each Subcontractor and...”
19. Section 3.18.1 of the General Conditions is further amended to specifically include indemnification for any and all aspects of the Contractor’s obligations, including, but not limited to, the use of the Project Site as provided for in Section 3.13 as amended herein.
20. Section 3.18.1 of the General Conditions is further amended by deleting the word “negligent” from the first sentence.
21. Section 3.18.1 of the General Conditions is further amended to expressly list as indemnified parties the Owner, the Owner’s Board of Managers, and the Owner’s employees and agents, including, but not limited to, the Owner’s agents and its employees.
22. Section 3.18.2 of the General Conditions is amended by adding the following at the end of this Section: “The Contractor waives any immunity from or limitation upon its contribution liability to the Owner based upon any applicable workers’ compensation laws or judicial interpretation of any applicable laws.”
23. Section 3.18 of the General Conditions is amended through the addition of Section 3.18.13, which shall provide as follows: “Claims, damages, losses and expenses as used herein shall be construed to include, but not be limited to, (1) injury or damage consequent upon the failure of or use or misuse by the Contractor, its Subcontractors, agents, servants or employees of any hoist, rigging, blocking or any and all other kinds of equipment; (2) all attorneys’ fees and costs incurred in defense of the claim or in bringing an action to enforce the provision of this indemnity or any other indemnity contained in the Contract Documents; and (3) all costs, expenses, lost time and opportunity costs incurred by the party being indemnified or its employees, agents or consultants, whether or not either party initiates litigation.”

#### GENERAL CONDITIONS, ARTICLE 4 - ARCHITECT

24. Section 4.1.2 of the General Conditions is amended by deleting the word “Contractor” from the second line.
25. Section 4.2.1 of the General Conditions is amended by adding the following at the end of this Section: “It is agreed that such authority remains solely with the Owner.”
26. Section 4.2.12 of the General Conditions is amended by deleting the second sentence in its entirety.

#### GENERAL CONDITIONS, ARTICLE 5 - SUBCONTRACTORS

27. Section 5.1.1 of the General Conditions is amended to clarify that the term “Subcontractors” includes, without limitation, trade subcontractors, suppliers, manufacturers and materialmen.
28. Section 5.2.2 of the General Conditions is amended to provide the following: “Copies of contracts with Subcontractors shall be provided to the Owner. Such contracts shall provide that they are assignable by the Contractor to the Owner and that the Owner shall be deemed a third-party beneficiary to the contracts.”

#### GENERAL CONDITIONS, ARTICLE 7 - CHANGES IN THE WORK

29. Section 7.3.9 of the General Conditions is amended by requiring the Contractor to maintain an updated log of Contract Modifications at the Project Site, accurately reflecting the current status of the job and the Work. The log of Contract Modifications shall include entries for Supplemental Instructions, Requests for Proposal, Change Orders and Construction Change Directives.

#### GENERAL CONDITIONS, ARTICLE 9 - PAYMENTS AND COMPLETION

- 30. Section 9.2 of the General Conditions is amended through the addition of the words “and Owner” after the word “Architect” in the second line, and the addition of the words “or Owner” after the word “Architect” in the fourth line.
- 31. Section 9.3.3 of the General Conditions is amended to delete the words “to the best of the Contractor’s knowledge, information and belief” (second sentence).
- 32. Section 9.5.1.7 of the General Conditions is amended through the deletion of the word “repeated.”
- 33. Section 9.6.8 of the General Conditions is amended by deleting said Section in its entirety.

#### GENERAL CONDITIONS, ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

- 34. Section 10.1 of the General Conditions is amended to add the word “solely” after the word “be” and before the word “responsible” in the first line.
- 35. Section 10.3.5 of the General Conditions is amended by the addition of the word “solely” between the words “are” and “due.”
- 36. Section 10.3.6 of the General Conditions (third line) is amended to delete the word “all” and substitute in its place the word “reasonable.”

#### GENERAL CONDITIONS, ARTICLE 11 - INSURANCE AND BONDS

- 37. Section 11.1.1 of the General Conditions is amended by deleting the last sentence in its entirety and replacing same with the following language: “The Contractor shall furnish the Owner with certificates, policies or binders which evidence that the Contractor, the Owner, the Owner’s Board of Managers and the Owner’s managing agent and Engineer are insured by the required insurance, showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. Certificates shall be delivered to the Owner prior to the commencement of the Work.”
- 38. Section 11.1.4 of the General Conditions is amended by deleting said Section in its entirety.
- 39. Section 11.2 of the General Conditions is amended by deleting Subsection 11.2.1 through Subsection 11.5.2, inclusive, in their entirety.

#### GENERAL CONDITIONS, ARTICLE 12 - UNCOVERING AND CORRECTION OF WORK

- 40. Section 12.2.1 of the General Conditions is amended by adding the words “or the Owner” after the word “Architect” in the first line.
- 41. Section 12.2.2.1 of the General Conditions is amended by adding the words “with full knowledge of such condition” at the end of the first sentence.
- 42. Section 12.2.2.1 of the General Conditions is further amended by deleting the words “and to make a claim for breach of warranty” in the third sentence.
- 43. Section 12.2.2.3 of the General Conditions is amended by deleting the word “not” from the first line and to add the following: “The obligations under Section 12.2 shall cover any repairs and/or replacements to any parts of the Work or other property that is damaged by the defective Work.”

#### GENERAL CONDITIONS, ARTICLE 13 - MISCELLANEOUS PROVISIONS

- 44. Section 13.1 of the General Conditions is amended in its entirety to read as follows: “The Contract shall be governed by the laws of the State of Illinois, and venue for any action shall be Cook County, Illinois.”

#### GENERAL CONDITIONS, ARTICLE 14 - TERMINATION OR SUSPENSION OF CONTRACT

45. Section 14.1.3 of the General Conditions is amended to provide that any recovery is limited to payment for Work executed and the deletion of the words “as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.”
46. Section 14.2.1.1 of the General Conditions is amended by deleting the word “repeatedly.”
47. Section 14.2.1.3 of the General Conditions is amended by deleting the word “repeatedly.”
48. Section 14.2.2 of the General Conditions is amended by the deletion of the words “upon certification by the Architect that sufficient cause exists to justify such action.”
49. Section 14.4.3 of the General Conditions is amended to delete the words “costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.”

#### GENERAL CONDITIONS, ARTICLE 15 - CLAIMS AND DISPUTES

50. Section 15.3 of the General Conditions is amended by the deletion of Subsections 15.3.1, 15.3.2, 15.3.3 and 15.3.4 in their entirety.
51. Section 15.4 of the General Conditions is amended by the deletion of Subsections 15.4.1, 15.4.1.1, 15.4.2, 15.4.3, 15.4.4, 15.4.4.1, 15.4.4.2 and 15.4.4.3 in their entirety.

#### SUPPLEMENTARY CONDITIONS

##### CONFLICT WITH UNIONS

1. Whenever any provisions of the Contract conflict with any agreements or regulations of any kind in force among members of any trade associations, unions or councils which regulate what Work shall be included in the Work of particular trades, the Contractor shall make all necessary arrangements to reconcile any such conflict without delay or cost to the Owner and without recourse to the Owner or Engineer.

##### PAYMENTS TO CONTRACTOR AND CERTIFIED RETAINAGE

2. Notwithstanding anything to the contrary, upon final completion of the Work and acceptance by the Owner, final payment (including retained percentages) will be made within sixty (60) days.

##### INSURANCE

3. Certificates of Insurance required by the Contractor and each Subcontractor of any tier shall name as additional insureds, the Owner, the Owner’s Board of Managers, the Owner’s agent and the Engineer. Subcontractors shall be further required to name the Contractor and its respective directors, officers, employees and agents as additional insureds.

In addition to any other requirements contained in the Contract Documents, the Contractor and Subcontractors of any tier shall name **Union Square Condominium Association, its Board of Managers, FirstService Residential, Building Technology Consultants, Inc., and all their respective directors, officers, employees, and agents as additional insured parties.**

The following insurance provisions shall apply:

- a. Liability Insurance

1. The Contractor and each Subcontractor of any tier performing Work on any portion of the Project Site shall maintain insurance in amounts not less than those specified in the Contract Documents and such insurance shall be subject to the following:

- (i) Comprehensive General Liability

- (A) Special Requirements: Any employees' exclusion will be deleted. In addition to the Owner and the Engineer, the Owners Board of Managers and its managing agent shall be named as additional insured parties on the Comprehensive General Liability policy of the Contractor and any Subcontractor of any tier.

2. It shall be the responsibility of the Contractor to ensure that all Subcontractors, regardless of tier, carry the applicable insurance and coverages.
3. The Contractor shall maintain a file of Certificates of Insurance from each Subcontractor of any tier.

- b. Property Insurance

1. Notwithstanding anything to the contrary contained in the Contract Documents, the Owner may purchase and maintain property insurance on the Project Site with amounts and coverages the Owner deems satisfactory.
2. The Owner shall not be responsible for nor shall it insure the property of the Contractor and/or Subcontractor of any tier, including, but not limited to, tools and equipment located at the Project Site, or that which is intended to be incorporated into the Work.
3. The Contractor shall maintain Contractor's Equipment Floater Insurance for owned or leased equipment under its care, custody and control as required for the performance of the Contractor's duties. Such insurance shall be for the sole benefit of the Contractor and shall not relieve the Subcontractors of their responsibilities for maintaining insurance as required herein.
4. Any failure or refusal on the part of the Owner to purchase any insurance shall not negate, reduce or relieve the obligations of the Contractor or Subcontractors of any tier, from liability and/or procuring and maintaining all required insurance.

- c. Additional Insurance Provisions

1. The Owner and the Contractor intend that all insurance policies purchased by the Contractor or Subcontractor of any tier in accordance with the Contract and Contract Documents will protect the Owner, the Owner's Board of Managers, the Owner's agent and the Engineer.
2. The Contract may, at the sole option of the Owner, be declared void if the Contractor or Subcontractor of any tier fails to procure, maintain throughout the term of the Contract and provide proof of the required insurance as provided for in the Contract Documents.
3. The Contractor shall maintain adequate workers' compensation insurance for all persons who are to perform the Work or will be present on the Project Site, regardless of whether such persons are exempt under the Workers' Compensation Act or are employees or agents of the Contractor or any Subcontractor, regardless of tier. The Contractor and all Subcontractors, regardless of tier, shall also be required to procure an "alternate employers endorsement" naming the Owner, its Board of Managers and the Owner's agent on their workers' compensation policies.
4. For this Project, the Contractor, each Subcontractor, and/or Sub-subcontractors of any tier, shall provide for additional insured parties to all policies. The Additional Insurance Endorsement

shall have the following wording added at Item #5:

“The insurance afforded to the Additional Insured is primary insurance for actions of the Contractor, each Subcontractor and/or Sub-subcontractor, of any tier while doing Work on the buildings shall be noncontributory on the part of the Owner and/or its agents. If the Additional Insured has other insurance which is applicable to the loss on an excess or contingent basis, the amount of the Company's liability under this policy shall not be reduced by the existence of such other insurance.”

d. Claims

For any and all claims against the Owner, its Board of Managers and/or its agent, or any of their respective directors, officers, employees or agents by an employee of the Contractor, any Subcontractor of any tier, anyone directly or indirectly employed by any of them or anyone for whose acts any of them or anyone for whose acts any of them may be liable, the insurance obligations under this section and/or the Contract Documents shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workmen's compensation acts, disability benefit acts or other employee benefits acts.

TEMPORARY ELECTRICITY, WATER AND TOILET FACILITIES

4. If provided for in the Contract Documents, water and electrical power may be taken from the common areas of the Project Site only as directed by the Owner or the Owner's agent. All electrical connections shall be made by a qualified, licensed, electrician. If the Owner is to provide such facilities, the Contractor has reviewed the water and electrical power available and warrants that such will be adequate for the job and will not cause a shortage, problems or disruption in service to the Owner, or a delay in Work to be performed. Use of facilities is to be coordinated with, and as directed by the Owner. The Contractor shall provide adequate protections against use, entry or damage of property by non-Contractor personnel.

STORAGE

5. The Contractor shall confine operations at the Project Site to areas permitted by law, ordinances and permits and shall not unreasonably encumber the Project Site with materials or equipment. The Contractor's equipment and materials shall be stored only in areas designated by the Owner or the Owner's agent. Any required field office shall be subject to areas designated by the Owner or the Owner's agent. The Owner and the Owner's agent assume no responsibility for security. The Contractor shall be responsible for security, cleanup and restoration of the storage areas to their previously existing condition.

NO DISCRIMINATION

6. Neither the Contractor nor any Subcontractor or Sub-subcontractor, regardless of tier, shall discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin or age, or any other illegal basis. The Contractor, Subcontractor or Sub-subcontractor, regardless of tier, shall take affirmative steps and measures to insure that applicants are employed, and that employees are treated during employment without regard to race, religion, color, sex, national origin, age, or any other illegal basis.

Contractor acknowledges and understands that the Owner complies with and operates within the requirements of federal, state and local fair housing laws. The Contractor agrees to comply with all federal, state and local fair housing laws. The Contractor also agrees to ensure that all Subcontractors of any tier fully understand this requirement and that they will comply with the same standards. The Contractor understands that any act of discrimination, sexual harassment or other violation of such laws by any party constitutes a breach of the Contract. The Contractor shall indemnify, defend and hold harmless the Owner, the Owner's Board of Managers, the Owner's managing agent, and each of their employees and agents against any and all claims, liabilities, demands, actions, suits, damages, losses, injuries, costs and expenses (including, without limitation, attorneys' fees) caused by the acts or omissions of the Contractor, its independent contractors, Subcontractors of any tier and/or their employees and/or agents in violation of any applicable federal, state or local fair housing law.

## SCHEDULES

7. In addition to any other requirements, within ten (10) days from the date of execution of the Contract, the Contractor will submit to the Owner and Engineer a schedule of values (as defined in the General Conditions) and a completion schedule setting forth the number of days required to complete each phase included within the Work. Said completion schedule shall be subject to the prior approval of the Owner and Engineer and shall provide that all Work will be completed within the time period set forth in the Contract. The Contractor agrees to adhere to the time period for completion of the Work set forth in the completion schedule. If the Contractor shall fail to adhere to the approved completion schedule, the Contractor, at its sole cost, shall add such additional laborers as may be required to recoup any time previously lost and to insure adherence to the completion schedule. The Owner and the Contractor acknowledge that time is of the essence.

## PERMITS, LAWS, ORDINANCES

8. The Contractor's responsibility and obligations shall include obtaining and paying for all necessary permits, required certifications, licenses, any security bonds, all taxes, excises, or other charges by Federal, State, County, Township or Municipal Governments, all fees for royalties and patents, all temporary facilities and controls as required, all disposal fees, credit for salvaged materials, labor, material, access, scaffolding, canopies, protection, finishes and conform with all applicable requirements of the laws and ordinances of the City of Chicago, the State of Illinois, and the regulations of the Federal Occupational Safety and Health Administration, as well as any other applicable laws, ordinances or codes, all at the expense of the Contractor. The Owner shall have no responsibility with regard to the foregoing unless expressly provided for herein. If the appropriate governmental authority determines that building and/or environmental permits are not required for the Work or any part thereof, the Contractor shall provide a letter on its company letterhead addressed to the Owner. The letter is to summarize the application process followed and clearly indicate the Work or parts thereof that do not require building and/or environmental permits. The letter shall include the dates of the application(s), as well as the department(s) and individual(s) who rendered the decision(s). The permit letter is to be submitted at least one (1) week prior to the start of the Work.

## WORK HOURS

9. The Contractor shall coordinate scheduling of the Work with the Owner's agent and shall perform the Work in such a manner as to minimize the inconvenience to the residents and guests of the Project Site.

## CLEANUP

10. The Contractor will maintain all materials, supplies and equipment in a neat and orderly fashion acceptable to the Owner and will remove all rubbish and debris from the Project Site daily at the Contractor's sole expense. In the event that the Contractor does not maintain the Project Site in a neat, clean and orderly fashion, the Owner reserves the right to have the Project Site cleaned by a third party at the expense of the Contractor. The Contractor shall, at its expense, protect the interior and exterior parts of the buildings, building equipment and other portions of the Project Site (including, but not limited to, utility connections and utility lines) from damage from the Contractor's operations during the progress of the Work.

## WARRANTY/GUARANTEE

11. In expansion of any warranty and guarantee and not in limitation thereof, the Contractor shall be responsible to ensure that the Work is free of defects in material and workmanship for a period of at least \_\_\_\_\_ ( ) years from the date of final completion. If this section is left blank, the guarantee shall be consistent with that provided for in the Contract Documents. The Contractor shall take all action necessary, and it shall be Contractor's responsibility to insure that any manufacturer's full period guarantee is in place, and that the Work performed by the Contractor and the material meet all eligibility requirements for any material or manufacturer guarantee. The Contractor additionally warrants that the installation will be proper, that no Work performed will cause an exclusion from coverage and that the Contractor (and any party working on the Project Site) is a certified installer of any products used. The Contractor further agrees that it will provide the necessary information to the Owner to avoid exclusions from coverage, if any. The necessary information will include, but will not be limited to, the proper maintenance to be performed. The Contractor shall also be responsible for and is required to ensure



that any manufacturer warranties are properly documented and in place for the protection of the Owner, that certificates are issued (if applicable) and that all relevant documentation regarding any manufacturer warranties is provided to the Owner. In the event that any manufacturer's warranty is not properly in place, the Contractor agrees to assume the responsibility for the guarantee. The guarantee shall start from the date of final completion. The guarantee shall include all labor, materials, tools, equipment, and services required for proper repair or replacement of the Work due to defects in materials or workmanship whether by the Contractor or any Subcontractor. It is agreed that the guarantee, whether from the Contractor and/or the manufacturer and will be non-proratable. Any warranty claim or Work performed under the warranty shall extend the warranty so that the Owner shall have the full benefit of the warranties on all material and workmanship. Notwithstanding anything to the contrary, the Owner shall have no less than the full warranty period to provide notice and make a claim under any applicable provisions of the Contract.

#### PROTECTIVE MEASURES

12. Notwithstanding protective measures required elsewhere in the Contract Documents, the Contractor shall take the following protective measures:
  - a. All Work shall be performed in a good and workmanlike manner by appropriate trade mechanics or laborers who are individually experienced and familiar with the methods, materials, procedures and skills called for by the Specifications and by their respective trades.
  - b. The Contractor shall be solely responsible for health and safety precautions and programs for workers and others in connection with the Work. No inspection by, knowledge on the part of, or acquiescence by the Owner or the Owner's employees or agents, or any other entity whatsoever, shall relieve the Contractor from its sole responsibility for compliance with the requirements of the Contract or its sole responsibility for the health, safety and welfare of any party.
  - c. The Contractor shall post all required notices, and at least one (1) week prior to mobilization, shall post notice on the Project Site informing residents that the Work that will be performed.

#### WORKERS

13. The Contractor represents and warrants that all persons who are to perform work, regardless of whether such persons are employees or agents of the Contractor, will be legally entitled to work in the United States and that, during the term of the Contract, the Contractor, every Subcontractor of any tier and every agent of the Contractor performing the Work will otherwise be in compliance with all applicable immigration statutes and regulations. The Contractor agrees that all workers will be employees of the Contractor unless the Contractor has sought and received approval in writing from the Owner for the use of independent contractors or Subcontractors. With the request for approval, the Contractor shall provide the names of and contact information for the proposed independent contractors or Subcontractors.

#### DISPUTES

14. The Illinois Contractor Prompt Payment Act or successor or similar acts shall not apply. Should a dispute arise between the parties with respect to performance under the Contract, the prevailing party shall be entitled to all costs incurred in enforcing the terms of the Contract, including, without limitation, reasonable attorneys' fees, court costs and other related expenses, whether or not either party initiates litigation. It is agreed that neither this section nor any other provision in the Contract Documents pertaining to the shifting of or applicability of attorneys' fees, interest or other legal expenses shall apply to disputes over payment. In the event that any party fails or refuses to honor its indemnity obligations contained in the Contract Documents, that party shall, in addition to all other obligations, pay the costs to enforce the indemnification obligations, including, without limitation, attorneys' fees and costs, lost time and opportunity costs to the party requesting indemnification, whether or not any party initiates litigation. The indemnification obligations contained in this section and any other provisions of the Contract Documents shall survive termination of the Contract.

FINANCING, TERMINATION OF PROJECT AND CONDITION PRECEDENT

15. It is understood by the Contractor that Owner may be financing this Project through an increase in assessments or a special assessment and that Owner may not have sufficient funds to start and/or complete the Project if financing falls through. In the event that financing issues delay the commencement date of the Work, or any phase of the Work, the revised commencement date will be agreed to by the parties. If financing falls through or at the discretion of Owner, it is not feasible to move forward with the Contract or any phase of the Contract, Owner may terminate the Contract or any phases of the Contract for convenience without payment of any penalty or payment of a termination fee.

TIME FOR SUBSTANTIAL COMPLETION AND EVALUATION

16. The Contractor has informed the Owner that the Work, absent Change Orders will take approximately \_\_\_\_\_ (\_\_\_\_) calendar days from the commencement date for Substantial Completion.

ADDITIONAL MISCELLANEOUS PROVISIONS

17. The parties have participated jointly in the negotiation and drafting of this Rider. In the event an ambiguity or question of intent or interpretation arises, this Rider shall be construed as if drafted jointly by the parties, and no presumption or burden of proof shall arise favoring or disfavoring any party by virtue of the authorship of any of the provisions of this Rider. The Contract shall be binding upon and shall inure to the benefit of the parties hereto and their respective heirs, devisees, successors, personal representatives, and assigns, provided, however, that neither party shall assign, set over or transfer the Contract without the prior written consent of the other party. The use of headings in this Rider is only for ease of reference and the headings have no affect and not to be considered part or a term of this Rider. If any one or more of the provisions of this Rider will for any reason be invalid, illegal or unenforceable in any respect, such invalidity or unenforceability will not affect any other provision of this Rider, and this Rider will be construed as if such invalid or unenforceable provision has never been contained herein. To the fullest extent permitted by law, if any provision of this Rider will for any reason be found invalid, illegal or unenforceable, it is the intent of the parties that such provision shall automatically be amended or modified to render it valid, legal or enforceable. The Contract and/or this Rider may be executed in any number of counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

CONTRACTOR:

OWNER:

UNION SQUARE CONDOMINIUM  
ASSOCIATION, an Illinois not-for-profit  
corporation

By: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Its: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

SECTION 00 91 13

ADDENDA

SECTION 01 11 00  
SUMMARY OF WORK

PART 1 GENERAL

1.01 DESCRIPTION

- A. This project is entitled, "Courtyard Renovation, Union Square Condominiums."
- B. The project is located at 333 West Hubbard Street, Chicago, Illinois.
- C. Existing Conditions: The Union Square Condominium Association consists of a 5-story low-rise building constructed in 1998 and a 10-story high-rise building converted from an existing factory at the same time. During the previous conversion, 4 stories were added to the existing 6-story factory that was originally constructed in 1918 and later expanded in 1938 and 1946. The original factory portion of the building is a concrete framed structure with solid brick masonry exterior walls. The exterior walls also include terra cotta window sills, window heads, and parapet coping caps. The four-story addition to the high-rise building is a steel-framed structure with a brick masonry cavity wall. The exterior walls of the 5-story low-rise building consist of a brick masonry cavity wall with concrete masonry unit (CMU) backup. Limestone accents are located along window sills, window heads, and parapet coping caps at the upper addition of the high-rise building and at the 5-story low-rise building. Cantilevered balconies hung with steel tie rods are present around the perimeters of both buildings.

Below the 2 buildings is a parking garage, with an approximately 11,000 square feet courtyard located above the garage and between the 2 buildings. The lower-level garage is accessed via a ramp on the west side of the high-rise building. The courtyard consists of a concrete topping over waterproofing and a structural concrete and steel deck. Within the courtyard are several planters, various landscaping, and a dog run. Ongoing water leakage has been experienced in the parking garage below the courtyard. In addition, deterioration of the concrete topping is present throughout courtyard and at the garage entrance ramp.

## 1.02 SCOPE OF WORK

A. Base Bid includes, but is not necessarily limited to, the following:

1. Provide general conditions including supervision, project management, coordination with Owner, preconstruction surveys, insurance, attendance at meetings, temporary facilities and controls (i.e., protection, safety provisions including overhead canopies, field office, portable toilets, traffic control, temporary ramps, fencing, temporary lighting, temporary power, access to work areas, equipment, temporary enclosures and weather protection, temporary heating and ventilation for work areas including gas/electrical power, daily clean-up, etc.), permits, inspection fees required by authorities having jurisdiction and manufacturers, quality control testing required by Specifications, debris removal and disposal, transportation, etc. Costs associated with access to work areas, including scaffolding, shall be included in unit costs or lump sum costs for individual work items listed below.
2. Mobilize to site.
3. Demolition:
  - a. Provide barricades, signage and protection to isolate all demolition and work areas, as necessary.
  - b. Provide temporary protection to protect existing construction and adjacent construction from damage during demolition and construction.
  - c. Remove existing courtyard finishes including, but not necessarily limited to landscaping, soil, planter walls, furniture, existing concrete topping, and other courtyard assembly components. The demolition shall include all items necessary to expose the existing waterproofing membrane and existing structural slab.
  - d. Coordinate with Association and Association's landscaper for items to be removed and reinstalled.
4. Masonry repairs
  - a. Along the base of Low-Rise Building masonry walls, along the perimeter of the courtyard and in the breezeway, remove bottom courses of existing masonry and perform through-wall flashing repairs, as shown on Drawings.

- b. Remove, modify, and reinstall existing stone panels at masonry piers at Low-Rise Building, as shown on Drawings.
  - c. At High-Rise Building entrance stairs/ramp, perform the following masonry repairs:
    - i) Through-wall flashing below copings;
    - ii) Brick masonry repointing;
    - iii) Miscellaneous brick replacement where designated by Engineer.
5. Courtyard Waterproofing:
- a. After removal of the existing courtyard finishes, perform a survey of the existing slab surfaces as follows:
    - i) Locate all existing drains.
    - ii) Measure slab top elevations at a 4-foot grid to determine existing slab top elevations.
    - iii) Provide the above information within 48 hours of performing the work, and prior to removal of the existing waterproofing membrane.
  - b. Remove existing waterproofing membrane using suitable methods. Such removal methods shall result in a clean and smooth substrate and not impart any damage to the existing concrete. Only well-bonded and sound existing waterproofing shall remain so long as the substrate for new membrane is smooth. Removal methods shall consider noise and disruption to tenants below and adjacent to work areas.
  - c. After removal of existing waterproofing membrane, sound existing structural slab top surfaces using chain drag or hammer sounding to detect delaminated concrete. Repair delaminated and/or unsound concrete.
  - d. Provide new drain assemblies and associated plumbing where designated. Test new drain bowls and pipe connections for weathertightness and ensure drain lines are open and unrestricted. Drains shall be provided as follows:
    - i) Provide new drain assemblies at 11 existing drain locations and at 2 new drain locations as shown on Drawings.

- ii) Provide new planter drain assemblies at 1 existing drain locations and at 7 new drain locations as shown on Drawings.
- e. Provide new waterproofing membrane assembly. Waterproofing work sequence shall consider disruptions to tenants and avoid exposure to any inclement weather. Waterproofing assembly shall include the following components:
  - i) Hot-fluid applied waterproofing membrane system;
  - ii) Expansion joints;
  - iii) Liquid-applied flashings and accessories; and
  - iv) Protection board.
- f. Perform integrity testing of the completed waterproofing system prior to installation of overburden components: Integrity testing shall include the following:
  - i) Retain a qualified and independent testing laboratory to perform electronic leak detection in accordance with ASTM D7877. A combination of high- and low-voltage testing shall be performed such that all flashings and drains can be tested.
  - ii) Do not allow the waterproofing membrane to be subjected to any traffic or use after completion of integrity testing at each section.
- g. Provide sheet metal counterflashing along perimeter of courtyard.
- h. After waterproofing membrane is installed, protect the membrane against damage due to traffic or exposure to elements.
- 6. Overburden: After completion of courtyard waterproofing, install overburden including the following:
  - a. Bituminous setting bed;
  - b. New brick paver system; and
  - c. Dog run.
- 7. Perform concrete replacement at Breezeway and at High-Rise Building entrance ramp where shown on Drawings.

8. Breezeway and High-Rise Building entrance stairs/ramp waterproofing:
  - a. Prepare existing concrete surfaces to remain, including performing crack repairs and preparation of existing control joints.
  - b. Thoroughly clean existing concrete surfaces in accordance with waterproofing manufacturer's recommendations.
  - c. Provide new fluid-applied waterproofing system, complete with moisture mitigation primer, base coat, top coat, anti-skid resistance aggregate and associated flashings.
  - d. Provide sheet metal counterflashing along perimeter of breezeway.
9. Furniture, fixtures, and landscaping:
  - a. Provide new fiberglass planters where shown on Landscape Drawings.
  - b. Provide new powder-coated Kitsap planters with benches where shown on Landscape Drawings.
  - c. Provide landscape plantings as shown on Landscape Drawings.
  - d. Provide irrigation at planters as shown on Landscape Drawings.
  - e. Provide lighting at planters as shown on Landscape Drawings.
10. Perform all other work shown on Drawings or required for a complete and watertight application, but not listed above.
11. Perform additional work as directed by Engineer on a time-and-material basis and as approved through executed Change Orders.
12. Thoroughly clean site and demobilize.

B. Alternate 1 includes: Provide Performance and Payment Bonds for Base Bid Work.

### 1.03 CONSTRUCTION SCHEDULE

- A. Base Bid: Work shall commence TBD, and be Substantially Completed by TBD. Site cleanup and demobilization shall be complete within 15 days of Substantial Completion. Closeout submittals shall be submitted within 30 days of Substantial Completion. The Contract Time stipulated between the above dates shall include normally anticipated weather delays.



- A. Daily Work Schedule: Work may be performed between the hours of 7:30 am and 5:00 pm, Monday through Friday. Do not perform loud or disruptive work before 8:00 am. Comply with local ordinances regarding work hours and noise.
- B. Liquidated Damages: Contractor shall pay Owner liquidated damages in the amount of \$300 per calendar day if the Work is not Substantially Complete within the schedule indicated in this Section.

#### 1.04 MEASUREMENT OF QUANTITIES AND PAYMENT

- A. Lump Sum work items will be paid for based on percentage of work completed as determined by Engineer.
- B. The Contractor is responsible for measurement of repair items. Basic units of measurement and payment shall be as indicated on Bid Form. Unit quantity measurement methods are described in individual specification sections.
- C. Review repair quantities in the field with Engineer and mutually agree on quantities prior to submitting a Payment Request on which such quantities are included. Notify Engineer at least 2 days in advance of proposed time to review quantities in the field.
- D. Maintain a written record of repair work. Records shall consist of drawings and/or forms that document type, location, and quantity of repair. Submit records with each Payment Request.
- E. The estimated quantities shown on the Bid Form are for bidding purposes only. Actual quantities will vary from those estimated. Unit prices will not be adjusted based on variations between quantity allowances and actual work quantity.
- F. Actual quantities provided in completion of the Work shall determine payment. If significant discrepancies from bid quantities are discovered, immediately notify Engineer.
- G. If the actual Work requires greater or lesser quantities than those quantities indicated on the Bid Form, provide the required quantities at the unit sum/prices contracted. Owner reserves the right to reduce or increase quantities from those bid.

H. Unit price payment includes full compensation for required labor, products, tools, equipment, transportation, services, and incidentals required for proper erection, application, or installation of an item of the Work, including overhead and profit.

I. Final payment for Work governed by unit prices shall be based on the following formula:

Final Payment = Actual Quantity of Work X Unit Price Shown on Bid Form.

#### 1.05 ASSISTANCE TO TESTING LABORATORY AND ENGINEER

A. Assistance to Testing Laboratory:

1. Notify Engineer and testing laboratory at least 2 days in advance before installing Work to be tested.
2. Furnish casual labor required to facilitate sampling and testing materials.

B. Provide safe access to Engineer and testing laboratory personnel for reviewing work in progress.

#### 1.06 WARRANTY

A. Provide a 3-year material and labor guarantee for the Work, unless otherwise specified for specific work in Divisions 02 through 49.

#### PART 2 PRODUCTS

NOT USED

#### PART 3 EXECUTION

NOT USED

END OF SECTION

SECTION 01 25 13  
PRODUCT SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Procedures for consideration of product substitutions.

1.02 SUBMITTALS

- A. Submit a Substitution Request form for each product substitution request, certifying the following.

1. Proposed substitution does not affect dimensions shown on Drawings.
2. Proposed substitution will have no adverse effect on other trades, construction schedule, or specified warranty requirements.
3. Maintenance and service parts will be locally available for proposed substitution.
4. Function, appearance, and quality of proposed substitution are equivalent or superior to specified item.

- B. On Substitution Request Form, state proposed change in Contract Sum, if any, should proposed substitution be accepted.

- C. Append to Substitution Request Form manufacturer's literature or other data in sufficient detail to permit judgment of equivalency by Engineer.

- D. Requests submitted with inadequate documentation will be rejected.

1.03 QUALITY ASSURANCE

- A. Inclusion of non-specified products, equipment, or methods on Shop Drawings or in other submittals without official written notice is an unacceptable method of introducing substitution requests and will be rejected.

- B. Substitutions included in the Work, but not properly accepted and authorized, will be considered defective.

- C. Contract is based on standards of quality established in Contract Documents. It is responsibility of entity requesting the substitution to research and document equivalency.
- D. The following do not require substitution approval:
  - 1. Products specified solely by reference to standard specifications, such as ASTM and similar standards.
- E. Where the phrase "or equal" or "or approved equal" occurs in Contract Documents, do not assume that substituted materials, equipment, or methods will be accepted as equal unless item has been specifically so accepted for this Work by Engineer.

#### 1.04 SUBSTITUTION PROCEDURES

- A. Substitution Procedures during Bidding Phase: If provisions of Document 00 11 16 "Invitation to Bid and Instructions to Bidders," allow substitutions during the bidding phase, the following requirements shall be met:
  - 1. Provide Substitution Request Form for each proposed substitution a minimum of 10 days prior to bid due date.
  - 2. Consideration will be given only to requests for substitutions by prime bidders.
  - 3. Bidders will be notified of accepted substitute products by written Addendum.
  - 4. Substitutions proposed with the Bid will not be considered if substitutions were not previously accepted or were not previously submitted for acceptance review.
- B. Substitution Procedures during Construction Phase:
  - 1. Requests for substitution during construction will be considered only if needed to replace unavailable products or to remedy a situation where a specified product is proven to be unsuitable.
  - 2. Provide a Substitution Request for each proposed substitution far enough in advance of when product will be needed for the Work to permit adequate time for review by Engineer and Owner.
  - 3. Notification of acceptance or non-acceptance will be made in writing.
- C. Decision of Engineer and Owner regarding substitution acceptability will be final.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

SECTION 01 26 00  
CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Procedures for modifying the Work, Contract Sum, Contract Time, or any combination thereof.
2. Administrative requirements for processing Supplemental Instructions, Request for Proposal, Change Order, and Construction Change Directive.

B. Related Requirements:

1. Document 00 72 13 – General Conditions: Provisions for changes in the Work, Contract Sum, and Contract Time.
2. Document 00 91 13 – Addenda: Modifications made prior to execution of Contract.

1.02 QUALITY ASSURANCE

- A. Provide measures necessary to familiarize staff and employees with these modification procedures.

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Maintain a "Log of Contract Modifications" at job site, accurately reflecting current status of modification documents. Include entries for Supplemental Instructions, Requests for Proposal, Change Orders, and Construction Change Directives.
- B. Make the Log available to Engineer for review at their request.

1.04 SUPPLEMENTAL INSTRUCTIONS

- A. A Supplemental Instruction orders a minor change in the Work not involving adjustment in Contract Sum or change in Contract Time and not inconsistent with intent of Contract Documents.

- B. Supplemental Instructions are written orders that will be dated and will be numbered in sequence.
- C. A Supplemental Instruction will describe ordered change and will be initiated and signed by Engineer.
- D. A Supplemental Instruction is an authorization to proceed with the change.
- E. Promptly carry out the minor change ordered in Supplemental Instruction. Implementation of change in Work indicates agreement by Contractor that there will be no change in Contract Time or Contract Sum.
- F. Promptly notify Engineer in writing in order to make a claim for additional cost or additional time resulting from a Supplemental Instruction.
  - 1. Alert pertinent personnel and subcontractors as to impending change and, to maximum extent possible, avoid such work as would increase Owner's cost for making the change, advising Engineer in writing when such avoidance is no longer practicable.
  - 2. State proposed change in Contract Sum, if any, and state proposed change in Contract Time, if any.
  - 3. Clearly describe other changes in Work required by the proposed change or desirable therewith, if any.
  - 4. Include full backup data such as subcontractor's letter of proposal or similar information.
  - 5. Submit claim in single copy.
  - 6. Claim will be resolved in accordance with Article 4.4 of General Conditions.

#### 1.05 REQUEST FOR PROPOSAL

- A. A Request for Proposal is a written notice advising of a change in the Work or a change in Contract Time desired by Owner.
- B. Requests for Proposal will be dated and will be numbered in sequence.

- C. Request for Proposal will describe desired change and will be initiated and signed by Engineer.
  - 1. Request for Proposal is not an authorization to proceed with the change.
- D. Promptly respond to Request for Proposal with a written Change Proposal.
- E. State proposed change in Contract Sum, if any, and state proposed change in Contract Time, if any.
- F. Clearly describe other changes in the Work required by proposed change or desirable therewith, if any.
- G. Include full backup data such as subcontractor's letter of proposal or similar information.
- H. Submit 2 copies of Change Proposal.
- I. Meet with Engineer as required, to explain costs and, when appropriate, determine other acceptable ways to achieve desired objective.
- J. Alert pertinent personnel and subcontractors as to impending change and, to maximum extent possible, avoid such work as would increase Owner's cost for making the change, advising Engineer in writing when such avoidance is no longer practicable.
- K. A Change Order will be issued when cost or credit for change has been agreed upon by Contractor and Owner.

#### 1.06 CHANGE ORDER

- A. A Change Order is a written instrument that indicates that Owner, Contractor, and Engineer have agreed upon all of the following: a change in the Work; amount of adjustment in Contract Sum, if any; and amount of adjustment in Contract Time, if any.
- B. Change Orders will be dated and will be numbered in sequence.



- C. Change Order will describe change(s) to Contract Documents and will refer to Request(s) for Proposal involved, if any.
- D. Engineer will issue 3 originals of each Change Order, signed by Engineer and Owner.
- E. Promptly sign all 3 originals and return 2 originals to Engineer.
- F. Engineer will forward 1 signed original to Owner.
- G. Promptly carry out change directed by Change Order.

#### 1.07 CONSTRUCTION CHANGE DIRECTIVE

- A. A Construction Change Directive is a written order that authorizes a change in Work and states a proposed basis for adjustment, if any, in Contract Sum or Contract Time, or both.
- B. Construction Change Directives will be dated and will be numbered in sequence.
- C. Construction Change Directives will be initiated by Engineer and will be signed by Engineer and Owner.
- D. Upon receipt of Construction Change Directive, promptly proceed with ordered change in Work and notify Engineer whether proposed adjustment in Contract Sum or Contract Time, or both, is agreed upon.
- E. Sign Construction Change Directive if proposed adjustment in Contract Sum or Contract Time, or both, is agreed upon. Record Construction Change Directive as a Change Order.
- F. If proposed adjustment in Contract Sum or Contract Time, or both, is not agreed upon, meet with Engineer as required to explain costs and, when appropriate, determine other acceptable ways to achieve desired objective. Adjustment in Contract Sum or Contract Time will be resolved in accordance with provisions of Article 7.3 of General Conditions.

## 1.08 CHANGES INITIATED BY CONTRACTOR

- A. If a discrepancy among Contract Documents, a concealed condition as described in Article 3.7.4 of General Conditions, or other cause for suggesting a change in the Work, a change in Contract Sum, or a change in Contract Time is discovered, notify Engineer promptly in writing.
- B. Upon agreement by Engineer that there is reasonable cause to consider Contractor's proposed change, Engineer will issue a Supplemental Instruction, Request for Proposal, Construction Change Directive, or Change Order.

## PART 2 PRODUCTS

NOT USED

## PART 3 EXECUTION

NOT USED

END OF SECTION

SECTION 01 29 73  
SCHEDULE OF VALUES

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Procedural and submittal requirements for allocating values to each of the various parts of the Work, for use in evaluating Contractor's Payment Requests.

1.02 SUBMITTALS

- A. Submit Schedule of Values to Owner and Engineer at least 14 days prior to submitting first payment request.
- B. Upon request by Owner or Engineer, submit data that will substantiate magnitude of values.
- C. Submit a Schedule of Values itemized as indicated in Bid Form or itemized in more detail.
- D. Provide a Schedule of Values listing of costs whose sum equals Contract Sum.
- E. Schedule of values can be submitted electronically in electronic pdf.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

SECTION 01 31 19  
PROJECT MEETINGS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Conferences and regular meetings conducted by Engineer throughout duration of project to enable orderly review of the Work progress and to provide for systematic discussion of problems and job schedule.
2. Subcontractors and material supplier issues and discussions relative thereto are normally not part of content of project meetings.

1.02 SUBMITTALS

- A. At least 24 hours in advance of each meeting or conference, submit a list of items to be added to meeting agenda.

1.03 QUALITY ASSURANCE

- A. For those persons designated to attend and participate in project meetings or conferences, provide required authority to commit entity represented by each attendee to solutions agreed upon in project meetings.
- B. Engineer will compile minutes of each meeting and conference and will furnish 1 copy to all attendees.
- C. Review Meeting Minutes and Conference Minutes and notify Engineer in writing, within 5 days of receipt of Minutes, if you disagree with any written item.

PART 2 PRODUCTS

NOT USED

## PART 3 EXECUTION

### 3.01 GENERAL

#### A. Attendance:

1. Attendance by Contractor's project manager/superintendent is required, to maximum extent possible.
2. Subcontractors, materials suppliers, and others may be invited to attend those project meetings in which their aspect of Work is involved.

#### B. Meetings and conferences will be held at job site.

#### C. Minimum Project Meeting Agenda:

1. Review progress of the Work since last meeting.
2. Review Construction Schedule for remainder of the Work.
3. Identify problems which impede planned progress, such as significant work, down time due to inclement weather, worker absenteeism, out-of-scope work items, or unforeseen conditions.
4. Develop corrective measures and procedures to revise planned schedule, if a revised completion date is considered mandatory by Owner.
5. Review status of submittals, contract modifications, and payment requests.
6. Review impact of Work on Owner operations, and review alternative procedures if requested by Owner.
7. Complete other current business.

#### D. Additional Agenda for Pre-Construction Conference:

1. Establish channels and procedures for communication.
2. Distribute Contract Documents, including Drawings, Specifications, and modifications.
3. Review rules and regulations governing performance of the Work and quality assurance requirements.

4. Review procedures for processing Shop Drawings and other submittals requiring Engineer and Owner review.
5. Review procedures for contract modifications.
6. Review provisions for safety and first aid, property protection, security, maintenance of equipment and materials, quality control, housekeeping, grounds maintenance, and related matters.
7. Review construction facilities and temporary control requirements, including availability and access for Owner and Contractor parking.
8. Establish designated work hours, including acceptable times for operating equipment.
9. Review material acquisition timetable, as well as delivery, storage, and handling requirements.
10. Review Construction Schedule, including sequence of critical work and completion date of work items at each designated work area.
11. Review Schedule of Values.

### 3.02 SCHEDULE

- A. Pre-Construction Conference will be held prior to actual start of Work and will be scheduled by Owner.
- B. Project meetings will be held approximately bi-monthly throughout duration of Project, unless otherwise indicated by Owner or Engineer.
- C. Coordinate as necessary to establish mutually acceptable schedule for meetings and conferences.

END OF SECTION

SECTION 01 33 00  
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Requirements for processing of submittals required by Contract Documents.
2. Submittals that are not required by Contract Documents will not be reviewed by Engineer.
3. Engineer will not review drawings, setting diagrams, and similar information needed to coordinate Work between Contractor and their Subcontractors.

B. Related Sections:

1. Document 00 72 13 – General Conditions
2. Section 01 25 13 – Product Substitution Procedures.
3. Section 01 70 00 – Closeout Procedures.
4. Individual and/or additional requirements for submittals may be described in pertinent Sections of these Specifications.

1.02 QUALITY ASSURANCE

- A. Prior to forwarding each submittal, carefully review and coordinate all aspects of each item being submitted.
- B. Verify that each item and its submittal conform in all respects with specified requirements.
- C. By affixing Contractor's signature to each submittal, certify that their coordination and review have been performed.
- D. Maintain Submittal Log for duration of Work showing status of each submittal. Make updated Submittal Log available for Engineer's review upon request and at each progress meeting.

### 1.03 SUBMITTALS

- A. Make submittals of Shop Drawings, samples, product data, and other items in accordance with provisions of this Section.
- B. All submittals shall be provided in electronic pdf, except color charts and material samples shall be physically submitted. When submittals are transferred in electronic pdf, submit 1 copy of each submittal.
- C. If physical submittals are required, provide a minimum 4 of the following:
  - 1. Color charts and samples.
  - 2. Material samples used for selecting material colors, or materials.
- D. Submit Safety Data Sheets (SDS) for all materials and products used for the Work, as well as those materials and products stored on site, directly or indirectly as part of the Work.
- E. All submittals will be returned in electronic format, unless Engineer determines that hard copies will be required.
- F. Comply with the following requirements for submittals:
  - 1. Clearly mark each submittal with the specification section and paragraph number at the upper right corner of each page. If the submittal pertains to a product shown on Drawings, clearly mark the sheet number and detail or section number at the upper right hand corner of each page.
  - 2. Submit all submittals for each specification section in a well-organized package and in complete form. Partial submittals for each specification section will be rejected unless otherwise approved in writing by Engineer.
  - 3. Include a cover sheet for each submittal indicating that the Contractor has reviewed the submittals and that the submitted product complies with requirements of Contract Documents.

## PART 2 PRODUCTS

### 2.01 CONSTRUCTION SCHEDULE

- A. Submit Construction Schedule at or prior to Pre-Construction Conference.



- B. Submit updated Construction Schedule at or prior to each Project Meeting.
- C. Schedule format: Bar chart type schedule, showing start and completion dates for each significant phase of Work.

## 2.02 SHOP DRAWINGS

- A. Submit shop drawings for fabricated components of Work where indicated in Specifications.

## 2.03 PRODUCT DATA

- A. Where submitted manufacturer's literature includes data not pertinent to required submittal, clearly show which portions of contents are being submitted for review.
- B. Ensure submitted product data is current at the time of submittal.

## 2.04 SAMPLES

- A. Provide sample(s) identical to article proposed to be provided.
- B. Where specified product naturally exhibits a range of colors or textures, provide a sample that accurately represents anticipated variations.
- C. By pre-arrangement in selected cases, a single sample may be submitted for review and, when approved, be installed in the Work at a location agreed upon by Engineer.

## 2.05 COLORS AND PATTERNS

- A. Unless precise color and pattern are identified in Contract Documents and whenever a choice of color or pattern is available in specified products, submit accurate color and pattern charts to Owner and Engineer for selection.

# PART 3 EXECUTION

## 3.01 PREPARATION

- A. Prepare an organized package of submittals for the entire Project. Unless otherwise approved in writing by Engineer, submit all required submittals for each Section of

these Specifications in 1 package. Partial submittals will not be reviewed by Engineer.

- B. Consecutively number all submittals.
- C. On at least first page of each submittal, and elsewhere as required for positive identification, show submittal number and applicable Specification section.
- D. Accompany each submittal with a letter of transmittal showing information required for identification and checking.
- E. Resubmittals:
  - 1. Transmit resubmittals under a new letter of transmittal and with a new submittal number.
  - 2. Cite original submittal number for reference.

### 3.02 SCHEDULE

- A. Unless otherwise indicated in Specifications, provide submittals far enough in advance of scheduled dates for installation to allow adequate time required for reviews, for securing necessary approvals, for possible revisions and resubmittals, and for placing orders and securing delivery.
- B. Allow at least 10 working days for Engineer's review following Engineer's receipt of submittal.
- C. Submittal review by Engineer does not relieve Contractor from responsibility for errors which may exist in submitted data.
- D. Review of proposed substitutions does not relieve Contractor from responsibility for proving compliance with these Contract Documents.
- E. Revisions:
  - 1. Make submittal revisions required by Engineer.
  - 2. Notify Engineer if any required revision is interpreted by Contractor to be a change to Contract Documents.

3. Make only those revisions directed or accepted by Engineer.
4. Resubmit revised submittals until accepted by Engineer.

END OF SECTION

SECTION 01 50 00  
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Pre- and post-construction reviews.
2. Temporary utilities, facilities, and controls needed for the Work including, but not limited to: temporary utilities such as heat, water, electricity, and telephone; field office; sanitary facilities; enclosures such as tarpaulins, barricades, and canopies; temporary fencing of construction site; cleaning requirements; and project sign.

1.02 SUBMITTALS

A. Submit in accordance with provisions of Section 01 33 00 – Submittal Procedure.

B. Pre-Construction Condition Survey:

1. Submit written documentation of pre-construction condition survey prior to initiation of Work. Include information adequate to locate property item(s) exhibiting pre-existing damage.
2. Submit photographs or video of pre-existing damaged building property with and correlated to written condition survey.

1.03 QUALITY ASSURANCE

- A. Comply with federal, state, and local regulations, codes, and ordinances.
- B. Conduct periodic inspections to ensure that construction facilities and temporary controls conform to pertinent requirements.
- C. Do not allow accumulation of waste, debris, construction water, rubbish, etc., that can create hazardous conditions.

#### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Maintain temporary facilities and controls in proper and safe condition throughout progress of the Work.

#### 1.05 PROJECT/SITE CONDITIONS

##### A. Fire Protection:

1. Regulations: Comply with pertinent codes and regulations.
2. Fires: Do not permit lighting of fires about premises. Use due diligence to see that such prohibition is enforced. Promptly remove debris and waste materials from construction site to prevent accumulation of combustibles on site or within buildings.
3. Smoking: Restrict smoking to field offices and designated break areas. Furnish and post "NO SMOKING" signs at appropriate locations throughout job site where operations are conducted.
4. Welding and Cutting: Take precautionary measures to prevent fire during welding and cutting operations.
5. Heater: Properly install heaters in field office to protect combustible walls, floor, and roof. Do not use salamander heaters or other types of open flame heaters except with special permission of Owner and then only when such salamanders or open flame heaters are maintained under constant supervision.
6. Flammables: Store gasoline and other fuels in National Board of Fire Underwriters' approved safety cans and store away from hazardous work areas.

##### B. Limit of Contractor's Operations:

1. Work Areas: Confine work areas to limits of construction site. General schedule of operations and use of job site shall be subject to approval of Engineer and Owner.
2. Building Access: Uncontrolled or unrestricted access for materials, debris, or equipment will not be permitted. Control access routes and methods so as to minimize disruption of Owner's operations. Access routes shall be subject to approval by Engineer and Owner. Properly protect gates, doors, windows, stairs, and floors used in moving materials to prevent damage thereto.

C. Occupant Relations:

1. The buildings will be occupied throughout the duration of the Work. Means and methods shall consider the above.
2. To the greatest extent possible, work through the Office of the Property Manager to ensure amicable resident relations. Appoint the Project Manager or full-time field foreman to be the designated "contact" for the project.
3. Organize and execute the Work so as to cause as little inconvenience to occupants of the buildings as possible. Control employees as to ensure proper deportment and respect to occupants.
4. Issue a weekly operations schedule to the Property Manager, indicating which building areas will be affected each week. Issue schedule each Friday morning, covering the coming week.
5. Transportation of materials to the roof should be through the exterior of the buildings.
6. Access Work from external ladders or scaffolding. Access will not be permitted into unit interiors unless specifically required to complete the Work and only as authorized in advance by the Property Manager.

D. Pre-Construction Condition Survey:

1. Prior to initiation of Work, survey condition of buildings and document pre-existing damage such as broken or scratched windows, torn or missing window screens, scraped window or door frames, broken or damaged railings, damaged sidewalks, damaged fencing, damaged wood decks, damaged roofing, architectural building components, etc.
2. Document condition of grass, trees, shrubs, and other landscaping artifacts for pre-existing damage.

E. Required documentation is both written and photographic.

## PART 2 PRODUCTS

### 2.01 UTILITIES

A. Electric Power:

1. Provide temporary wiring as required for execution of Work. Provide ground fault interruption devices and similar protection measures, as required by authorities having jurisdiction.
  2. Use of existing electrical outlets is not permitted without advanced approval by Owner.
  3. Provide additional power or wiring as required for the Work.
- B. Water: Provide hoses from existing sillcocks, approved in advance by Owner, to point-of-use.

## 2.02 FIELD OFFICE

- A. If required for proper Contractor operations, provide a field office building adequate in size and accommodation for Contractor's offices, supply, and storage.
- B. Provide temporary toilet facilities in quantity required for use by all personnel and at locations acceptable to Owner. Maintain facilities in a sanitary condition at all times.
- C. First-Aid Supplies: Provide medical supplies and equipment at job site for first-aid service to persons injured in connection with the Work.

## 2.03 ENCLOSURES

- A. Provide and maintain for duration of the Work all scaffolds, tarpaulins, canopies, warning signs, steps, platforms, bridges, and other temporary construction necessary for proper completion of the Work in compliance with pertinent safety and other regulations.
- B. Maintain open or relocate public sidewalks in a condition accessible to foot traffic.
- C. Provide protective canopies or other appropriate means over entranceways, and elsewhere as required by authorities having jurisdiction, when work is occurring overhead or adjacent to those areas. Provide overhead protection in compliance with applicable codes and ordinances with respect to installation and maintenance of sidewalk protection and public safety.

- D. Maintain means of egress required by governing building codes for continual use of adjacent buildings.
- E. Construction Warning Signs: Provide and maintain suitable signs to warn public and building occupants of Work in progress.
- F. Provide temporary fencing as required.

#### 2.04 EQUIPMENT

- A. Furnish, erect, operate, and maintain suitable equipment as may be necessary for safe handling of material entering into work area. Construct and maintain material equipment in accordance with applicable federal and state laws and regulations and local ordinances.

#### 2.05 CLEANING MATERIALS

- A. Limit materials and equipment to those which are compatible with surfaces being cleaned.
- B. Limit materials and equipment to those which are approved by manufacturer of material to be cleaned.
- C. Verify compatibility of cleaning materials at a small area prior to widespread use.

#### 2.06 TEMPORARY CONSTRUCTION FACILITIES

- A. Temporary Storage Facility and Staging Area:
  - 1. Owner will allocate limited space on property for storage of materials and equipment.
  - 2. Locate construction personnel vehicles, debris receptacles, construction equipment, material storage, and temporary facilities within permitted boundaries.
  - 3. Do not store materials within drip line of trees.
  - 4. When storing materials, do not exceed its live load capacity of 20 psf.
- B. Dust, Debris, Water, Odor, and Noise Control:



1. Take necessary precautions to prevent dust, dirt, construction-related water, sand particles, etc., from entering building interiors or from accumulating around parking and sidewalk areas.
  2. Take necessary precautions to prevent offensive odors related to sealers, paints, coatings, and other construction materials from entering building interiors.
  3. Perform noisy work operations during hours approved in advance by Owner.
- C. On-site parking for personal vehicles will not be available.

## 2.07 PROJECT SIGNS

- A. Project signs or other advertising are not permitted on job site.

## PART 3 EXECUTION

### 3.01 GENERAL

- A. Maintain temporary facilities and controls as long as necessary for safe and proper completion of the Work.
- B. Maintain drains and sewers clean and free of construction debris during all phases of Work.
- C. Remove temporary facilities and controls as rapidly as progress of the Work will safely permit.
- D. Overhead Electrical and Communication Lines
1. If needed for performing the Work, arrange for temporary relocation or shut-off of electrical and communication lines as required for safe access and operation.

### 3.02 CLEANING

- A. Remove demolition material, debris, construction water, and related rubbish on a daily basis.
- B. Legally dispose of waste, debris, and rubbish at dump areas off Owner's property.
- C. Properly dissipate construction water so that water does not accumulate or pond on sidewalks or landscaped areas adjacent to or on property.

- D. Maintain paved areas, sidewalk, and parking level surfaces in a broom-clean condition during the Work. Maintain grass and landscaped areas in a rake-clean condition during the Work.
- E. Do not allow items to be dropped or thrown from work areas above grade.
- F. Schedule cleaning operations so that newly placed work is not damaged.
- G. Remove and clean material spills as the Work progresses.

### 3.03 PROTECTION

- A. Site Security: Provide daily inspection of buildings and site while the Work is in progress and take whatever measures are necessary to secure buildings from theft, vandalism, and unlawful entry related to Contractor's activities on site.
- B. Provide protection barricades, etc., required by federal, state, county, or municipal laws and ordinances; maintain all lights, signals, and protection of all kinds for full period of operations; and remove same when directed.
- C. Protect building components, walks, drives, parking areas, vehicles, utilities, and property, etc., adjacent to Work areas from damage. Remediate damage to above items as Work progresses in a manner satisfactory to Owner and at no cost to Owner.

END OF SECTION

SECTION 01 60 00  
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Protection of products and equipment scheduled for use in the Work by means including, but not necessarily limited to, those described in this Section.
2. Additional procedures may be prescribed in other Sections of these Specifications.

1.02 SUBMITTALS

- A. Along with required product data sheets, include Safety Data Sheets (SDS) for all products and materials used during Work at the site.

1.03 QUALITY ASSURANCE

- A. Use procedures required to assure full protection of work and materials.
- B. Except as otherwise approved by Engineer, determine and comply with manufacturers' recommendations on product handling, storage, and protection.

1.04 DELIVERY, STORAGE AND HANDLING

A. Acceptance at Site:

1. Deliver products and equipment to job site in their manufacturer's original container, with labels intact and legible.
2. Verify date of manufacture on all products used for completing the Work. Verify expiration dates for product shelf life prior to using material for the Work.

B. Storage and Protection:

1. Maintain packaged materials with seals unbroken and labels intact until time of use.

2. Promptly remove damaged material and unsuitable items from job site and promptly replace with material meeting specified requirements, at no additional cost to Owner.
3. Engineer may reject as non-complying such material, products, and equipment that do not bear identification satisfactory to Engineer as to manufacturer, grade, quality, shelf life, expiration date, and/or other pertinent information.
4. Maintain finished surfaces clean, unmarked, and suitably protected until accepted by Owner.

C. Repairs:

1. In event of damage, promptly make replacements and repairs to approval of Owner and at no additional cost to Owner.
2. Additional time required to secure replacements and to make repairs will not be considered by Owner to justify an extension in Contract Time.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

SECTION 01 70 00  
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Administrative procedures, closeout submittals, and forms to be used at substantial completion and at final completion of the Work.

B. Related Sections:

1. Document 00 72 13 – General Conditions: Cleaning Up, Documents, and Samples at Site.
2. Section 01 50 00 – Construction Facilities and Temporary Controls: Cleaning.

1.02 SUBMITTALS

A. Closeout submittals include, but are not necessarily limited to:

1. Operation and maintenance data for items so listed in pertinent Sections of these Specifications and for other items where so directed by Engineer.
2. Warranties and bonds.
3. Evidence of compliance with requirements of governmental agencies having jurisdiction including, but not necessarily limited to, Certificates of Inspection.
4. Certificates of Insurance for products and completed operations.
5. Evidence of payment and release of liens on a form acceptable to the Owner.
6. List of subcontractors, service organizations, and principal vendors including names, addresses, and telephone numbers where they can be reached.
7. Consent of surety where Performance and Payment Bonds have been required for the Work.

B. Project Record Documents:

1. Throughout progress of the Work, maintain a complete and accurate record of Contract Document changes.

2. Make a complete and accurate record of the Work as actually installed. Neatly mark on a set of drawings and specifications with appropriate supplementary notes.
3. Throughout progress of the Work, maintain a set of manufacturers' literature for products used in the Work. Specifically identify products used in manufacturers' literature.
4. Purpose of final Project Record Documents is to provide factual information regarding all aspects of the Work.

### 1.03 QUALITY ASSURANCE

#### A. Substantial Completion:

1. When the Work is sufficiently complete in accordance with Contract Documents so Owner can occupy or utilize the Work for its intended purpose, prepare and submit to Engineer a comprehensive list of items to be completed or corrected.
2. Proceed promptly to complete and correct items on the list.
3. Upon receipt of the list, Engineer will perform a review to verify status of project completion. Provide Engineer with access to the Work as required to perform this review.
4. If Engineer discovers any item, whether or not included on Contractor's list, which is not in accordance with the requirements of Contract Documents, complete or correct such item upon notification by Engineer. Then, submit a request to Engineer for another review.
5. When the Work is substantially complete, Engineer will issue a Certificate of Substantial Completion.

#### B. Final Completion:

1. When the Work is completed (including corrections), certify to Engineer that the Work has been reviewed for compliance with Contract Documents and has been completed in accordance therewith.

2. Upon receipt of Contractor's certification, Engineer will perform a final review. Provide Engineer and Owner with access to the Work as required to perform this review.
3. When Engineer has determined that the Work is acceptable under Contract Documents, provide closeout submittals.
4. Once Engineer has certified final pay application and accepted closeout submittals, and Owner has made final payment, the Work has reached Final Completion.

#### 1.04 WARRANTIES

- A. Submit required warranties on Contractor's letterhead covering all work items and using language specified in respective Sections of these Specifications.
- B. Provide warranties signed by Contractor, Installer if other than Contractor, and material manufacturer, if applicable.

#### PART 2 PRODUCTS

NOT USED

#### PART 3 EXECUTION

##### 3.01 ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement of accounting to Engineer, showing all adjustments to Contract Sum.
- B. If so required, Engineer will prepare a final Change Order showing adjustments to Contract Sum which were not made previously by Change Orders.
- C. Final payment may be withheld if warranties and other closeout submittals do not comply with requirements of Contract Documents.

##### 3.02 FINAL CLEANING

- A. In preparation for final inspection, ensure that all areas have been cleaned and debris, rubbish, construction water, etc., have been removed.

- B. Repair, patch, or touch up any marred surfaces to match finish and quality of adjacent undamaged areas, in a manner satisfactory to Owner.
- C. Leave paved areas, sidewalk, and parking level surfaces in a broom-clean condition.
- D. Leave grass and landscaped areas in a rake-clean condition.
- E. Remove material spills from windows, parking level and sidewalk surfaces, architectural finishes, etc.

END OF SECTION



SECTION 02 41 19  
SELECTIVE DEMOLITION

PART 1      GENERAL

1.01    SUMMARY

A. Section Includes:

1. Carefully demolish and remove from site existing construction materials designated for removal and replacement including, but not necessarily limited to:
  - a. Designated existing planters;
  - b. Existing concrete topping slab;
  - c. Existing roof drain assemblies;
  - d. Waterproofing membrane; and
  - e. Brick masonry and stone units.
2. Carefully remove and safely store materials designated for removal and re-installation, including but not necessarily limited to:
  - a. Designated existing planters;
  - b. Trash cans;
  - c. Railings and fencing; and
  - d. Benches.

B. Payment Procedures: Selective demolition shall be incidental to repairs.

C. Related Sections:

1. Section 03 01 55 – Concrete Deck Repairs
2. Section 04 01 07 – Masonry Repointing
3. Section 04 01 09 – Masonry Restoration
4. Section 07 31 52 – Modified Bituminous Sheet Waterproofing

## 5. Section 07 92 00 – Joint Sealants

### 1.02 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in necessary crafts and who are completely familiar with specified requirements and methods needed for proper performance of work of this Section.

### 1.03 PROJECT CONDITIONS

- A. Cover penetrations and openings to prevent dust and water entry during demolition.

## PART 2 PRODUCTS NOT USED

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Examine areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of Work. Do not proceed until unsatisfactory conditions are corrected.

### 3.02 DEMOLITION

- A. By careful study of Contract Documents and documents related to existing construction, determine location and extent of selective demolition to be performed.
- B. In company of Engineer, verify extent and location of selective demolition required.
  - 1. Carefully identify limits of selective demolition.
  - 2. Mark interface surfaces as required to enable workmen to identify items to be removed and items to be left in place intact.
- C. Prepare and follow an organized and controlled plan for demolition and removal of items. Protect construction adjacent to and below demolition from damage.

1. Shut off, cap, and otherwise protect existing public utility lines in accordance with requirements of public agency or utility having jurisdiction.
  2. Completely remove items scheduled to be demolished and removed, leaving surfaces clean, solid, and ready to receive new materials specified elsewhere in these Specifications.
  3. Where required selective demolition would leave adjacent construction without adequate support, provide temporary bracing or shores as required to safely support construction to remain, without causing distress to remaining and new construction.
  4. Provide temporary enclosures over all openings to prevent water penetration into interior area of the building.
  5. In all activities, comply with pertinent regulations of governmental agencies having jurisdiction.
- D. Demolished materials shall be considered to be property of Contractor and shall be completely removed from site and legally disposed of except for components designated for reuse.
- E. Use means necessary to prevent dust and noise from becoming a nuisance to public, to occupants of building and adjacent structures, and to other work being performed on or near site.

### 3.03 REPLACEMENTS AND PROTECTION

- A. In event of demolition or damage of items not scheduled to be demolished, promptly repair or replace such items to approval of Owner and at no additional cost to Owner.
- B. Where demolition has temporarily exposed interior areas, utilities, or other portions or furnishings of structures, provide temporary bracing, weather protection, and/or other measures to protect exposed areas until they are enclosed and protected by new construction.

END OF SECTION

SECTION 03 01 55  
CONCRETE DECK REPAIRS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Repair delaminated, spalled, disintegrated, and otherwise unsound concrete deck including, but not necessarily limited to, the following:
1. Identify and remove unsound concrete.
  2. Legally dispose of demolished materials.
  3. Prepare concrete patch cavity surfaces for placement of repair materials.
  4. Place repair concrete and cure.
  5. Perform final grinding and touch-up patching of patched areas and adjacent concrete surfaces for a smooth transition between patches and adjacent concrete.
- B. Measurement and Payment Procedures:
1. Documentation of Quantities: Document concrete deck repair quantities upon completion of preparation of patch cavities and before erection of formwork in accordance with Section 01 11 00 – Summary of Work.
  2. Payment for concrete deck repairs will be on unit price basis and in accordance with Contract Documents. Unit of measurement shall be square feet. Minimum payment for each repair area shall be 2 square feet.
- C. Incidentals: The following items shall be considered incidental to concrete patch repair costs:
1. Formwork, including provisions for architectural features; and
  2. Supplemental reinforcement as directed by Engineer.
- D. Related Sections:
1. Section 02 41 19 – Selective Demolition
  2. Section 03 01 55 – Cast-in-Place Concrete

3. Section 07 22 16 – Roof Board Insulation
4. Section 07 13 52 – Modified Bituminous Sheet Waterproofing

## 1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's specifications and installation instructions for each proprietary material used.

## 1.03 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in necessary crafts and who are completely familiar with specified requirements and methods needed for proper performance of Work of this Section.

## PART 2 PRODUCTS

### 2.01 MATERIALS

#### A. Concrete Reinforcement:

1. Reinforcing Bars: ASTM A615, Grade 60, deformed, epoxy-coated per ASTM A775.
2. Stainless steel threaded rod and dowels: ASTM F593, Type 304.
3. Reinforcing Mesh: Galvanized welded wire fabric, complying with ASTM A641/A641M.

#### B. Corrosion-Inhibiting Coating for Reinforcing Steel:

1. Sikagard P 8100 AP Rebar Primer by Sika, or other equivalent product approved by Engineer.

#### C. Proprietary Concrete:

1. Proprietary concrete shall be used for all form-and-pour concrete patch repairs. At the Contractor's option, ready-mix concrete may be used in lieu of proprietary concrete.
2. Pre-packaged proprietary portland cement-based repair concrete designed for cast-in-place installation and exterior exposure. Contingent upon Engineer's acceptance of manufacturer's certifications, acceptable products include:
  - a. SikaEmaco S 466, manufactured by Sika;
  - b. SikaEmaco S 440, manufactured by Sika;

- c. Other equivalent product as approved by Engineer

## 2.02 MISCELLANEOUS MATERIALS

- A. Compressible Filler: Resilient, flexible, non-extruding, expansion-contraction joint filler in accordance with ASTM D1751
  - 1. Composition: Cellular fibers securely bonded and saturated with asphalt
  - 2. Acceptable product: Fibre Expansion Joint Manufactured by W.R. Meadows.
- B. Sealant: In accordance with Section 07 92 00 – Joint Sealants.
- C. Accessories:
  - 1. Chairs, bolsters, bar supports, and spacers shall be made of plastic materials and shall be sized and shaped for strength and support of reinforcement during concrete placement conditions.
  - 2. Tie Wire: 16 gauge minimum, epoxy- or vinyl-coated when used to secure existing reinforcement. 16 gauge stainless steel when used to secure stainless steel supplemental reinforcing.
  - 3. Adhesive for anchors, dowels and reinforcing bars: HILTI HIT-HY 200 by HILTI, Inc.
- D. Provide other materials, not specifically described but required for a complete and proper installation, subject to the approval of Engineer.

## PART 3 EXECUTION

### 3.01 PREPARATION

- A. Immediately after removal of existing waterproofing system, sound deck surfaces using a chain drag method. Clearly mark areas exhibiting delaminations or surface deterioration, and record their location on a plan. Notify Engineer of concrete deck deterioration prior to proceeding with deck repairs or installation of overlaying materials.
- B. Prior to concrete removal, review requirements for shoring with Engineer. Where required, provide shoring.

- C. Schedule concrete deck repairs so that temporary weather protection for concrete decks can be provided during off hours.

### 3.02 UNSOUND CONCRETE REMOVAL

- A. Repair delaminated, spalled, disintegrated, or otherwise unsound areas of concrete. Identify deteriorated concrete in field by chain-drag method or by tapping concrete surfaces with a sounding rod or hammer.
- B. Mark areas requiring repair with a marking paint prior to concrete removal. Upon completion, review area and provide shoring where directed by Engineer. Install shoring prior to concrete removal.
- C. Saw cut a minimum of ½ inch deep around perimeter of delamination, spall, existing patch, or otherwise-deteriorated area. Removal area shall be regular in shape. Make entire saw cut in sound concrete. Saw cut edges on a slightly beveled plane, with base of cut slanted outward away from the center of patch. Reduce depth of saw cut where required to avoid cutting embedded reinforcement. Chip concrete at those locations to provide sharp edges.
- D. Remove concrete from within area bounded by saw cut using electric or pneumatic chipping hammers or hand tools to minimize damage to adjacent sound concrete. Concrete removal shall extend into sound concrete and extend beyond the corroded reinforcing steel. Remove concrete to minimum depth shown on drawings and at least ¾ inch behind exposed reinforcement. Additional concrete removal may be necessary for significantly corroded reinforcing steel to provide adequate splice length for supplemental steel. Remove concrete to sound concrete substrate.
- E. Exercise care to avoid damage to embedded steel reinforcement.
- F. If conditions are uncovered where steel reinforcement is within ½ inch of concrete surface, notify Engineer. Engineer will determine whether reinforcement can be removed or modified or whether a built-up patch is required.
- G. Do not remove or modify existing steel reinforcement without approval of Engineer, unless removal of steel in patch area is specified on Drawings.

### 3.03 REPAIR CAVITY PREPARATION

- A. Cleaning of Existing Reinforcement: Thoroughly clean exposed embedded reinforcement to remove corrosion products and old concrete by sandblasting. Measure diameter of cleaned reinforcement bars and compare with original bar diameter. Supplement exposed reinforcing steel that has lost more than 15% of its original diameter due to corrosion or damage from concrete removal with new reinforcing steel. Replace steel severely damaged during concrete removal. Diameter of supplemental reinforcement shall be equivalent to the original bar diameter, unless otherwise specified by Engineer.
- B. Surface Preparation: Sandblast cavity, saw cuts, and immediate surrounding concrete area to remove deleterious materials such as laitance, dirt, grease, caulk, curing compounds, and paint. Cavity substrate shall have a minimum surface amplitude of approximately 1/16 inch. Blow cavity clean with oil-free compressed air to ensure that loose particles have been removed. If more than 48 hours has elapsed since patch area was sandblasted and cleaned and time when patch material is to be placed, blow patch area clean again with oil-free compressed air immediately prior to placement of patch material.
- C. Coating Exposed Reinforcement: Thoroughly coat cleaned reinforcing steel with 2 coats of corrosion-inhibitive coating. Mix coating and apply in strict accordance with manufacturer's instructions. Dry film thickness of coating shall be approximately 10 to 12 mils or as required by manufacturer, with no pin holes. Do not apply or spill coating material on concrete surface. Remove coating material on concrete surfaces by chipping followed by sandblasting.
- D. Placement of New Supplemental Reinforcement: Provide reinforcing steel and/or epoxy-grouted dowels, if designated by Engineer. Do not place stainless steel in contact with rebar.
- E. Final Surface Preparation: Pre-dampen cavity surface with clean water. Cavity substrate shall be saturated surface dry with no free water at time of repair material placement.

### 3.04 MIXING, PLACEMENT, FINISHING, AND CURING

- A. Form all repair patches prior to placement of repair mortar.



- B. Mix proprietary concrete and mortar materials in accordance with the manufacturer's written instructions.
- C. Place materials continuously at each patch location. Deposit repair materials as near to final position as possible. Existing surface of sound concrete shall be saturated surface dry at time of placement.
- D. Placement shall be such to ensure complete consolidation and 100% bond to existing concrete.
- E. Place repair material in lifts as required and consolidated using pencil vibrators or other methods as required to ensure that no voids exist in patch, then leveled to final grade.
- F. Minimum ambient air and surface temperatures shall be 45 degrees F and rising at time of placement. When air temperature is above 80 degrees F or below 40 degrees F, recommendations of ACI 305R and 306R, respectively, shall be followed.
- G. Finish patch surfaces to match existing adjacent surfaces.
- H. Perform supplemental grinding and minor patching at formed repairs to provide smooth transition from patch to non-repaired surfaces.

### 3.05 CURING

- A. Protect fresh concrete deck patches from premature drying and maintain with minimal moisture loss at a relatively constant temperature for the period specified.
- B. Begin curing immediately following final finishing operations and before concrete has dried. Continue curing for at least 16 hours in accordance with the manufacturer's written instructions.

END OF SECTION

SECTION 03 32 00  
CAST-IN-PLACE CONCRETE

PART 1      GENERAL

1.01    SUMMARY

A. Section Includes:

1. Provide reinforced concrete and curbs where shown on Drawings.

B. Related Sections:

1. Section 03 01 55 – Concrete Deck Repairs
2. Section 07 13 52 – Modified Bituminous Sheet Waterproofing
3. Section 07 62 00 – Sheet Metal Flashing and Trim
4. Section 07 92 00 – Joint Sealants

1.02    SUBMITTALS

A. Concrete Mix Design Approval:

1. Submit a written description of concrete mixes to be used for the work to Engineer at least 14 days prior to anticipated use.
2. Include exact proportions, aggregate type and size, admixture type and dosage, 28-day compressive strength, slump, air content and unit weight. Submit material test reports and compatibility statements required by this Section with the mix design.
3. Do not place concrete before receiving written approval of mix design from Engineer.
4. Distribute copies of the approved mix design to testing laboratory, job site and batch plant prior to placing concrete.

B. Samples for Initial Selection: Submit manufacturer's color charts showing full range of colors available.

- C. Submit quality control test reports and concrete delivery tickets as required by these Specifications.
- D. Submit detailed procedures for the production, transportation, placement, protection, curing and temperature monitoring of concrete. Include procedures to be implemented during hot or cold weather or upon abrupt changes in the weather. Do not begin concreting until these procedures have been reviewed and are satisfactory to the Engineer.

### 1.03 REFERENCES

#### A. American Concrete Institute (ACI):

1. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials.
2. ACI 301 - Specifications for Structural Concrete.
3. ACI 302 IR - Recommended Practice for Concrete Floor and Slab Construction.
4. ACI 303.1 - Standard Specification for Cast-In-Place Architectural Concrete.
5. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting and Placing of Concrete.
6. ACI 305 - Hot Weather Concreting.
7. ACI 306.1 - Standard Specification for Cold Weather Concreting.
8. ACI 308.1 - Standard Specification for Curing Concrete.
9. ACI 318 - Building Code Requirements for Structural Concrete.
10. ACI 530.1 - Specifications for Masonry Structures.
11. ACI SP-66 - ACI Detailing Manual.

#### B. American Society for Testing and Materials International (ASTM):

1. ASTM A184, "Standard Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement".
2. ASTM A496, "Standard Specification for Steel Wire, Deformed, for Concrete Reinforcement".

3. ASTM A615, “Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement”.
4. ASTM A641/A641M, “Specification for Zinc-Coated (Galvanized) Carbon Steel Wire”.
5. ASTM A775, “Standard Specification for Epoxy-Coated Reinforcing Steel Bars”.
6. ASTM A884, “Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Fabric for Reinforcement”.
7. ASTM A934, “Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars”.
8. ASTM A1064/A1064M, “Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete”.
9. ASTM C31, “Standard Practice for Making and Curing Concrete Test Specimens in the Field”.
10. ASTM C33, “Standard Specification for Concrete Aggregates”.
11. ASTM C39, “Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens”.
12. ASTM C42, “Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete”.
13. ASTM C94, “Standard Specification for Ready-Mixed Concrete”.
14. ASTM C143, “Standard Test Method for Slump of Hydraulic Cement Concrete”.
15. ASTM C150, “Standard Specification for Portland Cement”.
16. ASTM C172, “Standard Practice for Sampling Freshly Mixed Concrete”.
17. ASTM C173, “Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method”.
18. ASTM C231, “Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method”.

19. ASTM C260, “Standard Specification for Air-Entraining Admixtures for Concrete”.
20. ASTM C309, “Liquid Membrane-Forming Compounds for Curing Concrete”.
21. ASTM C494, “Standard Specification for Chemical Admixtures for Concrete”.
22. ASTM C618, “Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete”.
23. ASTM C685, “Standard Specification for Concrete Made By Volumetric Batching and Continuous Mixing”.
24. ASTM C1017, “Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete”.
25. ASTM C1064, “Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete”.
26. ASTM C1107, “Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink) ”.
27. ASTM C1218, “Standard Test Method for Water-Soluble Chloride in Mortar and Concrete”.
28. ASTM D994, “Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type) ”.
29. ASTM D1751, “Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types) ”.
30. ASTM D1752, “Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction”.
31. ASTM D3963, “Standard Specification for Fabrication and Jobsite Handling of Epoxy-Coated Reinforcing Steel Bars”.

C. Concrete Reinforcing Steel Institute (CRSI):

1. CRSI - Manual of Standard Practice.

## 2. CRSI - Placing Reinforcing Bars.

### 1.04 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with specified requirements and the methods needed for proper performance of the Work of this Section.
- B. Use proprietary materials in accordance with Manufacturer's written recommendations.
- C. Comply with "Standard Specifications for Structural Concrete," ACI 301, except as modified herein.
- D. Concrete Materials Testing and Inspection Requirements:
  - 1. Engage a testing laboratory experienced in testing of concrete materials and approved by Engineer. The representative of testing laboratory shall be at job site for sampling, inspection and testing as required by these specifications. To facilitate inspection:
    - a. Furnish labor to assist testing laboratory in obtaining and handling samples at job site.
    - b. Advise testing laboratory sufficiently in advance of concrete placement to allow for the assignment of testing personnel and testing.
    - c. Provide and maintain for use of testing laboratory adequate facilities for proper curing of concrete test specimens on job site in accordance with ASTM Designation: C31-91, "Test Methods of Making and Curing Concrete Test Specimens in the Field."
    - d. Notify Engineer at least 48 hours prior to placement of concrete.
  - 2. Submit written reports of inspections and testing results to Engineer within three days.
  - 3. Inspection and testing reports shall include the following in addition to requirements of respective ASTM Designations:
    - a. Name of project, Contractor and supplier.

- b. Mix designation and required strength.
  - c. Placement location of concrete.
  - d. Description of weather and air temperature at time of placement.
  - e. Truck number, time and date sampled.
  - f. Quantity of water added to mix at site.
  - g. Compressive strength (include type of fracture), slump, air content and concrete temperature.
  - h. Date tested.
  - i. Type of curing.
  - j. Compliance with specifications (yes or no).
4. The testing laboratory shall provide and maintain all measuring and testing equipment, instruments and supplies necessary to accomplish the required testing and inspection.
5. Perform slump, concrete temperature and air content tests and obtain concrete test cylinders for concrete mixed and used each day, or for every 25 cubic yards, whichever is less. Sample concrete for tests at point of placement. Evaluate quality control test results in accordance with ACI 301.
- a. Compressive Strength: Each set of concrete test cylinders shall include five test cylinders measuring 6 inches by 12 inches each. Make and cure test specimens in accordance with ASTM C31, "Test Methods of Making and Curing Concrete Test Specimens in the Field." Test specimens in accordance with ASTM C39, "Test Method for Compressive Strength of Cylindrical Concrete Specimens." Test two specimens at 7 days for information, test two specimens at 28 days for acceptance, and retain one specimen as a spare.
  - b. Perform tests for slump, air content and concrete temperature in accordance with ASTM C143, ASTM C173, and ASTM C1064, respectively.

## 1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Store cement and mineral admixtures in weather-tight enclosures to provide protection from dampness and contamination.
- B. Arrange and use aggregate stockpiles so as to avoid segregation, contamination with foreign matter and other aggregates. Cover to avoid rainwater wetting.
- C. Colored Admixture: Comply with manufacturer's instructions. Deliver colored admixtures in original, unopened packaging. Store in dry conditions.

## 1.06 PROJECT CONDITIONS

- A. Comply with provisions of ACI 306.1 “Standard Specification for Cold Weather Concreting”, and ACI 305 “Hot Weather Concreting”.
- B. Obtain review from Engineer of substrate surfaces before proceeding with concreting.
- C. Assure substrate surfaces are clean and with no standing or visible water. Do not work in rain, snow or inclement weather.
- D. Schedule delivery of concrete to provide consistent mix times from batching until discharge. Mix times shall meet manufacturer’s written recommendations.
- E. During application and storage of materials, prevent overloading of existing structure. Do not exceed 100 psf construction load.

## PART 2 PRODUCTS

### 2.01 FORMWORK

- A. Formed Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
  - 1. Rust-free metal.
  - 2. Exterior-grade undamaged, unpatched plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:



- a. Medium-density overlay, Class 1, or better, mill-release agent treated and edge sealed.
    - b. Structural 1, B-B, or better, mill oiled and edge sealed.
    - c. B-B (Concrete Form), Class 1, or better, mill oiled and edge sealed.
  3. Architecturally Exposed Concrete: Medium-density overlay, class 1 or better, mill-release agent treated and edge sealed.
- B. Design of formwork is the responsibility of the Contractor.
- C. Recommendations of ACI 347R “Guide to Formwork for Concrete” shall be used as a guide.
- D. Form Release Agent: Use a non-staining agent guaranteed not to affect bond of adjacent concrete placements or specified coatings and sealants. Do not use motor or linseed oils.
- E. Provide other materials, not specifically described but required for a complete and proper installation, subject to the approval of Engineer.

## 2.02 PORTLAND CEMENT CONCRETE

- A. General: Mix, batch and deliver concrete in accordance with ASTM C94
- B. Cement: Type I, II or III Portland cement, in accordance with ASTM C150.
- C. Aggregates:
1. Conform to ASTM C33, including restrictions on reactive materials.
  2. Coarse aggregate: Crushed rock or washed gravel, top size 3/4 inch
  3. Fine aggregate: Natural washed sand of hard and durable particles.
- D. Mixing Water: Fresh, clean and potable.
- E. Admixtures:
1. Air-Entraining Admixture: Conform to ASTM C260.
  2. Water-Reducing Admixture: Meet requirements of ASTM C494-92, Type F admixture. High Range Water Reducer may be added at construction site prior to placing concrete and mixed to uniformity according to ASTM C94.

3. Provide Engineer with a written submittal from concrete producer that documents compatibility of admixtures and concrete mix components with respect to premature stiffening, air content, workability and strength.
4. Admixtures may be introduced to mixer at batch plant or job site. If material is added at job site, equip ready-mix trucks with calibrated automatic dispensers.
5. Do not use chloride-containing admixtures.

F. Supplemental Cementitious Materials

1. Fly Ash: Conform to ASTM C618. Limit fly ash content to a maximum of 25% of total cementitious materials by mass.
2. Do not use slag.

G. Concrete Properties and Mix Designs:

<u>Property</u>	<u>Mix Design</u>
Specified Compressive Strength ( $f_c$ ) at 28 days:	5,000 psi
Slump:	3 to 5 inches
Maximum Water-Cement Ratio:	0.40
Air Content:	4.5 to 7.5%
Coarse Aggregate Top Size:	3/4 inch
Minimum Cement Content	564 pcy
Cement Type	I or II

## 2.03 REINFORCING STEEL

- A. Reinforcing Bars: ASTM A615, Grade 60, deformed, epoxy coated in accordance with ASTM A775
- B. Stainless steel threaded rod and dowels: ASTM F593, Type 304
- C. Galvanized Welded Wire Fabric: Size as shown on Drawings. Comply with ASTM A641/A641M.
- D. Accessories:

1. Chairs, bolsters, bar supports, and spacers shall be made of plastic materials and shall be sized and shaped for strength and support of reinforcement during concrete placement conditions.
2. Tie Wire: 16 gauge minimum, epoxy- or vinyl-coated when used to secure existing reinforcement. 16 gauge stainless steel when used to secure stainless steel supplemental reinforcing.
3. Adhesive for anchors, dowels and reinforcing bars: HILTI HIT-HY 200 by HILTI, Inc.
4. Epoxy Repair Coating: Liquid, two-part, epoxy repair coating; compatible with epoxy coating on reinforcement and complying with ASTM A775.

#### 2.04 REALTED MATERIALS

- A. Gravel Fill: Well graded, clean, crushed stone or gravel conforming to State of Illinois, Department of Transportation "Specifications for Road and Bridge Construction", for Graduation CA6.
- B. Compressible Joint Filler: ASTM D1752. Size as required.
- C. Sealant: Comply with Section 07 92 00 – Joint Sealants.

### PART 3 EXECUTION

#### 3.01 PREPARATION

- A. Examine areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of Work. Do not proceed until unsatisfactory conditions are corrected.
- B. Preparation for concrete placement:
  1. Notify Engineer immediately if any unsound, delaminated, or spalled substrate surfaces are identified.
  2. Prepare existing surfaces by completely removing the existing waterproofing membrane materials and scarifying substrate surfaces. Prepared substrate surfaces shall meet the requirements of International Concrete Repair Institute Guideline No. 310.2R, Concrete Surface Profile (CSP) No. 5 or 6. Surface

preparation may be performed using shotblasting, mechanical scarifying, or other means approved by Engineer.

3. Blow substrate clean with oil-free compressed air to ensure that loose particles have been removed. If more than 24 hours elapses between substrate cleaning and placement of bonded overlay, blow substrate clean again with oil-free compressed air immediately prior to placement of overlay concrete.

C. Preparation for concrete placement:

1. Concrete placement procedures shall protect all portions of waterproofing system and existing components at all times. Placement procedures shall be reviewed by Engineer prior to placement.

### 3.02 CONCRETE PLACEMENT

A. Preparation:

1. Elevations: Prior to placement of concrete, provide positive means to verify the minimum thickness of the overlay and ensure proper drainage and facilitate correct concrete placement.
2. Access: Provide access for delivery of concrete, and provide sufficient equipment and manpower to place concrete rapidly.
3. Remove foreign matter accumulated in placement areas.
4. Rigidly close openings left in formwork.
5. Wet wood forms sufficiently to tighten up cracks. Wet other materials sufficiently to maintain workability of concrete.
6. Use only clean tools.
7. Dampen the concrete substrate prior to placement of concrete. Ensure that concrete substrate is saturated surface dry (SSD) immediately prior to concrete placement.

B. Placement Techniques:

1. Conveying:
  - a. Deposit and consolidate concrete in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.

Perform concrete placing at such a rate that concrete which is being integrated with fresh concrete is still plastic.

- b. Deposit concrete as near as practicable to its final location so as to avoid separation due to rehandling and flowing.
  - c. Do not use concrete which has become nonplastic and unworkable, or does not meet required quality control limits, or has been contaminated by foreign materials.
  - d. Remove rejected concrete from job site.
2. Pumping: Convey concrete directly to formwork. Take precautions to prevent segregation of concrete materials and insure an even flow of concrete.
3. Consolidation:
  - a. Consolidate concrete immediately after placing by use of internal concrete vibrators or by vibrating screed. Do not overvibrate. Overvibration (concrete segregation) shall be cause for rejection.
  - b. Do not use vibrators to transport concrete.
  - c. Remove and replace concrete which lacks uniformity, exhibits segregation, honeycombing or laminations, or contains any dry patches, voids, or rock pockets.
4. Place and finish concrete to provide positive drainage as shown on Drawings.
5. Finishing:
  - a. Finish concrete surfaces with positive slope towards perimeter and to prevent surface ponding. At a minimum, finish concrete surfaces to a tolerance of 1/8 of an inch in ten (10) feet. Tolerance measurements shall be performed as described in ACI 302.1R, Section 7.15.1.2.
  - b. Finish exterior exposed concrete surfaces to a broom finish.
  - c. Do not finish while there is a film of water on the surface of concrete.
  - d. Do not allow concrete to dry prior to finishing operations. Incorporate protective measures until concrete is troweled and in final cure stage.
6. Sawcut control joints in wearing slab within 12 hours of concrete placement and at locations shown on drawings.

### 3.03 CURING

- A. Fresh concrete shall be protected from premature drying and shall be maintained with minimal moisture loss at a relatively constant temperature for the period specified.
- B. Wet curing shall begin immediately following final finishing operations and before concrete has dried. Continue wet curing for at least seven (7) days in accordance with ACI 301 procedures. Avoid rapid drying at end of curing period.
- C. No curing agents, hardeners, sealers, etc. will be allowed.
- D. Do not cover concrete with plastic sheeting.

### 3.04 ACCEPTANCE OR REJECTION

- A. Delivered concrete may be rejected at job site prior to placement for any of the following:
  - 1. Concrete fails to conform to submitted and approved concrete mix design.
  - 2. Concrete fails to meet specified concrete qualities as determined by testing of samples obtained from first or middle portion of delivered load.
  - 3. Placement of delivered concrete does not begin within 60 minutes of batching.
  - 4. The 90-minute time limit from batching to placement is exceeded.
- B. Installed concrete will be rejected if delaminations between the concrete and the substrate are detected, or if tests show bond values below acceptable limits.
- C. Replace rejected concrete at no cost to the Owner. Submit proposed methods and materials for repair to Engineer for approval.

END OF SECTION

SECTION 04 01 07  
MASONRY REPOINTING

PART 1      GENERAL

1.01    SUMMARY

A. Section Includes:

1. Remove deteriorated mortar where designated by Engineer at brick masonry joints, and provide new mortar.

B. Measurement and Payment Procedures:

1. Repointing mortar joints will be paid for on a unit price basis. Unit of measurement shall be square feet, as indicated on Bid Form. Minimum quantity for payment shall be 1 square foot. Round measurements to nearest square foot.

C. Related Sections:

1. Section 02 41 19 – Selective Demolition
2. Section 04 01 09 – Masonry Restoration
3. Section 07 62 00 – Sheet Metal Flashing and Trim
4. Section 07 92 00 – Joint Sealants

1.02    REFERENCES

- A. ASTM C150 Standard Specification for Portland Cement
- B. ASTM C207 Standard Specification for Hydrated Lime for Masonry Purposes
- C. ASTM C144 Standard Specification for Aggregate for Masonry Mortar

1.03    QUALITY ASSURANCE

- A. Attend meeting with Engineer, prior to start of repointing work, to review repointing procedures.
- B. Perform repointing work after other masonry repairs are completed.

#### 1.04 PROJECT CONDITIONS

- A. Coordinate and schedule with Owner prior to performing grinding or other dust-producing operations. Cover penetrations in building envelope to prevent dust entry during Work.
- B. Do not perform repointing work when ambient temperatures are below 40 degrees F, unless approved otherwise by Engineer.

#### 1.05 WARRANTY

- A. Furnish a 3-year written warranty signed by Contractor agreeing to repair repointed areas that show evidence of deterioration. Upon notification of such defects, make necessary repairs.

### PART 2 PRODUCTS

#### 2.01 MATERIALS

- A. Portland Cement: ASTM C150, Type I or II. Provide natural color or white cement as required to produce mortar color to match adjacent existing mortar.
- B. Hydrated Lime: ASTM C207, non-air-entrained, Type S
- C. Sand: Similar in size and gradation to existing mortar sand; ASTM C144 otherwise.
- D. Chemical Additives: None permitted
- E. Color Additives: As necessary to match adjacent mortar.
- F. Water: Clean, clear, and suitable for drinking, free of chemicals that may be deleterious to masonry and mortar

#### 2.02 MORTAR MIXES

- A. General: Do not add admixtures including air-entraining agents, accelerators, retarders, water repellent agents, antifreeze compounds, or other admixtures, unless specifically approved in writing by Engineer.
- B. Pointing Mortar: Type N Mortar (prehydrated for repointing), in accordance with ASTM C270, proportion specification for job-mixed mortar. Limit cementitious



materials to portland cement and lime. Color of mortar to match existing cleaned mortar. Use colored sand to obtain desired mortar color.

- C. Proprietary Pointing Mortar: Type N SPEC MIX Portland Lime & Sand, by Spec Mix, Inc., or approved equal.

## PART 3 EXECUTION

### 3.01 PREPARATION

#### A. Walls:

1. Identify areas to be repointed. Obtain Engineer's confirmation of areas requiring repointing prior to starting Work.
2. Remove existing sealant from miscellaneous masonry joints, including expansion joints, control joints, etc.
3. Cut out mortar joints that require repointing, removing unsound mortar until only sound material remains; minimum depth 3/4 inch and maximum depth 1 3/4 inches. Cut out joints to a square profile; furrow shaped joints are not acceptable.
4. Employ mortar removal methods that do not damage masonry units.
5. Remove loose particles, dust, and debris from joints using an air jet or a water stream.

#### B. Mortar:

1. For job-mixed mortar, dry-mix sand and cementitious materials. Use only calibrated measuring tools when measuring.
2. Add only enough water to produce a damp mix that will retain its shape when pressed into a ball by hand.
3. Mix for at least three (3) and not more than seven (7) minutes in a mechanical mixer.
4. Permit mixed mortar to stand for a minimum of 1 hour and a maximum of 1-1/2 hours for pre-hydration of cementitious materials to reduce shrinkage.

5. Add sufficient water to bring mortar to proper consistency for pointing, somewhat drier than mortar used for laying masonry units. Mix by hand for 3 to 5 minutes.
6. Use mortar within 2-1/2 hours of its initial mixing. Retemper mortar within this time limit as needed to replace evaporated water. Discard mortar that is not used within 2-1/2 hours of initial mixing.

### 3.02 APPLICATION

- A. Provide mortar at brick-to-brick joints. Ensure expansion joints remain free of mortar and debris that will prevent movement of masonry.
- B. Use a pointing trowel that is slightly narrower than the mortar joints being filled.
- C. Point head joints before pointing bed joints.
- D. Spread mortar into joint in approximately 1/4-inch layers. Tightly compress each layer to prevent voids. Place subsequent layers after previous layer has achieved initial set.

### 3.03 TOOLING AND CURING

- A. When mortar is thumbprint hard, compact joints with a concave tool that is wider than joint.
- B. Protect freshly placed mortar from sun and drying winds. When ambient temperature exceeds 100 degrees F, or exceeds 90 degrees F with winds in excess of 8 miles per hour, cover masonry with plastic sheeting or apply a fine water-fog spray for four (4) days.

### 3.04 CLEANING

- A. Remove loose mortar particles with a soft bristle brush after mortar has dried but not hardened.
- B. Scrape off hardened mortar with a piece of similar masonry unit or a wooden paddle. Use of metal scrapers or brushes is not permitted.

- C. After mortar has cured, clean with water and a stiff brush, if needed. Do not use acid solutions or masonry cleaning solutions unless approved in writing by Engineer.

END OF SECTION

SECTION 04 01 09  
MASONRY RESTORATION

PART 1      GENERAL

1.01    SUMMARY

A. Section Includes:

1. Along the base of Low-Rise Building masonry walls, along the perimeter of the courtyard and in the breezeway, remove bottom courses of existing masonry and perform through-wall flashing repairs, as shown on Drawings.
2. Remove, modify, and reinstall existing stone panels at masonry piers at Low-Rise Building, as shown on Drawings.
3. At High-Rise Building entrance stairs/ramp, perform masonry repairs, including the following:
  - a. Through-wall flashing below copings;
  - b. Repointing (specified elsewhere); and
  - c. Miscellaneous brick replacement where designated by Engineer.

B. Related Sections:

1. Section 02 41 19 – Selective Demolition
2. Section 03 01 55 – Cast-in-Place Concrete
3. Section 04 01 07 – Masonry Repointing
4. Section 07 62 00 – Sheet Metal Flashing and Trim
5. Section 07 92 00 – Joint Sealants

C. Measurement and Payment Procedures:

1. Performing through-wall flashing repairs along the base of Low-Rise Building masonry walls will be paid for on a lump sum basis.
2. Removing, modifying, and reinstalling existing stone panels at masonry piers, as shown on Drawings will be paid for on a lump sum basis.

3. Providing through-wall flashing below entrance ramp coping units will be paid for on a lump sum basis.
4. Miscellaneous brick replacement will be paid for on a unit price basis. Unit of measurement shall be square feet, as indicated on Bid Form. Minimum quantity for payment shall be 1 square foot. Round measurements to nearest square foot.

## 1.02 SYSTEM PERFORMANCE REQUIREMENTS

- A. Provide masonry that develops the following installed compressive strengths ( $f'_m$ )
  1. Clay unit masonry:  $f'_m = 1,500$  psi.

## 1.03 SUBMITTALS

- A. Product data for each proprietary material used including recommendations for their application and use. Include test reports and certifications substantiating that products comply with requirements of these Specifications.
- B. Samples of the following for verification purposes, prior to erecting mockups:
  1. Brick;
  2. Stone;
  3. Each type of tie and anchor;
  4. Each type of fastener;
  5. Each type of adhesive;
  6. Mortar;
  7. Cavity drainage mat;
  8. Termination bar;
  9. Compressible filler; and
  10. All other proprietary materials.
- C. Mix design for mortar, including gradation of sand.
- D. Special warranty required by Article 1.07 of this Section.

#### 1.04 QUALITY ASSURANCE

- A. Comply with TMS 602, "Specification for Masonry Structures", except as modified herein.
- B. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of Work of this Section.
- C. Install proprietary materials in conformance with manufacturer's recommendations.
- D. Single-Source Responsibility:
  - 1. Obtain exposed masonry units of uniform texture and color, or a uniform blend within ranges accepted for these characteristics, from one manufacturer for each different product required for each continuous surface or visually related surfaces.
  - 2. Obtain mortar ingredients of uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source and producer for each aggregate.
- E. Field-Constructed Mock-Ups: Prior to installation of unit masonry, perform mock-up for Engineer's review. Mock-ups will be judged for aesthetic effects, quality of workmanship, and conformance of materials and construction to Contract Document requirements.
  - 1. Locate mock-ups on building site in a location agreed to by Engineer and Owner.
  - 2. Include all accessories required for complete Work.
  - 3. Notify Engineer one week in advance of date when mock-ups will be performed.
  - 4. Protect mock-ups from the elements with weather-resistant membrane.
  - 5. Locate mock-ups parallel to existing surfaces to be matched.

6. Accepted mock-ups in undisturbed condition at time of Substantial Completion may become part of completed unit of work.
7. Acceptance of mock-ups does not constitute approval of Contract Document deviations contained in mock-ups, unless such deviations are specifically approved by Engineer in writing.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Store masonry units and cementitious materials above ground on wood pallets or blocking, under cover, and in a dry location to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, and other causes.
- B. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- C. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.
- D. Promptly remove damaged or otherwise unsuitable material from site.

#### 1.06 PROJECT CONDITIONS

- A. Protection: During erection, cover tops of walls, projections, and bases of wall with waterproof sheeting at end of each day's work. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.
- B. Stain Prevention
  1. Prevent mortar from staining face of masonry. Immediately remove mortar that comes into contact with exposed masonry surfaces.
  2. Protect ledges, projections, and cavities from mortar droppings.
  3. Protect surfaces of adjacent openings from mortar droppings.
- C. Cold Weather Construction: Implement the following requirements when ambient temperature falls below 40 degrees F, or temperature of masonry units is below 40 degrees F:

1. Do not lay masonry units that are wet or frozen. Do not lay masonry units having a temperature below 20 degrees F. Remove visible ice on masonry units before units are laid in the masonry.
  2. Heat mortar sand or mixing water to produce mortar temperatures between 40 degrees F and 120 degrees F at time of mixing. Maintain mortar above 32 degrees F until used in masonry.
  3. Do not lay masonry when ambient temperatures are below 32 degrees F.
    - a. When mean daily temperature (MDT) is between 25 degrees F and 40 degrees F, completely cover completed masonry with a weather resistive membrane for 24 hours after construction.
    - b. Do not lay masonry when MDT is expected to be below 25 degrees F.
  4. Remove masonry damaged by freezing conditions.
- D. Hot Weather Construction: Implement the following when ambient air temperature exceeds 100 degrees F, or 90 degrees F with a wind velocity greater than 8 miles per hour.
1. Do not spread mortar beds more than 4 feet ahead of masonry.
  2. Set masonry units within one minute of spreading mortar.
  3. Shade mortar mixer, mortar boards, and mortar ingredients.

#### 1.07 SPECIAL WARRANTY

- A. Furnish a 3-year written warranty signed by Contractor agreeing to repair or replace unit masonry that shows evidence of cracking, delamination, spalling, efflorescence, or corrosion. Upon notification of such defects, make necessary repairs or replacement.

### PART 2 PRODUCTS

#### 2.01 MASONRY MATERIALS

- A. Stone Replacement Units: ASTM C1364 "Standard Specification for Architectural Cast Stone":
  1. Grade, Color, Finish, Size, and Shape: As required to match existing stone.



B. Exterior Wythe Clay Masonry Units: ASTM C216 “Specification for Facing Brick”:

1. Grade: SW
2. Type: FBX
3. Efflorescence rating: “Not Effloresced” when tested in accordance with ASTM C67.
4. Color, texture, and size to match existing adjacent masonry.

## 2.02 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C150, Type I or II.
- B. Hydrated Lime: ASTM C207, Type S, non-air-entrained.
- C. Aggregate for Mortar: ASTM C144.
- D. Water: Clean, clear and suitable for drinking, free of chemicals that may be deleterious to masonry and mortar.
- E. Chemical Additives: None permitted.
- F. Color Additives: As necessary to match color of adjacent mortar.

## 2.03 MORTAR AND GROUT MIXES

- A. General: Do not add admixtures including air-entraining agents, accelerators, retarders, water repellent agents, antifreeze compounds, or other admixtures, unless specifically approved in writing by Engineer.
- B. Mortar for Unit Masonry:
1. ASTM C270, Type N, proportion specification for job-mixed mortar. Limit cementitious materials to portland cement and lime.
  2. Proprietary Mortar: Type N SPEC MIX Portland Lime & Sand, by Spec Mix, Inc., or approved equal.

## 2.04 MISCELLANEOUS STONE MATERIALS

- A. Stone Anchors:

1. Dowels: Stainless steel threaded rods conforming to ASTM F593, Type 304. Dowels to be 3/8 inch diameter unless otherwise indicated on Drawings.
  2. Straps Anchors: 1/8-inch thick x 1-1/2-inch wide stainless steel anchor #444 by Hohmann & Barnard, Inc., or approved equal. Length to be field verified. Conform to ASTM A240 Type 304.
  3. Split Tail Anchors: 1/8-inch thick by 2-inch wide stainless steel anchor #434 by Hohmann & Barnard, Inc., or approved equal. Length to be field verified. Conform to ASTM A240, Type 304.
- B. Masonry Screws: Stainless Steel Tapcons by ITW Buildex, or approved equal. Size as shown on Drawings.
- C. Sealants, backer rod, and bond breakers: In accordance with Section 07 92 00 – Joint Sealants.

## 2.05 BRICK MASONRY ACCESSORIES

### A. Anchors

1. Type 1 Masonry Anchor: 12-gauge stainless steel HB-213 Adjustable Veneer Anchor by Hohmann & Barnard, Inc., or approved equal. Backplate and pintle lengths shall be as required to embed pintle into bed joints as shown on drawings.

### B. Membrane Through-Wall Flashing:

1. Perm-A-Barrier Wall Flashing by W.R. Grace & Co., or approved equal.
2. Primer: Perm-A-Barrier Primer Plus, Perm-A-Barrier WB Primer, and/or Bituthene Primer B2 LVC by W.R. Grace & Co., or equal, as recommended in writing by flashing manufacturer for use with flashing material and substrate materials. Sealant material manufacturer's recommendations regarding primer shall be in writing.
3. Mastic: Rubberized, asphalt-based mastic approved by flashing manufacturer for use with flashing material.

### C. Membrane Flashing Accessories:

1. Stainless Steel Drip Edge: Comply with Section 07 62 00 - Sheet Metal Flashing and Trim. Configuration as shown on Drawings.
  2. Cell Vents: QV – Quadro-Vent manufactured by Hohmann & Barnard, Inc.
    - a. Size: Standard Size.
    - b. Color: Match mortar color.
  3. Rope Weeps: 3/8 inch diameter braided cotton rope.
- D. Stainless Steel End Dams: Comply with Section 07 62 00 - Sheet Metal Flashing and Trim.
- E. Termination Bar: Sarnabar-Stainless Steel, by Sika Sarnafil, Inc.; or approved equal.
- F. Masonry Screws: Stainless steel Tapcons by ITW Buildex. Size as shown on Drawings.
- G. Cavity Drainage Mat: CavClear Masonry Mat by Archovations, Inc. Provide in thicknesses necessary to fill wall cavity where shown on Drawings.
- H. Compressible Filler: Closed-cell polyethylene compressible foam in thickness as shown on drawings.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Examine conditions for compliance with requirements for installation tolerances and other specific conditions affecting performance and appearance of unit masonry.
- B. Do not proceed until unsatisfactory conditions have been corrected. Installation of materials constitutes acceptance of adjacent and underlying construction.
- C. Do not proceed with masonry work until structural steel support has been approved by Engineer.

### 3.02 PREPARATION

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint widths, matching existing bond patterns, and for accurate locating of openings, movement-type joints, returns, and offsets. Avoid use of less-than-half-size units at corners, jambs, and where possible at other locations.
- B. Wet clay masonry units having initial absorption rates in excess of one gram per minute per square inch, when measured in accordance with ASTM C 67, so that initial rate of absorption will not exceed one gram per minute per square inch when units are used.
- C. Do not wet clay masonry units having an initial absorption rate less than 0.2 grams per minute per square inch.
- D. Lay wetted units when surface dry.
- E. Mortar Mixing
  - 1. Use power-driven on-site mixing equipment. Hand mixing is not acceptable.
  - 2. Accurately proportion mix materials by volume. Provide calibrated containers and scales at site for proper proportioning.
  - 3. Mix ingredients in a mechanical batch mixer in the following sequence:
    - a. To an operating mixer, add 2/3 of the water, followed by 1/2 of the sand.
    - b. Then add all of the lime followed by all of the cement.
    - c. Add the remaining sand.
    - d. Slowly add the remaining water as needed to produce a workable consistency.
    - e. After the last water is introduced, mix for 3 to 5 minutes.
  - 4. Retemper mortar to replace water lost by evaporation, but not after mortar has begun to set. Do not retemper colored mortar.
  - 5. Discard mortar which has begun to stiffen or is not used within 2-1/2 hours after initial mixing.

### 3.03 INSTALLATION, GENERAL

- A. Comply with referenced masonry standard and other requirements indicated herein as applicable to each type of installation included in Project.
- B. Cut masonry units with motor-driven saws to provide clean, sharp, unchipped edges. Cut units as required to provide continuous pattern and to fit adjoining construction. Use full-size units without cutting where possible.
- C. Match coursing, bonding, color, and texture of new masonry with existing adjacent masonry.
- D. Provide unit masonry and stone construction aligned, plumb and true in required layout, making straight level courses. Lay up walls to comply with specified construction tolerances, with courses accurately spaced and coordinated with other construction.

### 3.04 ERECTION

- A. Place clean units while mortar is soft and plastic. Remove units disturbed to the extent that initial bond is broken after initial positioning, and re-lay in fresh mortar.
- B. Stopping and Resuming Work: In each course, rake back 1/2-unit length; do not tooth. Clean exposed surfaces of set masonry, wet clay masonry unit lightly (if required), and remove loose masonry units and mortar prior to laying fresh masonry.
- C. When bearing of a masonry wythe or stone units on its support is less than two-thirds of wythe thickness, notify Engineer.
- D. Mortar Bedding and Jointing:
  - 1. Set units in full bed of mortar with all vertical joints filled. Fill dowel, anchor, and similar holes solid. Wet joint surface thoroughly before setting. For surfaces that are soiled, clean bedding and exposed surfaces with fiber brush and soap powder and rinse thoroughly with clear water.
  - 2. Solidly fill clay masonry unit bed and head joints with mortar. Fill holes not specified in masonry with mortar.

3. Construct head joints by shoving mortar tight against adjoining unit. Do not fill head joints by slushing with mortar.
4. Do not deeply furrow clay unit masonry bed joints.
5. Construct 3/8-inch-thick bed and head joints within tolerances permitted by referenced standard. Tool joints with a round jointer when mortar is thumbprint hard.

E. Cavities and Air Spaces

1. Keep voids and cavities clean and unobstructed of mortar or debris, including ungrouted masonry cavities, masonry cavities to be grouted, expansion joints, chases and similar spaces. Prevent mortar droppings by bevelling bed joints away from cavity. In cavity walls, take all possible measures to ensure a continuous clear and open drainable cavity between wythes. Strike joints facing cavities/air spaces flush.

3.05 JOINT REINFORCEMENT, TIE, AND ANCHOR INSTALLATION

- A. Provide joint reinforcement in horizontal joints of multi-wythe masonry construction where shown on Drawings at 16 inches on center, unless otherwise indicated.
- B. Place joint reinforcement to provide continuous reinforcement, with corner and "tee" sections at all wall intersections, except where an expansion joint or control joint is to be installed. Cut and bend reinforcement units as directed by manufacturer for continuity at returns, offsets, pilasters, and other special conditions.
- C. Provide anchors for stone units at locations indicated on Drawings.
  1. Provide a minimum of two anchors per stone unit unless more are indicated on the Drawings.
  2. All kerfs and holes for anchors to be located at least 2 inches from edges of units.
  3. Anchors to be set in mortar or adhesive as indicated on the Drawings.

### 3.06 SEALANT JOINTS

- A. General: Install sealant joints in unit masonry at locations of existing expansion joints, at skyward facing joints, at joints between dissimilar substrates, and elsewhere as shown on Drawings.
- B. Maintain movement joints free of mortar obstructions and other non-compressible materials.
- C. Where designated, rake back mortar joints to provide sealant joints.
- D. Do not apply sealant to joints until they have been reviewed by Engineer. When approved by Engineer, install backer rod and sealant in accordance with Section 07 92 00 - Sealants.

### 3.07 FLASHING/WEEPS

- A. Provide embedded flashing and weeps in masonry where indicated on Drawings.
- B. Prepare masonry surfaces so that they are smooth and free from projections that could puncture flashing.
- C. Seal flashing penetrations with mastic as recommended by flashing manufacturer.
- D. Install Through-Wall Flashing as follows:
  - 1. Lay metal drip edge/receiver on the substrate as shown on Drawings.
  - 2. Prime surfaces of adjacent construction to receive through-wall flashing. All surfaces shall be primed unless manufacturer indicates in writing that use of a primer will adversely affect adhesion of flashing.
  - 3. Adhere flashing to metal drip edge and vertical surface of back-up materials. Trim flashing 1/2 inch from exterior face of brick so that it will not be exposed to exterior in completed construction.
  - 4. Heat masonry through-wall flashing surfaces with a heat gun to promote adhesion at all seams and joints. Do not heat membrane surfaces beyond temperature limits of the product.
  - 5. Form end dams as shown on Drawings at each flashing termination. Seal all end dam joints with an application of mastic.

6. Attach top edge of vertical flashing leg with continuous termination bar and apply mastic at top of termination bar.
7. Provide minimum vertical flashing leg height of 8 inches.
8. Cover edges of laps with mastic.
9. Where existing weather-resistive barrier is present, lap over top of new through-wall flashing and seal with weather-resistive barrier tape.
10. Place sealant below outer edge of metal drips, where shown on Drawings.

E. Provide weeps as follows:

1. Install in mortar head joints in exterior wythe directly above newly installed flashing.
2. Space cell vents and rope weeps as shown on Drawings.

### 3.08 REPAIRING, POINTING, AND CLEANING

- A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or if units do not match adjoining units. Install new units to match adjoining units and in fresh mortar or grout, pointed to eliminate evidence of replacement.
- B. Rake back mortar joints in replaced unit masonry and point in accordance with Section 04 01 07, to provide a uniform appearance of masonry wall.
- C. During joint tooling, enlarge voids or holes, except weep holes, and completely fill with mortar. Point-up all joints including corners, openings, and adjacent construction to provide a neat, uniform appearance, prepared for application of sealants.
- D. After mortar is thoroughly set and cured, clean exposed newly-constructed masonry.
  1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
  2. Clean initially with stiff fiber brushes and water. If a cleaning agent is required, test cleaning methods on sample wall panel leaving 1/2 panel



uncleaned for comparison purposes. Obtain Engineer's approval of sample cleaning before proceeding with cleaning of masonry.

E. Using a Cleaning Agent on Newly-Constructed Brick Masonry:

1. Protect adjacent non-masonry surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking tape. Take care to prevent cleaner from coming into contact with aluminum frames.
2. Follow brick manufacturer's recommendations.
3. Thoroughly wet surface of masonry prior to application of cleaners, and remove cleaners promptly by rinsing thoroughly with clear water.
4. Use bucket and brush hand-cleaning method and job-mixed detergent solution. If detergent is ineffective, use appropriate acidic proprietary cleaner as recommended by brick manufacturer, and only after written approval by Engineer.
5. Work on small sections at a time, and work from top to bottom.
6. After cleaning is complete, remove masking from affected areas.

3.09 PROTECTION

- A. Retain temporary protection for top of masonry construction until permanent protection is complete.
- B. At conclusion of masonry work, remove scaffolding, bracing, shoring, forms, equipment debris, refuse, and surplus material.

END OF SECTION

## SECTION 07 14 13

### HOT FLUID-APPLIED WATERPROOFING SYSTEM

#### PART 1 GENERAL

##### 1.01 SUMMARY

A. Section Includes: Provide hot fluid-applied waterproofing system, including but not necessarily limited to the following:

1. Surface preparation;
2. Surface conditioner;
3. Crack preparation and treatment;
4. Waterproofing membrane;
5. Membrane flashing;
6. Flexible reinforcement;
7. Adhesives and sealants;
8. Protection board;

##### 1.02 SYSTEM DESCRIPTION

A. Waterproofing system shall consist of the following (from bottom up):

1. Existing concrete slab
2. Fully-adhered hot rubberized asphalt waterproofing membrane with a layer of reinforcing, and flashing membrane
3. Protection course

##### 1.03 REFERENCES

- A. American Society for Testing and Materials International (ASTM)
- B. Underwriters Laboratories (UL)
- C. Factory Mutual Research Corporation (FM)

#### 1.04 SUBMITTALS

- A. Comply with pertinent provisions of Section 01 33 00 – Submittal Procedures.
- B. Product Data: Submit manufacturer's specifications and installation instructions, including surface cleaning methods and primers for crack sealant, for each item of proprietary material used.
- C. Waterproofing system manufacturer's certification indicating installer is an approved applicator in good standing.
- D. Statement of Manufacturer's Review: Furnish a written statement from the coating manufacturer stating that he:
  - 1. Is familiar with the project, aware of job conditions, and aware of associated sealants and concrete repair materials proposed for the project.
  - 2. Agrees with the intended application of his products as specified.
  - 3. Agrees with project Specifications. If necessary, submit revisions to project Specifications.
  - 4. Agrees that its product is compatible with associated sealants and concrete repair materials proposed for the Project.
  - 5. Agrees that specified products, materials, and procedures comply with applicable EPA and OSHA requirements regarding health and safety hazards.
  - 6. Has reviewed field samples and agrees with application methods.
- E. Submit written warranties as required by Article 1.06 of this Section.
- F. Waterproofing system manufacturer's representative's field reports.
- G. Written description of surface preparation methods proposed for new and existing concrete surfaces to receive waterproofing system.
- H. Shop drawings indicating configuration of system flashings at projections and penetrations.

## 1.05 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in necessary crafts and who are completely familiar with specified requirements and methods needed for proper performance of work of this Section.
- B. Obtain primary waterproofing materials from a single manufacturer.
- C. Manufacturer's Field Representation:
  - 1. At start of installation and during each day when waterproofing system is installed, provide services of waterproofing system manufacturer's technical representative at site to inspect surface preparation, installation of waterproofing system and provide advice regarding installation. Waterproofing system manufacturer's representative shall submit a written report indicating observations, deficiencies observed, and remedial actions taken to correct observed deficiencies. Provide copies of waterproofing system manufacturer's report to Engineer within 24 hours after representative's inspection. Include cost for waterproofing system manufacturer's inspections in Bid.
  - 2. Manufacturer's field representative shall be direct employee of the waterproofing system manufacturer.
- D. Manufacturer's Final Inspection: Upon completion of waterproofing system, an inspection shall be made by a representative of waterproofing system manufacturer of completed waterproofing system. Waterproofing system manufacturer's representative shall submit a written report indicating observations, deficiencies observed, and remedial actions taken to correct observed deficiencies. Provide copies of waterproofing system manufacturer's report to Engineer within 24 hours after representative's inspection. Include cost for waterproofing system manufacturer's inspections in Bid.
- E. Pre-installation Conference: Conduct conference at Project site. Review methods and procedures related to waterproofing system including, but not limited to, the following:
  - 1. Meet with the Engineer, waterproofing system manufacturer's technical representative, and installers whose work interfaces with or affects waterproofing, including installers of waterproofing accessories.

2. Review methods and procedures related to waterproofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and moisture emission rate.
5. Review structural loading limitations of deck during and after waterproofing.
6. Review base flashings, special waterproofing details, drainage, penetrations, and condition of other construction that will affect waterproofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for waterproofing system during and after installation.
9. Review locations of mechanical and electrical penetrations.
10. Review waterproofing observation and repair procedures after waterproofing installation.

#### 1.06 DELIVERY, STORAGE, AND HANDLING

- A. Comply with provisions of Section 01 60 00 – Product Requirements.
- B. Store roll goods on end. Remove roll goods which have been damaged from site.
- C. Store materials in enclosures or on raised platforms with protective cover. Do not use plastic shipping wraps for weather protection.
- D. Protect materials from damage by construction traffic.
- E. Mark materials that are wet, damaged or exhibit condensation within the protective wraps and immediately remove from site.
- F. Protect and permanently store materials in a dry, well-vented and weatherproof location as designated by Owner. Only materials to be used the same day shall be removed from this location. During colder temperatures, store materials in a heated

location at 50 degrees F minimum temperature and remove only as needed for immediate use.

- G. Do not apply waterproofing materials unless proper bitumen application temperatures can be maintained, or when moisture in any form (i.e. rain, dew, ice, frost, snow, etc.) is present on the deck. Do not heat bitumen above manufactured recommended temperatures.
- H. Keep materials away from open flame or welding sparks.
- I. Do not exceed deck construction load capacity.
- J. Store adhesives at temperatures between 60 degrees F and 80 degrees F. If exposed to lower temperatures, restore materials to 60 degrees F before using.
- K. Keep materials away from open flame or welding sparks.

#### 1.07 PROJECT CONDITIONS

- A. Conduct preparation and application of waterproofing system in well-ventilated areas.
- B. Do not allow waste products (petroleum, grease, oil, solvents, etc.) to come in contact with waterproofing membrane. Report exposures to foreign materials or chemical discharges to waterproofing system manufacturer and Engineer for evaluation.
- C. Ensure concrete surfaces are dry, clean and sound prior to application of waterproofing system.
- D. Maintain sufficient operable extinguishers, with proper agent, at site. Provide a foreman trained in use of extinguishers and their placement on site.
- E. Equip kettles with a tight fitting cover. When in operation, place kettles a safe distance from combustible materials or buildings. Provide an attendant within 100 feet of kettles with a burner in operation. Do not permit ladders or other objects to obstruct his route to kettle.
- F. Maintain propane bottles at a safe distance from kettles.

- G. Provide and maintain “No Smoking Within 100 Feet” signs posted at location of propane bottles.
- H. Apply waterproofing in dry weather. Do not apply waterproofing when rain, snow or fog are expected. Install materials under weather and substrate conditions (temperature, moisture, humidity) approved by waterproofing system manufacturer.
- I. Protect work from heavy traffic.
- J. Protect building walls, landscaping, and other areas adjacent to staging areas prior to commencing work.
- K. Install only as much new waterproofing and flashing work as can be made weathertight each day.
- L. Install temporary waterstops at the end of each day’s work and remove before proceeding with next day’s work. Use waterstops that are compatible with adjacent materials. During inclement weather, provide labor, materials and equipment necessary to maintain a watertight seal. Protect building occupants and contents from damage caused by water leakage through plaza or inclement weather.
- M. Arrange work sequence to avoid use of newly constructed waterproofing for storage, walking surface or equipment movement. Where such access is absolutely required, provide necessary protection and barriers to segregate work area and to prevent damage to adjacent areas. Provide both plywood and polyester felt protection, or plywood and 6-mil polyethylene sheets for new and existing plaza areas that receive traffic during construction.
- N. Prior to and during application, remove dirt, debris and dust from surfaces by vacuuming, sweeping, blowing with compressed air and/or similar methods.
- O. During application of materials, ensure that overloading of plaza deck and structure does not occur. Do not exceed maximum roof deck construction load indicated on Drawings.

## 1.08 WARRANTY

- A. Waterproofing System Manufacturer’s Warranty:

1. Upon Substantial Completion of Work, waterproofing system manufacturer shall provide a Total System Warranty protecting Owner against costs of repairing leakage resulting from defects in components of waterproofing system supplied by waterproofing system manufacturer including, but not necessarily limited to, membrane, flashing and drainage composite, insulation, and defects in workmanship involved in their installation.
  2. Warranty shall remain in effect for a period of 20 years.
  3. Include cost of waterproofing system manufacturer's warranty in Bid.
- B. Waterproofing Contractor's Warranty: Provide Owner with a written 3-year workmanship warranty. In event work related to waterproofing or flashing is found to be defective, has resulted in leaks or is otherwise not in accordance with Contract Documents within 3 years of Substantial Completion, remove and replace affected materials at no cost to Owner. Contractor's warranty obligation shall be directly to Owner and a copy shall be sent to waterproofing system manufacturer.

## PART 2 PRODUCTS

### 2.01 MATERIALS

- A. General: Obtain waterproofing system components and its associated accessories from a single source to ensure total system compatibility and integrity. Basis of Design:
1. Barrett Company, [www.barrettroofs.com](http://www.barrettroofs.com).
- B. Hot fluid-applied membrane for horizontal surfaces: Barrett Ram-Tough 250 Rubberized Asphalt Waterproofing System
- C. Uncured Neoprene Flashing Sheet: Barrett RamFlash 327 HDR Sheet
- D. Cold-applied flashing system: Two-component polymethyl methacrylate primer, reinforcing fleece and membrane system: Barrett RamFlash PMMA System
- E. Concrete Primer: Barrett Ram Primer/Surface Conditioner
- F. Flexible Reinforcement: Barrett Polyfelt 125 VP
- G. Protection Course: Barrett Ram 306R



- H. Mastic/Lap Sealant: Barrett Ram Mastic
- I. Joint Sealant: Single component silyl-terminated polyether elastomeric sealant that meets ASTM C920: Barrett KeeneSeal 100.
- J. Filter Fabric: UV and drain protective spunbonded filament polyester geotextile fabric: Barrett Polyfelt 3.5
- K. Termination Bar: Sarnabar-Stainless Steel, Barrett .; or approved equal.
- L. Accessories: Use associated accessories supplied by waterproofing system manufacturer.

## PART 3 EXECUTION

### 3.01 GENERAL

- A. Prepare concrete surfaces to receive waterproofing membrane in accordance with ASTM D5295.
- B. Perform concrete repairs in accordance with Section 03 01 55 – Concrete Deck Repairs.
- C. Apply waterproofing membrane in accordance with ASTM D6622. Where discrepancies between the waterproofing system manufacturer's instructions and ASTM D6622 exist, notify Engineer and waterproofing system manufacturer immediately.

### 3.02 INSPECTION

- A. Contractor and waterproofing manufacturer's technical representative shall examine surfaces to receive waterproofing system to verify it is acceptable and proper for application of waterproofing membrane.
- B. Do not proceed with installation of waterproofing membrane until substrate defects have been corrected.

### 3.03 PREPARATION

- A. Roughen concrete surfaces to receive waterproofing system using shotblasting or other suitable means approved by Engineer and waterproofing system manufacturer.
- B. Thoroughly remove dirt, debris, oil and other contaminants from the surfaces to receive waterproofing membrane.
- C. Ensure substrate surfaces are dry, smooth, free of depressions, voids, protrusions, clean and free of unapproved curing compounds, form release agents and other surface contaminants.
- D. For each 1,000 square foot area where waterproofing system is installed, at beginning of each day, before installation of waterproofing system on concrete deck, or as required by manufacturer, perform foaming and peel tests to evaluate concrete substrate conditions:
  - 1. Foaming: Apply minimum 1 pint of modified asphalt at its maximum application temperature to a small area of deck. If foaming of modified asphalt occurs, do not proceed with installation of waterproofing membrane until deck has dried sufficiently.
  - 2. Peel Test: After modified asphalt used in foaming test has cooled to ambient temperature, peel modified asphalt with a knife or sharp object. If modified asphalt readily strips clean from deck surface, do not proceed with installation of waterproofing membrane until deck has dried sufficiently.
  - 3. Record results of foaming and peel tests and submit to Engineer.
- E. In addition to foaming and peel tests, perform a substrate moisture test in accordance with ASTM D4263 for each 5,000 square feet of area to be waterproofed.
  - 1. Each test shall be performed within 16 to 24 hours prior to application of waterproofing membrane.
  - 2. If tests indicate presence of moisture in the concrete substrate, do not proceed with the application until concrete has dried sufficiently.

3. If precipitation occurs or substrate is subjected to any exposure to moisture during or after performing the test, do not proceed with waterproofing system installation until the substrate surfaces can be dried and another test can be performed.

#### 3.04 CRACK TREATMENT

- A. At all cracks and construction joints, apply hot fluid-applied membrane, 125 mils thick, then center a 6 inch wide strip of HDR neoprene flashing over the joint or crack and embed into the fluid-applied membrane. Avoid air pockets and allow assembly to cool.

#### 3.05 PRIMER APPLICATION

- A. Spray-apply concrete primer to concrete substrate at the rate recommended by waterproofing system manufacturer, but not more than 300 square feet per gallon.
- B. Allow sufficient time for concrete primer to dry thoroughly prior to the membrane application.
- C. Do not allow primed surface to be contaminated with construction debris or dust barrier. Re-prime and allow drying as required by job conditions.

#### 3.06 DETAILING AND FLASHINGS

- A. Install flashing material at all locations required by waterproofing system manufacturer, and at the following locations whether required by the waterproofing system manufacturer or not:
  1. All locations where a change in plane exceeding 45 degrees occurs;
  2. All drains;
  3. All penetrations through the slab; and
  4. All inside and outside corners.
- B. Complete detailing and flashing work before installing membrane over field of substrate.

- C. Install membrane flashing where shown on Drawings or where required by waterproofing system manufacturer.
- D. Set flashing material in hot rubberized asphalt and press firmly to ensure full contact with substrate. Do not allow voids and air pockets to form below the flashing material. Voids below flashing membrane shall be cause for rejection.
- E. Expansion Joints:
  - 1. For expansion joints up to 2 inches in width, neoprene flashing shall be placed over the joint, as shown on the Drawings, and embedded into a 125 mil thick coating of hot fluid-applied membrane.
  - 2. Flashing sheet shall be looped into the joint 1-1/2 times the joint width at maximum opening and extend 8 inches onto the deck on each side of the joint.
  - 3. Flashing sheet shall be covered and the loop filled solid and flush with hot fluid-applied membrane.
  - 4. Install 1-1/2 inch foam rod and second sheet of neoprene flashing looped over the foam rod.
  - 5. Extend sheet 12 inches onto the deck on each side of the joint.
  - 6. Overcoat flange on each side.

### 3.07 HOT FLUID-APPLIED MEMBRANE

#### A. General:

- 1. Install hot fluid-applied membrane on surfaces scheduled to receive waterproofing membrane.
- 2. Heat membrane material in double-jacketed, oil-bath melter with mechanical agitation, specifically designed for preparation of a rubberized asphalt membrane. Equipment for heating and application of the material shall be approved by waterproofing system manufacturer.

#### B. Material Preparation:

- 1. Heat membrane material until it can be drawn free-flowing at a temperature range between 350 degrees F and 400 degrees F, unless otherwise required by waterproofing system manufacturer.

C. Membrane Application:

1. Apply liquid-applied membrane at a rate to provide a continuous, monolithic coating of thickness required by Manufacturer, but not less than 90 mils thick.
2. While liquid-applied membrane is hot and tacky, install specified reinforcement and broom in place from the side of the fabric. Fully embed a layer of reinforcement in membrane. Smooth the reinforcement into membrane and eliminate wrinkles. Follow Manufacturer's standard details for placement of reinforcement at corners.
3. Overlap reinforcement sheets a minimum of 3 inches with liquid membrane applied between sheets. Apply liquid-applied membrane in a width exceeding the reinforcement fabric roll width, with lap placement so water flows over them and not against them.
4. After reinforcement fabric has been placed and broomed in, starting at drains and low points, install second layer of liquid-applied membrane, a minimum of 125 mils thick. Apply second continuous monolithic coat of membrane over reinforcement. Minimum total thickness of hot fluid-applied membrane shall be 250 mils unless higher thickness is required by waterproofing membrane manufacturer.
5. All laps shall be sealed with hot liquid-applied membrane under lap. In no place shall reinforcement touch reinforcement. End laps shall be 7 inches.
6. Carry reinforcement up all vertical wall surfaces a minimum of 6 inches. Do not leave any reinforcement fabric uncoated at end of day's work or in inclement weather.

3.08 VERTICAL WALL APPLICATION

- A. Where vertical walls exceed 12 inches in height, or where required by waterproofing membrane manufacturer, install sheet membrane on vertical walls.
- B. Cut sheet membrane in lengths that would promote ease of installation, but not exceeding 8 feet.
- C. Apply a continuous coat of hot rubberized asphalt material to the substrate.

- D. Apply the sheet membrane onto hot rubberized asphalt while still fluid and press uniformly to ensure full contact with substrate.
- E. Lap side and end laps a minimum of 3 inches. Press laps firmly with a steel roller to ensure full adhesion.
- F. Cover laps with mastic or hot fluid-applied rubberized asphalt.

### 3.09 PROTECTION COURSE INSTALLATION

- A. Install a layer of protection course on all surfaces scheduled to receive waterproofing membrane.
- B. Embed protection course into membrane immediately after application of membrane.
- C. Overlap adjoining sheet edges a minimum of 3 inches to insure complete coverage.
- D. Install overlaying materials as soon as possible after installation of protection boards.

### 3.10 INTEGRITY TESTING

- A. Perform electronic leak detection testing in accordance with manufacturer's requirements for issuance of warranty.

### 3.11 CLEANING

- A. Remove equipment, trash, debris and any excess material from the jobsite.
- B. Repair damage and remove any stains caused by Work of this Section.

### 3.12 PROTECTION

- A. Protect finished deck areas from damage during subsequent construction.

END OF SECTION

SECTION 07 62 00  
SHEET METAL FLASHING AND TRIM

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes: Provide sheet metal flashing and trim as shown on Drawings and where not specifically described in these Specifications but required to prevent penetration of water through roof perimeter and cladding system, including but not necessarily limited to:

1. Drip edges;
2. Counterflashings;
3. Counterflashing receivers;
4. End dams; and
5. Other sheet metal accessories shown on Drawings or needed for a complete and waterproofed installation.

B. Related Sections:

1. Section 02 41 19 – Selective Demolition
2. Section 03 01 55 – Concrete Deck Repairs
3. Section 04 01 09 – Masonry Restoration
4. Section 07 14 13 – Hot Fluid-Applied Waterproofing

1.02 REFERENCES

A. Architectural Sheet Metal Manual, Sheet Metal and Air Conditioning Contractors National Association (SMACNA).

B. NRCA Roofing Manual: Architectural Metal Flashing, Condensation Control and Reroofing 2022 Edition.

C. ASTM International (ASTM):

1. A240, Standard Specification for Stainless Steel and Heat Resistant Chromium Steel Plate, Sheet, and Strip;
2. A653, Standard Specifications for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
3. B209, Specification for Aluminum Alloy, Sheet and Plate;
4. B32, Specification for Solder Metal;

### 1.03 PERFORMANCE REQUIREMENTS

- A. General: Install sheet metal flashing and trim to withstand structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking, and fastener disengagement.
- B. Thermal Movements: Provide sheet metal flashing and trim that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of sheet metal and trim thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
  1. Temperature Change (Range): 120 degrees F, ambient; 180 degrees F, material surfaces.
- C. Water Infiltration: Provide sheet metal flashing and trim that do not allow water infiltration to building interior.

### 1.04 SUBMITTALS

- A. Product Data:
  1. Manufacturer's product data sheet showing compliance with specified requirements.
  2. Manufacturer's recommended installation procedures for each proprietary product.



- B. Shop Drawings: Submit dimensioned Shop Drawings in sufficient detail to show material profile, jointing pattern, jointing detail, fabrication, installation, anchorage, and interface of work with work of adjacent trades.
- C. Colors: Submit color card for pre-finished metal components.
- D. Samples: For each type, finish and thickness of material, submit three samples, 6 inches by 6 inches each, illustrating sheet metal thickness and finish.
- E. Submit a 12-inch-long sample of each proprietary metal accessory used.
- F. Submit written warranties as required by Article 1.08 of this Section.

#### 1.05 QUALITY ASSURANCE

- A. Mock-ups: Build mock-ups to demonstrate aesthetic effects, interface with other materials, jointing, and to set quality standards for fabrication and installation of each sheet metal component.
  - 1. Build mockup of typical, drip edges, receivers, and counterflashings, approximately 48 inches long, including supporting construction, seams, attachments, and accessories.
  - 2. Approval of mock-ups does not constitute approval of deviations from the Contract Documents contained in mock-ups unless such deviations are specifically approved by Engineer in writing.
  - 3. Approved mock-ups may become part of the completed Work if undisturbed at time of Substantial Completion.
- B. Use adequate number of skilled workmen who are thoroughly trained and experienced in necessary crafts and who are completely familiar with specified requirements and methods needed for proper performance of work in the Section.
- C. In addition to complying with pertinent codes and regulations, comply with pertinent recommendations contained in current edition of Architectural Sheet Metal Manual published by SMACNA and referenced NRCA manual.
- D. Standard commercial items may be used for flashing trim and similar purposes provided such items meet or exceed quality standards specified.

## 1.06 DELIVERY, STORAGE, AND HANDLING

- A. Stack pre-formed and pre-finished materials to prevent twisting, bending, or abrasion, and to provide ventilation. Slope sheet metal to ensure drainage.
- B. Prevent contact with materials that may cause discoloration or staining.

## 1.07 PROJECT/SITE CONDITIONS

- A. Prior to installation of sheet metal, ensure that the work of related sections has been completed, including a review of work by representatives of Owner, roofing system manufacture, Engineer, and Contractor.

## 1.08 WARRANTY

- A. Shop-Fabricated Sheet Metal Accessories: Provide Owner with a written 2-year material and workmanship warranty. In event any work related to sheet metal is found to be defective, has resulted in leaks or is otherwise not in accordance with Contract Documents within 2 years of Substantial Completion, remove and replace affected materials at no cost to Owner.

# PART 2 – PRODUCTS

## 2.01 MATERIALS

- A. General: Where sheet metal is required, and no material or thickness is indicated on Drawings, provide highest quality and thickness commensurate with referenced standards.
- B. Sheet Metal for Shop-Fabricated Components:
  - 1. Stainless Steel: ASTM A240, Type 304.
    - a. Thickness: As shown on Drawings
    - b. Finish: No. 2 D.
  - 2. Aluminum
    - a. Pre-Finished Aluminum: ASTM B 209, Alloy 3003, 3004, 3105, or 5005, Temper suitable for forming, but not less than H14

- a) Thickness: As shown on Drawings
- b) Finish: High-Performance Organic Finish:
  - i) Fluoropolymer 2-Coat System: Manufacturer's standard 2-coat, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 2604

C. Fasteners:

- 1. General: Fasteners shall be stainless steel, unless otherwise noted on Drawings.
- 2. Where screw heads will be exposed, use screws with extra wide heads and neoprene washers.

D. Sealant:

- 1. Exposed Metal-to-Metal Joints: Silicone sealant in accordance with Section 07 92 00 – Joint Sealants
- 2. Concealed Sheet Metal-to-Sheet Metal Joints: Butyl sealant in accordance with Section 07 92 00 – Joint Sealants.

E. Soldering Flux: Fed. Spec. O-F-506, type best suited for specific metal.

F. Solder: Fed. Spec. QQ-S-571 or ASTM B 32.

- 1. Use 50/50 solder for stainless steel.

## 2.02 FABRICATION

A. General:

- 1. Shop fabricate sheet metal accurately and to dimensions and shapes shown on approved Shop Drawings.
- 2. Finish molded and broken surfaces with true, sharp, and straight lines and angles and free from distortion and defects.
- 3. Unless otherwise specifically permitted by Engineer, turn exposed edges back 1/2 inch.
- 4. Prevent damage to sheet metal finish surfaces during fabrication.

- B. Fabricate shop-fabricated components in sections not exceeding 10 feet in length. Coordinate section lengths of exposed metals with joint locations shown on shop drawings.
- C. Where soldered end dams are shown on Drawings, fabricate with fully-soldered and water-tight joints.
  - 1. Thoroughly clean and roughen joint materials prior to soldering.
  - 2. Perform soldering slowly, with a well-heated copper, in order to heat seams thoroughly and to completely fill them with solder.
  - 3. Perform soldering with a heavy soldering copper of blunt design, properly tinned for use.
  - 4. Make exposed soldering on finished surfaces neat, full flowing, and smooth.
  - 5. After soldering, thoroughly wash acid flux with a soda solution.
- D. Fabricate sheet metal components intended to manage water with positive drainage. Provide minimum drainage slope of 1/2 inch per foot, unless otherwise shown on drawings.

## PART 3 – EXECUTION

### 3.01 EXAMINATION

- A. Examine areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

### 3.02 INSTALLATION

- A. General:

- 1. Install shop-fabricated sheet metal in accordance with approved Shop Drawings.
  - 2. Where sheet metal will be installed over waterproofing membrane or base flashing, provide a continuous layer of slip sheet. Secure slip sheet in place with pressure-sensitive tape prior to installation of sheet metal. Do not use fasteners that will penetrate waterproofing membrane or base flashing.

B. Sheet Metal Installation:

1. Install sheet metal components in accordance with approved shop drawings.
2. Where installing sheet metal using exposed fasteners, install fasteners at center of each slotted hole in material.
3. Fit sheet metal tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
4. Finish sheet metal weather-tight.

C. Joints:

1. Provide metal expansion joints within 2 feet of both sides of corners, or where shown on Drawings.
2. Provide splice plates of dimensions shown on Drawings centered on each sheet metal joint. Stagger receiver and counterflashing joints.
3. Unless a full bed of sealant is shown on Drawings, apply minimum 2 continuous beads of sealant on each side of joint.
4. Lay splice plate in place and secure, ensuring full contact between joint surfaces and sealant.
5. Where sealing of exposed sheet metal joints is required, clean metal surfaces and apply sealant in accordance with the sealant manufacturer's written instructions and Section 07 92 00 – Joint Sealants. Tool sealant joints to provide appropriate sealant profile and adhesion to substrate.

3.03 TESTS

- A. Upon request of Engineer, demonstrate by hose or standing water that flashing and sheet metal are completely watertight. Correct any deficiencies noted to ensure watertight installation.

END OF SECTION

SECTION 07 92 00  
JOINT SEALANTS

PART 1      GENERAL

1.01    SUMMARY

A. Section includes: Provide new field applied sealant joints where shown on Drawings and where required to prevent water penetration beyond the outer face of the exterior surfaces.

B. Related Sections:

1. Section 04 01 09 – Masonry Restoration
2. Section 07 62 00 – Sheet Metal Flashing and Trim

C. Measurement and Payment Procedures:

1. Sealant for masonry repairs shall be incidental to specific repairs indicated in Section 04 01 09 – Masonry Restoration.
2. Sealant at all other repairs will be incidental to those repairs.

1.02    REFERENCES

A. ASTM International (ASTM), current edition at time of bidding:

1. ASTM C1083: Standard Test Method for Water Absorption of Cellular Elastomeric Gaskets and Sealing Materials.
2. ASTM C1193: Standard Guide for the Use of Joint Sealants.
3. ASTM D1623: Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics.

1.03    SUBMITTALS

A. General: Submit in accordance with Section 01 33 00 – Submittal Procedures.

B. Physical samples of specified standard sealant colors for approval.

C. Qualification data for firms and persons responsible for sealant installation to demonstrate their capabilities and experience. Include lists of completed projects

with project names and addresses, names and addresses of architects and owners, and other information specified.

D. Certification by sealant manufacturer that:

1. Products are appropriate for the uses intended;
2. Materials forming joint substrates and joint sealant backings have been tested for compatibility and adhesion with joint sealants;
3. Sealants, primers, and cleaners required for sealant installation comply with local regulations controlling use of volatile organic compounds; and
4. Sealants are validated by Sealant, Waterproofing, and Restoration Institute (SWRI).

E. Submit sample copy of sealant manufacturer's 20-year labor and material warranty.

#### 1.04 QUALITY ASSURANCE

- A. General: Install sealant joints in accordance with ASTM C1193. Where discrepancies exist between these specifications, manufacturer's requirements and the referenced standard; notify Engineer in writing.
- B. Installer Qualifications: Engage an experienced installer who has completed sealant work similar in material, design, and extent to that indicated for this project and who has a record of successful in-service performance.
- C. Single source responsibility for joint sealant materials: Obtain joint sealant materials and accessories from a single manufacturer for each product required.
- D. Sealant manufacturer shall confirm in writing that all materials contacting the sealants, including joint backings, gaskets, spacers and joint substrates, and water repellents and paints are compatible with the sealant to be installed. Schedule sufficient time to test these materials for compatibility with the sealant, as necessary. Compatibility tests shall be performed to the sealant manufacturer's standards.

E. Sealant manufacturer shall confirm in writing the appropriate joint preparation and priming techniques required to obtain rapid, acceptable adhesion of the joint sealants to the joint substrates.

F. Mock Ups:

1. Provide a sealant application mock up at a location acceptable to Engineer and Owner. Mock ups shall be performed for all repair types.
2. Assist Engineer in performing field adhesion tests on mock-up areas. Field adhesion tests shall be performed as specified in Article 3.05 – Field Quality Control.
3. Obtain the sealant manufacturer's review and approval of the mock up.
4. Mock-ups may be incorporated into work if approved by Engineer.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in their original, tightly sealed containers or unopened packages, all clearly labeled with the manufacturer's name, product identification and lot numbers where applicable.
- B. Store materials in strict accordance with the manufacturer's printed instructions, copies of which shall be furnished to the Engineer.

#### 1.06 PROJECT CONDITIONS

- A. Coordinate Work of this Section with interfacing and adjoining Work for proper sequencing of each installation. Ensure best possible weather resistance, durability of Work and protection of materials and finishes.
- B. Protect open joints from water infiltration during construction operations.
- C. Environmental Conditions: Do not proceed with installation of joint sealants under the following conditions:
  1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealant manufacturer.
  2. When joint substrates are wet.



3. When surface temperatures are less than 5 degrees F above the ambient dew point temperature.
- D. Joint Width Conditions: Do not proceed with installation of joint sealants where joint widths are less than allowed by sealant manufacturer for application indicated.
- E. Joint Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with their adhesion are removed from joint substrates.

#### 1.07 PERFORMANCE REQUIREMENTS

- A. General: Provide sealant work as specified herein. If joints required to be sealed are not noted on Drawings, issue a request for information to Engineer, or obtain clarification from Engineer prior to submission of Bid.

#### 1.08 WARRANTY

- A. Provide 3-year written warranty signed by the Contractor, agreeing to replace defective materials and workmanship for joint repairs. Defects include leakage through the sealed joint, debonded sealant, loss of cohesion, or other distress associated with improper application or material deficiencies.
- B. Manufacturer Warranties: Submit a 20-year material warranty issued by the sealant manufacturer.
- C. Upon notification of such defects, make necessary repairs or replacement, including necessary repairs to affected coatings, at no cost to the Owner and at the convenience of the Owner. Repair work shall be in accordance with the requirements of these Contract Documents.

### PART 2 PRODUCTS

#### 2.01 JOINT SEALANTS

- A. General:
  1. Sealant materials shall be validated by Sealant, Waterproofing and Restoration Institute.

2. Sealant colors shall be approved by Owner based on mock-ups of standard colors most closely matching existing.
- B. Silicone Sealant: DOWSIL 756 SMS Building Sealant by Dow Inc., or approved equal for the following joint types:
1. Brick-to-Metal Joints;
  2. Limestone-to-Metal Joints;
  3. Brick-to-Brick Joints; and
  4. Brick-to-Limestone Joints.

## 2.02 MISCELLANEOUS MATERIALS

- A. Backer Rod: Pre-formed, compressible, resilient, nonstaining, nonwaxing, nonextruding strips of flexible plastic foam of material indicated below and of size, shape, and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
1. Reticulated, closed-cell polymeric foam, nonoutgassing, with a density of 40 kg/cu. m (2.5 pcf) and tensile strength of 240 kPa (35 psi) per ASTM D1623 and with water absorption less than 0.02 g/cc per ASTM C1083.
- B. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint filler materials or joint surfaces at back of joint where adhesion would result in sealant failure. Provide self-adhesive tape where applicable.
- C. Primer: Material recommended by sealant manufacturer as determined from field adhesion tests. Sealant material manufacturer's recommendations regarding primer shall be in writing.
- D. 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 in any way joint substrates and adjacent nonporous surfaces, and formulated to promote optimum adhesion of sealants with joint substrates. Sealant material manufacturer's recommendations regarding surface cleaners shall be in writing.

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

## PART 3 EXECUTION

### 3.01 GENERAL

- A. Apply joint sealant in accordance with ASTM C1193 and manufacturer's written instructions. If there are any discrepancies between these Specifications, sealant manufacturer's written instructions, and ASTM C1193, notify Engineer immediately.

### 3.02 JOINT SURFACE PREPARATION

- A. Thoroughly remove the existing sealant and backing material from joints. Where required, remove remnants of existing sealant using grinders and course sanding pads.
- B. Clean and dry all joint surfaces. Joint surfaces shall be free of dirt, dust, release agents, moisture and laitance.
  - 1. Clean porous surfaces with abrasion cleaning followed by blasts of oil-free compressed air. Exterior surfaces must be visibly dry before installation.
  - 2. Clean nonporous surfaces with a degreasing solvent using a clean, white, oil-free, lint-free cloth. If the cloth becomes dirty, change to a clean cloth immediately.
- C. Use backer rod of a diameter 25 percent greater than the joint width. Install backer rod with a blunt instrument, and remove and replace any punctured rod with a new backer rod. Install rod so that the sealant depth is one-half the joint width, but no less than 1/4 inch and not more than 3/8 inch.
- D. Where a bond breaker is required for joint geometry, install bond breaker of width to match the existing width of joint.
- E. Apply masking tape in areas of high visibility to ensure good aesthetics.

### 3.03 PRIMER APPLICATIONS

- A. Use primer in all instances except when sealant manufacturer indicates in writing that use of primer is detrimental to adhesion of sealant to the substrate; or sealant adhesion tests indicate that primer reduces the ability of sealant to adhere to specific substrates.
- B. Select primer in accordance with the sealant manufacturer's written recommendations.
- C. Where adjoining requires 2 different primers, such as around perimeter windows, mask each material when priming the other to avoid contamination.
- D. Apply primer with a natural bristle brush on porous substrates, and with clean, dry, lint-free cloth on all other surfaces. Flooding of the surface with any primer should be avoided. For all other surfaces, the sealant manufacturer's recommendations shall be consulted and followed.

### 3.04 SEALANT APPLICATION

- A. General: Apply joint sealants according to sealant manufacturer's instructions.
- B. Silicone and Polyurethane Building Sealants:
  - 1. A minimum 2:1 width to depth ratio with an hourglass shape is required with a maximum of 3/8-inch depth and a minimum of 1/4 inch over the backer rod or bond breaker. Maintain a minimum 1/4-inch bond line ("bite") on all surfaces.
  - 2. Apply by cartridge-type caulking gun, bulk-loading gun or air-pressure equipment following sealant manufacturer's written instructions. Sealant may also be pumped from bulk containers.
  - 3. Ensure no air voids throughout the entire joint cross section. To ensure complete joint fill, tool joints within 10 to 20 minutes of sealant application. If masking materials are used, remove them immediately after tooling the sealant.
  - 4. Tool all joints properly to achieve uninterrupted adhesion to substrate and proper joint geometry.

### 3.05 FIELD QUALITY CONTROL

- A. Sealant manufacturer's technical representative shall make on-site inspections at least once every two weeks to ensure that the materials are being installed in strict accordance with sealant manufacturer's specifications. Reports from the technical representative's visits shall be prepared and forwarded to the Engineer.
- B. Ensure the proper application of the materials.
- C. Field adhesion testing will be performed by the Engineer. Provide assistance to Engineer for performing tests.
- D. Hand pull test procedure:
  - 1. Make a knife cut horizontally from one side of the joint to the other.
  - 2. Make two vertical cuts (from the horizontal cut) approximately 3 inches long, at both sides of the joint.
  - 3. Place a 1-inch mark on the sealant tab, and grasp the 2-inch piece of sealant firmly just beyond the 1-inch mark.
  - 4. Pull at a 90 degree angle.
  - 5. If dissimilar substrates are being sealed, check the adhesion of sealant to each substrate separately. This is accomplished by extending the vertical cut along one side of the joint, checking adhesion to the opposite side, and then repeating for the other surface.
  - 6. Pass/fail criteria for the sealants: If the sealant does not pass according to the guidelines provided, notify Engineer and sealant manufacturer's field representative. Passing criteria shall be as follows:
    - a. Silicone building sealant: Pull tab 3 inches (300 percent extension) without bond loss.
    - b. Silicone glazing sealant: Cohesive failure; no adhesion loss.
  - 7. Inspect the joint for complete fill. The joint should not have voids.
  - 8. Retain a copy of the test results in a field adhesion test log. The log must be retained as part of the warranty procedure.

9. Repair the sealant pulled from the test area by applying new sealant to test area.
  - a. Assuming good adhesion was obtained, use the same application procedure to repair the area as was used to originally seal it.
  - b. Care should be taken to ensure that the original sealant surfaces are clean and that the new sealant is in contact with the original sealant.
  - c. No primer shall be used on substrates surfaces that have remnants of recently installed sealant.
10. Performance of field adhesion testing by Engineer shall not relieve the Contractor from performing its own field adhesion testing as part of its quality control procedures.

### 3.06 CLEANING

- A. Remove masking tape where used. Clean the surfaces of materials adjacent to the joints where sealant was applied free of excess sealant or other soiling due to sealing applications.
  1. Scrape excess sealant from the surface, and clean the remaining residue with xylene or mineral spirits.
  2. Clean the surfaces as work progresses and before the sealant begins to cure.

END OF SECTION

## SECTION 12 93 00

### SITE FURNISHINGS

#### PART 1 GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of each Prime Contract, including General and supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

##### 1.02 DESCRIPTION

- A. Scope of Work: Provide all items of street furnishings, including all connections, fastenings, footings and finishes as shown on the Drawings and specified herein.

Confirm “to be saved” site furnishings. Please refer to the Drawings for noted furnishings to retain and relocate.

- a. Tournesol “Kitsap” planter walls
- b. Benches
- c. Fiberglass planters
- d. Pet waste receptacle
- e. Fiberglass fire hydrant
- f. Trash receptacles
- g. Ash urn
- h. Landscape lighting
- i. Salvage, clean, store, and relocate Owner’s existing teak benches and fiberglass planters.

- B. Related Work Specified Elsewhere:

1. Section 32 14 16 – Brick Unit Paving
2. Section 32 93 00 – Landscape Plantings
3. Section 32 18 13 – Synthetic Grass Surfacing
4. Section 32 84 00 – Planting Irrigation
5. Section 32 93 10 – Planter Insulation
1. Section 32 91 00 – Planting Preparation

#### 1.03 QUALITY ASSURANCE:

- A. Installer Qualifications: A single, pre-approved Contractor with a minimum of five years' experience on comparable project installing site furnishings such as these specified into on-structure locations: Fiberglass planters, benches, trash receptacles, ash urn, pet waste receptacle, path lights, wall lights, column lights, built-in planter lights, and fiberglass fire hydrant.
- B. Provide new products with manufacturer's standard warranties.
- B. Codes and Standards: Comply with local governing regulations to assure legal placement of furnishings. Notify Landscape Architect immediately, and prior to installation, should a discrepancy exist.

#### 1.04 SUBMITTALS:

- A. Submit to Landscape Architect all manufacturers' data, including shop drawings, instructions, and other available written or graphic data for all specified furnishings and appurtenances.
- B. For Tournesol kitsap planter walls, include technical drawings to show size, shape, and finish and include installation instructions. Submit shop drawings of Tournesol kitsap planter walls with attached benches.
- C. Finish Samples: Submit to Landscape Architect well labeled color samples and chips, and any other finishing samples specified or proposed by contractor for all furnishings and appurtenances specified herein.



- D. Product Samples: Upon request, submit actual product samples to Landscape Architect. Confirm delivery location with Landscape Architect.
- E. Templates: Submit templates for installation of fixtures to Landscape Architect.

#### 1.05 DELIVERY, STORAGE, AND PRODUCT HANDLING

- A. General: Arrange for shipments, transport, receive goods, and store them dry and free from damage until installed on site.
- B. Wrap, crate, or otherwise protect the furnishings as recommended by the manufacturer and as required to keep them free from harm during all transit and storage until installed and ready for use, just prior to substantial completion.
- C. Handle and store sealant per manufacturer's recommendations.
- D. Inspect shipment upon delivery for freight damage before accepting and note complaint with carrier. Contact manufacturer to resolve issues, so that Owner receives undamaged furnishings.
- E. Protect products during storage, installation, and project completion.
- F. Use original packaging, if possible, for storage.
- G. Protect all finishes from scratches or damage with careful handling.

#### 1.06 JOB CONDITIONS

- A. General: Confirm that existing conditions conform to those which are shown on the Drawings with respect to dimensions, grades, and relative relationships even though they are not dimensioned on the Drawings and report any discrepancies to the Landscape Architect prior to layout review and installation.
  - 1. Obtain Landscape Architect's acceptance of layout prior to making any permanent attachments.
- B. Protection: Protect work performed by others from nicking, scraping, scratching, denting or any other damage including damage to plantings of all types during installation of the furnishings.

- C. Coordination: Coordinate installation of site furnishings with others, especially paving installers and those performing electrical and irrigation work.

## 1.07 WARRANTY

### A. Provide manufacturer's standard warranties for the following:

1. Planter walls, fiberglass planters, benches, trash receptacles, ash urn, pet station, path lights, wall lights, column lights, built-In planter lights, and fiberglass fire hydrant.
  - a. Terms of Contract Warranty: 1 year from invoice date against defects in materials and/or workmanship.

## PART 2 PRODUCTS

### 2.01 MATERIALS

#### A. Tournesol "Kitsap" planter walls:

1. Manufactured by: Tournesol Siteworks, LLC 2930 Faber St., Union City, CA 94587. Contact: Troy Parson (510-240-6845) <https://tournesol.com>
2. Dimension: Varies, refer to the Drawings.
3. Material to be aluminum and powder coated aluminum – ASTM B209 – B5052-H32 Marine Grade 1/8" Aluminum sheet, formed and laser welded. Wall reinforcement elements of same material welded as required. Entire product is aluminum construction retaining planter walls with thermally modified wood benches.
4. Construction: Form anchored retaining walls to be fully welded at vertical and horizontal seams. Press break top lips or fully seam weld. Grind smooth lips on powder coated aluminum planters. Fully weld curved retaining wall bases. Aluminum to be fully laser welded.
5. Performance characteristics: As confirmed by Finite Element Analysis (FEA), vertical walls shall not deform more than 1/4" over the entire length of each wall section when loaded with 90 lbs./cu ft. level backfill soil media to within

2” of top of wall. Manufacturer to provide copies of FEA results confirming this performance upon request. Similar performance with heavier soil media is available by specification.

6. Finish: Unpainted aluminum and powder coated aluminum. Following fabrication planter shall be cleaned by dry steam cleaning and zirconium solution. Corrosion-resistant zinc free epoxy primer shall be applied, 1-2mils thick. Protective powder coat shall be polyester, minimum 4 mils thick. Following application parts shall be baked until properly cured.
7. Sizes: Modular units fabricated to size by manufacturer as required to fill specified areas. sizes as per approved shop drawings.
8. Top Lips: Form top lips on all straight walls, including straight sections of angled walls. Weld top lip on curved retaining walls.
9. Preparation: Prior to planter fabrication, the contractor shall verify as-built dimensions and elevations of planter area or receptacles to ensure proper size, fit, elevation, and quantity required.

B. Benches:

1. Model: Landscape Forms ‘Northport’ bench back-to-back style, powder coat color: obsidian, wood: domestically sourced thermally modified ash wood.
  - a. Manufactured by Landscape Forms. Contact: Jennifer Woods (800-430-6206), [landscapeforms.com](http://landscapeforms.com).
  - b. Dimensions: 38.5” depth x 69.75” length x 34” height, 165 lbs.
  - c. Materials: Seat and back panels to be domestically sourced thermally modified ash wood. End frames to be powder coated aluminum casting, seat strap to be powder coated aluminum sheet, 1/8” thick.
  - d. Finish: Matte finish powder coated aluminum in obsidian color and unfinished thermally modified ash wood.
2. Model: Heller ‘Vignelli’ bench.
  - a. Manufactured by Heller Furniture. Contact: [info@hellerfurniture.com](mailto:info@hellerfurniture.com), [hellerfurniture.com](http://hellerfurniture.com)
  - b. Dimensions: 18” depth x 72” length x 18” height, 53 lbs.

- c. Materials: Single-piece roto-molded polyethylene, color: dark grey.
- 3. Model: Fatboy “Attackle! Recycled” Bench.
  - a. Manufactured by: Fatboy USA. Contact: Maria Radeva (702-217-8633).
  - b. Dimensions: 76.7” length x 30.5” height x 21.7” width, with 19.5” seating height, weight is 33 lbs.
  - c. Material: 100 percent recycled polyethylene, color: black.

#### C. Fiberglass Planters

- 1. Model: Planters Unlimited ‘Xander’ fiberglass square planter, SKU: F1-XAN-S4830. Contact: Mina Farag, mina@carlsbadmfg.com.
  - a. Dimensions: 48” length x 48” width x 30” height.
  - b. Material: glass fiber reinforced polyester resin
  - c. Finish and color: Matte, black fox.
- 2. Model: Tau ‘Dividum’ Planter, 4129.122. Contact: Midwest Tropicals (630-451-0101)
  - a. Dimensions: 48” length x 24” width x 42.1” height
  - b. Material: glass fiber reinforced polyester resin, color: matte black.
  - c. Finish and color: smooth.
- 3. Existing Round Fiberglass Planters,
  - a. Dimensions: approximately 36” diameter x 36” height.
  - b. Finish: matte fiberglass, color: gray.

#### D. Pet Waste Receptacle

- 1. Model: Pet Waste Eliminator “10 Gallon Steel Trash Receptacle” #E10, wall mountable. Contact: (1-800-790-8896) Beatrice Baldazo beatriceb@gabp.com.
- 2. Overall dimensions: 12” diameter width x 24” height.
- 3. Material: steel, color: green.

#### E. Fiberglass Fire Hydrant

1. Model: Pet Waste Eliminator “Budget Fire Hydrant”, Model# RPAWP101, surface mount. Contact: (800-790-8896) Beatrice Baldazo  
beatriceb@gabp.com.
2. Dimensions: 13.3” diameter, 25.7” height, 18 lbs.
3. Material: fiberglass, color: red.

#### F. Trash Receptacles

1. Model: Landscape Forms #LS602-03, Lakeside® side opening litter receptacle, leaf side panel. Contact: Jennifer Woods (800-430-6206),  
landscapeforms.com.
2. Dimensions: 19” diameter x 36 ¼” height.
3. Material: powder coated steel, color: nutmeg, matte finish.

#### G. Ash Urn

1. Model: Landscape Forms #GD185-02, Grenadier™ ash urn. Contact: Jennifer Woods (800-430-6206), landscapeforms.com.
2. Dimensions: 4” width x 35” height with 10” width mounting bracket, 1.75-gallon capacity.
3. Material: powder coated metal, color: nutmeg, matte finish.

#### H. Landscape Lighting

1. Tree Uplighting
  - a. Model: HK Lighting, Accent & Landscape #ZX11-OR1FA-ABR-012V05W-27KM-GSA-LVR-MH02-06-BRZ. Include ground mount fixture MH02.
  - b. Dimensions: 1.9” diameter x 7-8” length with angled shield.
  - c. Material: aluminum with stainless steel hardware.
  - d. Finish: aluminum bronze.
2. Path Lights
  - a. Model: SPJ lighting, #SPJ06-14-B-PVDG-3W-30K-8-1-BV, aluminum fixture with cone hood and 20” stem.

- b. Dimensions: 26 3/16" height x 12 3/8" width.
- c. Material: low copper alloy aluminum with stainless steel hardware.
- d. Finish and color: aluminum/dark bronze.

### 3. Wall Lights

- a. Model: Modern Forms lighting, # WS-W36406-35-BK.
- b. Dimensions: 5 1/2" height x 5 1/2" width x 3 3/4" depth.
- c. Material: aluminum
- d. Finish: black.

### 4. Column Lights

- a. Maintain existing column lights as noted in the Drawings.

### 5. Built-in planter lights: Zedge Mini

- a. Model: #ZES-RP-BE-BZ-L1-30-24
- b. Dimensions: 2.5" height x 2.5 width.
- c. Material: aluminum
- d. Finish: bronze
- e. Pockets for light to be custom made by planter manufacturer with specifications from the lighting manufacturer. See the Drawings for placement and stainless-steel back box, part no. 1US3166.

### 6. Breezeway lights

- a. Electrical engineer will assess existing fixtures for suitability prior to bulb replacement. Report assessment and any need for fixture or bulb replacement with Client.
- b. Replace existing bulbs with 3000K LED bulbs as needed.

### I. Relocated Teak Benches

- a. Dimensions: approximately 72" length x 24" width x 36" height.
- b. Finish: stained teak wood.

## PART 3 EXECUTION

### 3.01 PREPARATION

- A. Coordination: Coordinate with paving installer, electrical, plumbing, irrigation and waterproof membrane trade contractors and furnish anchorages, frames, setting drawings, diagrams, templates, and directions for installation to assure proper placement and alignment of furnishings.
- B. Layout: Prior to installation of furnishings or other anchorage devices, accurately layout the site furnishings by marking locations with chalk or other appropriate non-permanent marking devices for the Landscape Architect's review. The Landscape Architect may, at his option, require the Contractor to layout the actual assembled furnishing on the site prior to installation.
  - 1. Lay surface mounted furnishings on pavers as shown on the Drawings. Verify layout onsite with Landscape Architect. Broken pavers will be replaced in kind by the Contractor at no additional cost to the Owner.
  - 2. Locate furnishings to have 6" minimum clearance to adjacent furnishings, assemblies, and architectural features.
- C. Shop Assembly and Finish Work: To the extent possible, preassemble any items requiring assembly and pre-finish any items requiring finishing to minimize the work performed in the field.
  - A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible. Do not delay progress. Allow for adjustments during installation where taking field measurements before fabrication might delay work.

### 3.02 INSTALLATION

- A. General: Do not install any site furnishing which has been damaged by nicks, scratches, splinters, chips, or stains, or which is defective in any way.
- B. Timing: Do not install site furnishings until the site is completely ready to accept the furnishing, and not before most of the work has been substantially completed in the area.

C. Install Furnishings:

1. Install Tournesol planter walls:
  - a. Refer to planter layout in the Drawings.
  - b. Anchored retaining wall must be structurally attached to a level bituminous base through holes in the base of the wall. Footing recommendations can be found on the footing addendum of the Tournesol Kitsap Installation Instructions document. Quantity of wall anchors varies per wall height and length.
  - c. Use 3/8" diameter noncorrosive anchors at each mounting hole provided to anchor manufacturers specification. See Tournesol kitsap manufacturers technical drawings for details.
  - d. Provide continuous basal support.
  - e. Stain the "Piano key" attached wooden slatted benches with Cabot toned pre-tinted pacific redwood transparent stain and sealer. Apply stain according to manufacturer's instructions.
2. Install Northport Benches: Install 'Northport' back-to-back style benches. See Drawings to confirm layout.
  - a. Surface mount: Custom bolt has 5/8-11 x 3/4" length thread, with Magni-coat secured to end frame with carbon steel 1/4-20 x 3/4" hex drive set screw with Magni-coat. Includes polypropylene footpad. Install with custom metal plate and sleeve as detailed in the Drawings.
  - b. Install benches on hard level surface.
3. Install Heller "Vignelli" Benches:
  - a. Remove plugs from underside of bench and fill with 50lbs. of dry play sand, set in place according to the layout shown in the Drawings. Replace plug and set on firm level surface.
4. Install Pet Waste Receptacle:
  - a. Mount to low-rise building brick wall with as shown in the Drawings. See Architectural Drawings for building penetration details. Bottom of waste receptable shall be 4-6" above finished grade.



5. Install Fiberglass Fire Hydrant:
  - a. Mount to high density polyethylene nailer board framing in the location noted on the Drawings. Use stainless steel attachment hardware.
6. Install Trash Receptacles:
  - a. Surface mount to brick paving with manufacturer provided anchor bolts as shown in the Drawings. Install with custom metal plate and sleeve as detailed in the Drawings.
7. Install Ash Urn:
  - a. Surface mount to brick paving with manufacturer provided anchors and bolts, install with custom metal plate and sleeve as detailed in the Drawings.
8. Install Planters Unlimited 'Xander' fiberglass square planters
  - a. Planters to have lighting boxes installed as part of planter construction – sized to fit Targetti Zedge light model #ZES-RP-FW-BZ-L1-30-24 with bidirectional shield and stainless steel backing box model #1US3166-B.
  - b. Contractor to drill drainage holes in planters to correspond with locations of drains, plumbing, electrical, and irrigation penetrations.
  - c. Layout and rotation of planters with light containing faces to be approved by Landscape Architect prior to installation of insulation, soil, and trees.
9. Built-in planter lights: Zedge Mini
  - a. Pockets in "Xander" planters to be custom made by planter manufacturer with stainless steel backing boxes provided from the lighting manufacturer pre-installed into planters.
  - b. Electrical engineer to install lights into pre-installed backing box and connect low voltage lines to remote driver.
- D. Setting: Set furnishings straight, plumb, level, true to line, and at elevations indicated on the drawings, or in the event none are indicated, flush with the adjacent paving or other surface.
  1. Fit exposed connections accurately together to form tight, hairline joints.

2. Perform cutting, drilling, and fitting required for installation of site furnishings. Set work accurately in location, alignment and elevation plumb, level, true, non-rocking and free of rack, measured from established lines and levels. Do not weld, cut, or abrade surfaces of components which have been coated or finished after fabrication, and are intended for field connection by mechanical means without further cutting or fitting.
- E. Anchoring: Install anchoring devices as shown on the Drawings and according to manufacturer's recommendations.
- F. Final Assembly and Finish: Perform final assembly and any required finish operations which have not been previously done.

### 3.03 REPAIR AND CLEANING

- A. Protection: Protect finishes of all items from damage during construction period by use of temporary protective coverings approved by manufacturers. Remove protective covering at project completion or when directed by Owner. Restore finishes damaged during installation and construction period so that no evidence remains of correction work. Return items which cannot be refinished in the field to the shop; make required alterations and refinish entire unit or provide new units as required.
- B. Replacement: Remove from site and replace any furnishings which are nicked, broken, chipped, stained or otherwise damaged.
- C. Touch-up: Touch-up painting or other repair cleaning or finishing may be required by the Landscape Architect.
- D. Protection: Protect furnishings from damage after installation until project is complete and accepted by Owner.

END OF SECTION

SECTION 32 14 16  
BRICK UNIT PAVING

PART 1      GENERAL

1.01    RELATED DOCUMENTS

- A. Drawings and General Provisions of each Prime Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02    DESCRIPTION

- A. Scope of Work: Provide all unit paving in the patterns shown on the Drawings and specified herein.
  - 1. All paved areas as noted on Drawings are to be clay brick pavers, installed on a bituminous setting bed with varying height.
- B. Related Work Specified Elsewhere:
  - 1. Section 12 93 00 – Site Furnishings
  - 2. Section 32 18 13 – Synthetic Grass Surfacing
  - 3. Section 32 84 00 – Planting Irrigation
  - 4. Section 32 91 00 – Planting Preparation
  - 5. Section 32 93 00 – Landscape Plantings

1.03    QUALITY ASSURANCE:

- A. Installer Qualifications: A single pre-approved Landscape or Paving Contractor with a minimum of five (5) years' experience on comparable project of similar

size and circumstance installing brick pavers on a bituminous setting bed. Complete job references are to be submitted to the General Construction Contractor. Documentation will be required. The laying of pavers shall be performed by experienced crews.

- B. Field-Constructed Mock-Up: Fabricate a mock-up panel of specified brick unit paver in either 45-degree or 90-degree herringbone pattern, include soldier course banding using materials, pattern and joint treatment indicated for project Work. Build mock-up in form of panel at the site, of full thickness, 4' x 3'. Provide range of color, texture, and workmanship to be expected in the completed work. Obtain Landscape Architect's acceptance of mock-up panel. Panel may be left in place as part of the Work.
- C. Standards: Comply with all applicable governmental codes and requirements.
  - 1. ADA Compliance: Confirm compliance with ADA Guidelines prior to construction. Report discrepancies to Landscape Architect.
- D. Warranty: Warranty that all work in this section shall be free from defects of materials and workmanship for a period of one (1) year from the date of acceptance of the project. Warrant all paving areas for a period of one year from the date of acceptance to be in level, uniform, undamaged condition. Correct any imperfect work whenever discovered until termination of warranty obligations. When the Work is accepted in part, the warranty periods extend from each of the partial acceptances to the terminal date of the last warranty period.

#### 1.04 SUBMITTALS:

- A. Manufacturer's Data: Submit manufacturer's data for all proprietary materials.
- B. Samples: Submit well-labeled samples of pavers in full range of colors.

#### 1.05 PRODUCT HANDLING:

- A. General: Transport, deliver, handle and store materials by such methods to prevent damage, deterioration, and contamination.
- B. Manufactured Products: Store all manufactured products as per the manufacturer's recommendations.

#### 1.06 JOB CONDITIONS:

- A. Weather: Do not install bituminous setting bed over wet or frozen waterproofing/deck assembly. Do not install pavers during inclement weather.
- B. Confirm Grades: Verify grades and elevations shown on the Architectural Drawings, interim survey, and contract documents prior to proceeding with work.
- C. Coordination of Work: Provide openings to accommodate work of other trades (drains, lights, furnishings, etc.). Obtain and use templates.
- D. Protection: Provide all necessary equipment and forces to protect work from damage during installation and until the Work is accepted.
- E. Utilities: Prior to start of work, determine whether underground installations, i.e., sewer, telephone, water, fuel, electric lines, etc., will be encountered, and if so, where such underground installations are exactly located. General Contractor shall mark locations of existing utility structures. Do not pave over utility structures. Notify Landscape Architect immediately of any obstructions encountered.
- F. Permits: Obtain, fill out and submit all applicable permits prior to installation.

## PART 2 PRODUCTS

## 2.01 UNIT PAVERS:

A. Brick Unit Pavers: Extruded clay and/or shale brick unit pavers with an average compressive strength of >4,000 psi and manufactured to conform to the requirements of American Society for Testing and Materials (ASTM) Standard Specification C 216, Grade SW, Type FBS and all grades of ASTM C 62. After 50 cycles of freeze-thaw or 3-day application of rock salt (wet), there shall be no weight loss or visual signs of deterioration. Brick pavers shall have a tolerance of plus or minus 1/16" in any direction with square edges. All units shall be sound, free from defects, with a fine texture and similar to samples submitted in mock-up. Do not use brick unit pavers with chips, cracks, voids, discolorations, or other defects which might be visible or cause staining in finished work.

1. Manufacturer: Glen-Gery Full Range 2-1 Brick Paver as manufactured by the Glen-Gery brand Lawrenceville Brick in Lawrenceville, Virginia (434-848-3151); and Glen-Gery brand EDL Light Gray Brick Paver as manufactured by the Pittsburgh Brick Manufacturing Plant in Cheswick, PA (412-426-9200).
2. Provide the following sizes, styles, & colors:
  - a. Herringbone paving patterns: Glen Gery Full Range 2-1 Paver,
    - a) Size: 2 1/4" x 3 11/16" x 7 3/8",
    - b) Style/Type: Wire Cut,
    - c) Color: 2-1 Full Range.
  - b. Soldier Course paving patterns: Glen Gery EDL Light Gray Paver,
    - a) Size: 2 1/4" x 4" x 8",
    - b) Style/type: wire cut, and
    - c) Color: light gray.

B. Alternate Extruded Brick Pavers:

1. Manufacturer: Glen-Gery Red Range 2-1 Brick Paver as manufactured by the Glen-Gery brand Lawrenceville Brick in Lawrenceville, Virginia (434-848-3151); and Glen Gery EDL Dark Gray Brick Paver as manufactured by Glen-Gery brand Pittsburgh Brick Manufacturing Plant in Cheswick, PA (412-426-9200).
  - a. Herringbone paving patterns: Glen Gery Red Range 2-1 Paver,
    - a) Size: 2 1/4" x 3 11/16" x 7 3/8",
    - b) Style/Type: Wire Cut,
    - c) Color: Red Range.
  - b. Soldier Course paving patterns: Glen Gery EDL Dark Grey Paver,
    - a) Size: 2 1/4" x 4" x 8",
    - b) Style/Type: Wire Cut, and
    - c) Color: Dark Grey.

## 2.02 MATERIALS:

### A. Setting Materials:

1. Bituminous Setting Bed: Asphalt cement/binder to be used in the bituminous setting bed shall conform to ASTM D3381 or ASTM D6373. Use fine aggregate complying with ASTM D1073 or ASTM D3515.
  - a. Fine Aggregate: Clean, hard sand with durable particles and free from adherent coatings, lumps of clay, alkali salts, and organic matter. It shall be uniformly graded from "coarse" to "fine" and all passing the No. 4 sieve and meet the gradation requirements when tested in accordance with the standard method of test for sieve or screen analysis of fine and coarse aggregates.
  - b. Mix: The dried fine aggregate shall be combined with hot asphalt cement, and the mix shall be heated to approximately 300 degrees F at an asphalt plant.

The approximate proportion of materials shall be seven (7) percent cement asphalt and ninety-three (93) percent fine aggregate. Each ton shall be apportioned by weight in the approximate ratio of 145 lbs. asphalt to 1,855 lbs. sand. The Contractor shall determine the exact proportions to produce the best possible mixture for construction of the bituminous setting bed to meet construction requirements.

2. Neoprene-Modified Asphalt Adhesive or Paving Mastic: Two (2) percent neoprene (Grade WM1) oxidized asphalt with a 155 degree softening point, (80 penetration) and ten (10) percent long fiber asbestos.
3. Polymeric Sand: provide Polymeric Joint Sand as manufactured by the following:
  - a. Alliance Gator G2
    - a) Product Type: Dry mix, contains polymeric binding agent, activated with water.
    - b) Color: To be selected by Landscape Architect
  - b. Unicare HP Polymeric Max Sand
    - c) Product Type: Dry mix, contains polymeric binding agent, activated with water.
    - d) Color: To be selected by Landscape Architect.
4. Provide Polymeric Joint Sand meeting the minimum material and physical properties as follows:
  - a. Compression Strength: proven resistance to compression of 550 PSI after drying for 7 days under controlled conditions (73°F (23°C) at 50% humidity).
  - d) Test sand sample shape: cylinder (2" (5 cm) dia. X 4" (10 cm) high).
5. Expansion Joints: see Architectural Drawings and Specifications.



B. Other Materials:

1. Edging: Provide edging only if called out on the Drawings. Use Permaloc StructurEdge, or equivalent flexible aluminum edging, 2 1/4" x 1/8" where noted in Drawings.
2. Sloped asphalt layer below bituminous setting bed: A sloped asphalt layer below the bituminous setting bed is needed to provide pitch to drainage structures. Contractor to provide a submittal of all asphalt and bituminous setting bed product material details to Landscape Architect.

PART 3 EXECUTION

2.03 PREPARATION:

- A. Refer to Section 07 14 13 for waterproofing preparation.

2.04 INSTALLATION:

- A. Install Bituminous setting bed:

1. Set Control Bars: To install the setting bed over the surface of the base, place 3/4" deep control bars directly over the base. If grades must be adjusted, set wood chocks under depth control bars to proper grade. Set two bars parallel to each other approximately eleven (11) feet apart to serve as guides for striking board (12' long 2" x 6" board). Set the depth of control bars carefully to bring the pavers, when laid, to proper grade.
2. Placing Bituminous Setting Bed: Place some bituminous bed between the parallel depth control bars. Pull this bed with the striking board over these bars several times. After each passing, shower low porous spots with fresh bituminous material to produce smooth, firm and even setting bed. As soon as this initial panel is completed, advance the first bar to the next position in readiness for

striking the next panel. Carefully fill up any depressions that remain after removing the depth control bars and wood chocks.

3. Rolling: The setting beds shall be rolled with a hand roller, after bed has cooled to eliminate a sponge like surface. Apply a coating of 2 percent neoprene asphalt adhesive by mopping or squeegeeing or troweling over the top surface of the bituminous setting bed so as to provide a bond under the pavers. If it is troweled, the trowel shall be serrated with serrations not to exceed one-sixteenth (1/16) of an inch.
  4. Priming: Prime protection board.
- B. Installation of Brick Pavers: Carefully place the pavers by hand with joint widths as shown of the Drawings in straight courses, true lines, and uniform top surface. Keep good alignment and the pattern shown on the Drawings. Where pavers meet other finished surfaces, install flush with paving grade.
1. Joint widths vary to minimize cutting and maintain design geometry, refer to the paving layout enlargements in the Drawings.
  2. Create no tripping hazards. See “Tolerances” in this Section.
- C. Cut Units: When pavers must be pieced using cut units, where meeting soldier courses or fixed pavements at edges, arrange pattern so that numbers of cut units are minimized, while making cut units as large as possible (no slivers).
- D. Protection in Progress: Protect newly laid pavers at all times by panels of plywood on which the installer stands. Advance panels as work progresses. Keep plywood protection in areas which will be subject to continued movement of materials and equipment. These precautions shall be taken in order to avoid depressions and protect paver alignment. If additional leveling of the pavers is required, and before sweeping in joint filler, roll with power roller after sufficient heat has built up in the surface from several days of hot weather.

E. Compacting: After pavers are installed and cutting completed, compact into setting bed. Make one pass on all areas. Sweep sand into joints and compact until joints are full. Fill joints all the way to the bottom of the chamfer on the pavers. Sweep excess sand and remove from site.

1. On Bituminous Bed: Use roller compactor.

## 2.05 EDGING:

A. General: Where unit pavers but plant beds, or where edging is otherwise shown next to unit pavers, install edge tight and true to grade specified.

B. Installing Paver Edge: See Drawings.

C. Installing Flexible Aluminum Edge: Anchor edge with stakes spaced not more than 3'-0" on center, driven at least 1" below top elevations of the edging. Multiple stake and clinch to avoid any variance of line at connections. Top of edging shall be no more than 1" above finish synthetic lawn and planter grades. Where aluminum edge is used against paving, edging shall be flush to paving or no more than 1" below paved surface, and in no instance extend above the finish surface elevation of the paving. Edging stakes will attach edging to bituminous setting bed layer and shall not puncture protection board or waterproof membrane. Use a string line for straight alignments. Alignment and grade of all edging shall be subject to the Landscape Architect's review. Correct defective work prior to review.

D. Installing High Density Polyethylene Nailer Boards at Dog Run: See Section 32 18 13 – Synthetic Grass Surfacing.

## 2.06 TOLERANCES:

A. Do not exceed 1/32" unit-to-unit offset from flush and a tolerance 1/8" in 10' from level or slope as indicated for finished surface of paving.

2.07 REPAIR, POINTING, AND CLEANING:

- A. General: Perform final quality control work, repair and cleaning with specified materials and methods. Surface finish and color on repairs shall exactly match.
- B. Repair: Remove and replace unit pavers which are loose, chipped, broken, stained or otherwise damaged, or if units do not match adjoining units as intended. Re-point as required to meet specified quality.
- C. Cleaning: Clean and remove from premises all unused materials and debris resulting from work.

END OF SECTION 321416

SECTION 32 18 13  
SYNTHETIC GRASS SURFACING

PART 1      GENERAL

1.01    RELATED DOCUMENTS

- A. Drawings and General Provisions of each Prime Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02    DESCRIPTION

- A. Scope of Work: Provide all synthetic grass surfacing areas shown on the drawings and specified herein. Provide all labor, materials, equipment, and tools necessary for the complete installation of a “no in-fill” synthetic grass dog surface with a stable draining base. The complete synthetic grass system shall consist of, but not necessarily be limited to, the following:

1. The extent of artificial turf work as shown on the Drawings.
2. Subgrade, base, and drainage construction as specified in this Section and as shown on the Drawings.
3. Quality synthetic grass product manufactured in the USA according to this Section, specifically designed, manufactured, and installed for the intended use for a commercial high-use dog surfacing solution.
4. A knitted synthetic grass product (not tufted) containing an antimicrobial agent while meeting or exceeding all guidelines as established herein. For characteristics not specifically stated, product will meet or exceed all guidelines published by the Synthetic Turf Council.

- B. Related Work Specified Elsewhere:

1. Section 07 14 13 – Hot Fluid Applied Waterproofing
2. Section 12 93 00 - Site Furnishings
3. Section 32 14 16 - Brick Unit Paving

4. Section 32 91 00 - Planting Soil
1. Section 32 93 10 - Planter Insulation

#### 1.03 1.03 SUBMITTALS

A. Synthetic Grass System: Submit the following to the Landscape Architect:

1. Reference list for projects of similar scope to this project completed in the last five years.
2. Manufacturer's Data: Submit manufacturer's data for all proprietary materials, including manufacturer's catalog product data, installation, instructions, and material safety data sheets for the safe handling of the specified materials and products.
3. Samples: Loose samples of proposed synthetic grass product.
  - a. Three representative full-size samples of each type, thickness, color and finish that indicate the range of color variation and texture expected upon project completion.
  - b. Accepted samples become the standard of acceptance for the product produced.
4. Single source Product warranty for proposed synthetic grass product.
5. Maintenance instructions, including all necessary instructions for the proper care and maintenance of the newly installed synthetic turf system.
6. Edge details of proposed installation and terminations of synthetic grass system.
7. Signed letter from synthetic grass vendor certifying that the proposed synthetic grass product is manufactured in the USA.
8. Independent laboratory test reports on system or components.
9. Drainage / water permeability test of subbase.

B. Base Material: Submit 1 quart size container of free draining base aggregate of 3/8" to 5/8" clean compactable angular stone (any mix with fines in excess of 20% must be approved by manufacturer).

#### 1.04 QUALITY ASSURANCE:

- A. Installer Qualifications: A single pre-approved installing Contractor with a minimum of five (5) years experience on comparable project of similar size and circumstance of synthetic turf on structure. Documentation will be required. The laying of surfaces shall be performed by experienced crews.
1. The synthetic grass vendor shall provide competent workmen skilled in this type of dog surface installation.
  2. The synthetic grass vendor shall provide a qualified installation foreman to coordinate and review the component parts of the synthetic grass system. Foreman shall be introduced to Owner or Owner's representative prior to start of construction.
  3. The synthetic grass vendor and installer shall be experienced with no less than six completed commercial dog installations (2500sf or greater) where a knitted synthetic grass surface was installed. Installer shall be competent in the installation of this material, including attachment of seams and proper trimming and attaching techniques prior to the start of turf installation.
  4. For characteristics not specified in this Section, system shall meet or exceed all guidelines published by the Synthetic Turf Council.
- B. Field-Constructed Mock-Up: Fabricate a mock-up panel of the Synthetic Grass System.
1. Build mock-up in form of panel at the site, of full thickness, 4' x 3'. Provide range of color, texture and workmanship to be expected in the completed work. Obtain Landscape Architect's acceptance of mock-up panel. Mock-up panel may be constructed in place and, if accepted, left in place as part of The Work.
- C. Standards: Comply with all applicable governmental codes and requirements.
1. ADA Compliance: Confirm compliance with ADA Guidelines prior to construction. Report discrepancies to Landscape Architect. All slopes and cross slopes shall be confirmed prior to construction.
- D. System Performance: Contractor shall ensure that products for pet/dog system meet the following performance requirements:

1. The components, as well as the installation methods utilized, shall be designed and executed in a manner to hold up to the unique challenges dogs present. The materials as hereinafter specified shall withstand full climatic exposure in the location of the play yard/dog run, be resistant to insect infestation, rot, fungus, mold and mildew, shall also withstand ultra-violet rays and extreme heat, and allow the free flow of water vertically through the surface and into the drainage system below.
  2. The seams of all system components shall provide a permanent, tight, secure, and hazard free surface.
  3. The installed synthetic grass and drainage system shall allow for drainage and water flow through the system at a rate of not less than 300 inches per hour.
- E. Warranty: Synthetic grass vendor shall provide ongoing service quality assurance and warranty consisting of, but not necessarily be limited to, the following:
1. Provide coverage of synthetic grass for a minimum of eight (8) years from the date of Substantial Completion.
  2. Warrant that the materials installed meet or exceed the requirements of this Section.
  3. Be from a single source, certified by the manufacturer, covering workmanship and all materials.
  4. Assure availability of exact or substantially equivalent materials for the synthetic grass system for the full warranty period.
  5. Include general wear and damage caused by UV degradation.
  6. The warranty may specifically exclude vandalism and Acts of God beyond the control of the manufacturer or installer.
  7. Correct any imperfect work whenever discovered until termination of warranty obligations.

#### 1.05 PRODUCT HANDLING:

- A. General: Transport, deliver, handle and store materials by such methods to prevent damage, deterioration, and contamination.



- B. Manufactured Products: Store all manufactured products per manufacturer's recommendations.

#### 1.06 JOB CONDITIONS:

- A. Weather: Do not install base over wet or frozen subgrade. Do not install system during inclement weather.
- B. Confirm Grades: Verify grades and elevations shown on the drawings prior to proceeding.
- C. Coordination of Work: Provide openings to accommodate the work of other trades (such as for furnishings, electrical, drains, benches, etc.). Installation should follow installation of brickwork, furnishings, where possible. Obtain and use templates.
- D. Protection: Provide all necessary equipment and forces to protect work from damage during installation and until acceptance.
- E. Utilities: Prior to start of work, determine whether under finished surface installations, i.e., sewer, telephone, water, fuel, electric lines, etc., will be encountered, and if so, where such under finished surface installations are exactly located.
  - 1. Have General Contractor stake locations of existing utility structures.
  - 2. Do not pave over utility structures.
  - 3. Notify Landscape Architect immediately of any obstructions encountered.
- F. Permits: Obtain, fill out and submit all applicable permits prior to installation.

## PART 2 PRODUCTS

#### 2.01 SYNTHETIC GRASS:

- G. Synthetic Grass: A knitted synthetic grass product (not tufted) and containing an antimicrobial agent while meeting or exceeding all guidelines as established herein.
  - 1. As manufactured by ForeverLawn K9Grass Classic
  - 2. Pile Weight: 72 oz/sy

3. Face Yarn Type:
    - a. Primary: Polyethylene
    - b. Secondary: Heat set textured nylon monofilament containing antimicrobial agent
  4. Yarn Count: Primary 5,000/4; Secondary 4,200/8
  5. Pile Height (knitted): 3/4 inch
  6. Color:
    - a. Primary: A blend of Summer Verde, Lime, Tan;
    - b. Secondary: Turf Green
  7. Construction: Knitted
  8. Antimicrobial Protection: AlphaSan (manufactured into yarn)
  9. Tufting Gauge: Not applicable. A knitted product is required.
  10. Backing: Flow-through knitted backing
  11. Seaming: Turf Adhesive
  12. Total Product Weight: 65 oz /sy. (+/- 2 oz)
  13. Finished Roll Width: 15 feet (4.6 m)
  14. Finished Roll Length: Up to 150 feet (45.72 m)
  15. The synthetic grass shall be delivered in 15-foot-wide rolls. The rolls will be laid out and installed as specified in the site layout and equipment placement drawings.
  16. All seams shall be installed and secured with approved turf adhesive. Seams secured with stitching alone shall not be acceptable.
  17. No infill material is to be used.
- H. Edging: High density polyethylene (HDPE) perimeter nailer boards (typically 2” x 2” set vertically) are to surround the entire area for anchoring of the turf. The top edge of this surface is to be a minimum of 1/2” below any adjacent solid surfaces where there could be foot traffic.
- I. Stainless Steel Screws with washers: are to be used to anchor the synthetic turf to the perimeter boards.

- J. Base and Attaching Components: Base is to be prepared using plastic 2" x 2" plastic board and secured using 1" length 1/4" crown stainless steel staples. Turf is to be secured around all edges with stainless steel screws and washers anchoring the lawn every 12"-18" along plastic nailer boards.

#### 1.07 BASE DRAINAGE AGGREGATE:

- A. Base Drainage Aggregate: 3/8" to 5/8" washed, clean, compactable angular stone, as noted in manufacturer's instructions.
- B. Any mix with fines in excess of 20% must be approved by manufacturer.

### PART 3 EXECUTION

#### 3.01 PREPARATION

- A. Compact base drainage aggregate to a density per manufacturers instructions, with particular attention being paid to trenches and filled foundation areas, if any.

#### 3.02 INSTALLATION:

- A. General: strictly adhere to the installation procedures outlined under this section and by the Drawings. Any variance from these requirements must be accepted in writing by the synthetic grass vendor, and submitted to the Landscape Architect, verifying that the changes do not adversely affect the performance or warranty.
- B. High density polyethylene plastic Nailer Board: The synthetic turf perimeter fastening structure shall be installed before the drainage aggregate.
  - 1. Install the HDPE nailer board around perimeter and all penetrating objects.
  - 2. Nailer board shall be flush to grade (or as specified on the Drawings).
  - 3. See dog run attachment details on the Drawings.
- C. Base Drainage Aggregate: Follow installation procedures:

1. If the sub-base does not permit liquids to freely percolate, auxiliary drainage is required. Base material must be installed to a minimum depth of 3 -1/2 inches.
  2. The drainage network and its existing elevations shall not be disrupted through ground pressures from trucks, dozers or by any other means.
  3. The stone shall be left firm and compacted while allowing the porosity and drainage capabilities of the aggregate profile.
  4. The free draining base course shall be designed to meet local soil and weather conditions. It must be installed to a minimum depth of 3 -1/2” with an overall compaction rate of at least 90%.
- D. Installation of Synthetic Grass System: After a final inspection of the stone base by the synthetic grass contractor and the Landscape Architect, the synthetic turf installation can begin. The synthetic grass product shall be delivered in 15-foot-wide rolls.
1. Synthetic grass rolls shall be joined via adhesive bond seaming and reinforced with specialty turf adhesive where necessary.
    - a. Seams shall be flat, tight, and permanent with no separation or fraying.
    - b. Grass rolls must be installed with pile leaning the same direction.
    - c. Install tight to edges and true to grade specified.
    - d. Seam turf edges along building walls/foundation with adhesive bond to prevent lifting.
  2. Synthetic Turf Perimeter Attachment:
    - a. After final layout and seaming of the synthetic grass product, the synthetic turf material will at a minimum be secured to the top of plastic nailer board firmly anchored to sidewalk, curb, wall or by re-bar making up the perimeter of the synthetic turf area.
    - b. As an alternate installation method the synthetic turf may be wrapped over the edge of the curb nailer board and secured to the full depth of the nailer board.

- c. The turf will be attached to HDPE plastic nailer board by the stainless steel screw at least every 18 inches along board.
  - d. Nailer board to be attached to buildings at waterproofed penetrations with method specified by Architect, see Drawings and Architectural Specifications.
  - e. Soil or surfacing material outside of the defined synthetic turf area will be backfilled against turf wrapped perimeter edge and have zero transition edge to synthetic turf unless otherwise specified.
  - f. Concrete and brick surfaces should be ½” to ¾” higher than the top of the nailer board.
3. Infill Application: It is imperative that no in-fill is utilized with synthetic turf used with dogs.
- E. Protection in Progress: Protect newly laid surfaces at all times by panels of plywood on which the installer stands. Advance panels as work progresses. Keep plywood protection in areas which will be subject to continued movement of materials and equipment. These precautions shall be taken in order to avoid depressions and protect alignment.

### 3.03 CLOSE OUT

- A. The synthetic grass vendor shall verify that the Vendor’s qualified installation foreman and the Landscape Architect have inspected the installation and that the finished surface conforms to the manufacturer's requirements.
- B. Extra materials: Owner shall be given option to retain and store excess materials such as excess turf for project.

### 3.04 REPAIR AND CLEANING

- A. General: Perform final quality control work, repair and cleaning with specified materials and methods. Surface finish and color on repairs shall exactly match.

- B. Repair: Remove and replace any synthetic turf which is loose, stained, or otherwise damaged, or if sections do not match adjoining units as intended or any other irregularities. Repairs shall meet specified quality requirements.
- C. Cleaning: Perform final cleaning of surfaces and installed items.
1. During the contract and at intervals as directed by the Landscape Architect and as synthetic grass system installation is completed, clear the site of all extraneous materials, rubbish, or debris and leave the site in a clean, safe, well-draining, neat condition.
  2. Clean all surfaces, recesses, enclosures, etc. as necessary to leave work area in a clean, immaculate condition ready for immediate occupancy and use by Owner.
  3. Remove from premises all other unused materials and debris resulting from work and legally dispose of them off the site.

END OF SECTION

## SECTION 32 84 23

### IRRIGATION

#### PART 1 GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of the General Construction Services Agreement, including the General Conditions and the Supplementary Conditions and all other Specification Sections, apply to this Section.

##### 1.02 SUMMARY

- A. Work included: Furnish all labor and materials to provide complete Automatic irrigation system, as per the Irrigation Plan Drawing. The work shall include, but not be limited to, the following:
  - 1. Design: Design of irrigation system to meet Chicago, IL standards for irrigation systems. Contractor shall submit an irrigation plan to the Landscape Architect for approval.
  - 2. The Contractor shall provide layout and design coordinated with the landscape requirements of the planting types, locations and shall include water saving products (like EPA WaterSense) and practices which demonstrate the highest level of performance (water saving features). Overall system run-time shall not exceed 40 hours per week (unless approved by the Owner's representative) to apply the required amount of water to keep plant material healthy and thriving.
  - 3. Smart controllers, weather or soil moisture sensors, low volume irrigation, high-efficiency spray nozzles, & pressure regulated, and check-valve sprinkler bodies must be incorporated. Individual sub-zones must be tailored to the watering requirements of each major plant type, and sun/shade exposures and existing terrain shall also be considered when zoning the system. Spacing of all sprinkler equipment selected shall never exceed the manufacturer's recommendations as published.
  - 4. Excavation and Backfill: All excavation and backfilling necessary to accomplish installation of underground sprinkling systems

5. Equipment Installation: All Time clocks, sleeves, pipes, valves, heads, backflow preventers, and other apparatus necessary for the complete coverage of the project as shown on the Drawings. Size all equipment to meet coverage and demand requirements. Provide booster pump if needed to meet demand.
6. Testing: Furnish all equipment and perform all tests, adjustments, retests, and readjustments required to assure proper workings and complete coverage of system.
7. Operator's Manual: Prepare and furnish Owner with an operator's manual; and furnish a qualified sprinkler system technician to instruct the owner's operating personnel in the maintenance and operation of the system.
8. As-Built Drawings: Prepare an as-built drawing and submit upon project completion.
9. Warranty: Warrant complete coverage of the area designated for irrigation for a period of one year from the date of acceptance.

B. Related Work Specified Elsewhere:

1. Section 12 93 00 – Site Furnishings
2. Section 32 14 16 – Brick Unit Paving
3. Section 32 18 13 – Synthetic Grass Surfacing
4. Section 12 93 00 – Site Furnishings
5. Section 32 93 00 – Landscape Plantings
6. Section 32 18 13 – Synthetic Grass Surfacing
7. Section 32 84 00 – Planting Irrigation
8. Section 32 91 00 – Planting Preparation
9. Section 32 93 10 – Planter Insulation

### 1.03 QUALITY ASSURANCE

- A. The irrigation system is to be installed by a Contractor who specializes in irrigation design and installation and has installed at least 5 projects of equal or comparable size and complexity. Irrigation work shall be performed by a single firm, acceptable to the



owner's representative and licensed as a contractor in the state of Illinois. Irrigation Contractor must hold either a C.I.D. or C.I.C. certification from the Irrigation Association.

- B. The system shall be designed by a certified EPA WaterSense partner, as found on the EPA WaterSense website, or must be a member of the Irrigation Association (IA), Chicago, IL, and hold a C.I.D. (Certified Irrigation Designer) qualification.
- C. Compliance: Comply with all codes, rules and regulations of governmental authorities having jurisdiction. Obtain permits prior to construction.
- D. Warranty: Warrant full coverage of the site where irrigation coverage is designated, making whatever adjustments or replacements that are necessary for a period of one year. Warrant that all work in this section will be free from defects of materials and workmanship for a period of one year. Manufacturer's warranties shall not relieve the Contractor of his liability, but only supplement it. The Contractor agrees to repair, adjust, or replace all such defective work, and all other work damaged thereby, which becomes defective during the term of the warranty.
  - 1. Acceptance Procedure: At completion of work, installer shall call for a review of the work at least seven days in advance of the anticipated date. Correct any defective work prior to review. Landscape Architect will note any areas in need of repair or equipment in need of replacement or adjustment, will notify Owner of start of warranty period, and Contractor shall make said repairs or replacements. The Contractor shall then adjust, repair, or replace any defective work within the warranty term. If at the end of the term the system is found to be in working order, with complete coverage, the Landscape Architect will recommend acceptance to the Owner.
- E. Coverage: See Drawings. It is the intent of this system to provide **100% coverage** in the areas designated for irrigation. This coverage shall include all designated planting areas. Make all adjustments and additions to ensure coverage, without extra charges. Make personnel available to adjust system for full coverage within 24 hours of installation.
  - 1. Do not irrigate portions designated for no irrigation.

#### 1.04 SUBMITTALS

- A. Irrigation design is to be prepared and drawn by the irrigation contractor in the form of an "Irrigation Design Drawing." The irrigation design drawing shall be submitted in an electronic format, preferably in a pdf or dwg format at a scale no smaller than 1" = 30'. Submit design drawings for approval no less than 2 weeks prior to the commencement of any work.
- B. Catalog: Submit a catalog of equipment proposed at time of bid.
- C. Manufacturer's Data: Submit manufacturer's data for all proprietary items.
- D. Contractor's Suggestions for Changes: If any Contractor has suggestions for additions, deletions or changes to the work as shown on the drawings and specifications, which he feels would benefit the overall success of the project, and fits the overall character of the plans, he shall submit his recommendations in letter form for approval by the Landscape Architect. Failure to do so shall not relieve the Contractor from his obligation to provide coverage designated and specified.
- E. Overspray of any paved surfaces, as well as overspray onto any structures in the effort to reduce the number of sprinkler heads is prohibited.

#### 1.05 PRODUCT HANDLING

- A. Pipe and Equipment Handling and Storage: All pipe and equipment shall be handled, protected from damage, and stored in a safe and secure manner according to manufacturer's recommendations. Provide adequate protections for pipe ends.

#### 1.06 JOB CONDITIONS

- A. Confirm Grades: Confirm all existing grades to ensure that there are no areas which are too low or too high. Report any discrepancies to the Landscape Architect.
- B. Coordination of Work: Coordinate work with the other trades including landscape installer, electrical contractor, and plumbing contractor. Make on site changes to conform to planting design. Coordinate installation of sleeves with paving installer(s).

- C. Water service and electric service will be supplied by the General Contractor to a designated area in landscape planting for the purpose of the automatic irrigation system. It is the responsibility of the Irrigation Contractor to coordinate the location of the waterline and electric service.
- D. Irrigation System is to operate under the water pressure and flow rates prevailing at the project site. The Irrigation Contractor shall be responsible for determining these parameters, and shall design the irrigation system in accordance with the existing or anticipated conditions.
- E. Utilities: Valved and metered water supply of adequate size and electricity has been provided by Owner to locations shown on the existing irrigation plans. Verify that Owner's supply line is adequate to supply water within water application periods required.
- F. Weather: Install Rigid P.V.C. pipe in dry weather temperatures above 40 degrees Fahrenheit in accordance with manufacturers' recommendations. Allow joints to cure 24 hours minimum at temperatures above 40 degrees Fahrenheit before testing unless otherwise is recommended by manufacturers.
- G. Obtain all required permits and pay all required fees at no additional cost to the Owner. Any penalties imposed due to failure to obtain permits or pay fees are the responsibility of the Irrigation Contractor.
- H. Test water conditions: Irrigation System is to operate under the water pressure and flow available at the project site. It shall be the responsibility of the Irrigation Contractor to measure or analyze the existing or anticipated water supply at the tap and design the irrigation system accordingly.
  - 1. In the event water pressure is insufficient to operate the system at an adequate design pressure and flow, the Irrigation Contractor shall be responsible for designing, specifying, supplying, and installing a booster pump capable of increasing the pressure and flow as required. Booster pump shall be operated by either a magnetic starter, flow, or pressure transducer/switch. If a booster pump is required, coordinate provision of adequate electrical service for the pump with General Contractor. Indoor installation of booster pumps is also acceptable provided the proper approval and space requirements exist.

2. In the event the water pressure significantly exceeds an appropriate operating pressure, it shall be the Irrigation Contractor's responsibility to provide and install a pressure regulator downstream from the backflow preventer. Pressure regulation may be accomplished via a master valve with a pressure reducing dial or may be accomplished at the individual zone valve locations with a pressure reducing dial.
- I. Sleeves for irrigation piping and wiring shall be coordinated and installed by the General Construction Contractor.
1. It shall be the Irrigation Contractor's responsibility to submit the Irrigation Design Drawing, showing these sleeves, in a timely manner, such that the General Construction Contractor is able to install sleeves within an appropriate sequence of work, i.e., without undoing, damaging, or otherwise compromising work that has already been installed.
  2. Irrigation sleeves shall be Schedule 40 PVC pipe, minimum 2X pipe size of proposed irrigation pressure pipe. A separate Schedule 40 PVC sleeve shall be installed for irrigation wire. Ends of all irrigation sleeves shall be marked with 2 x 2 wooden stakes or white pvc pipe, indicating in indelible marker "Irrigation Sleeve." General Contractor shall expose any irrigation sleeves that are not marked for the Irrigation Contractor prior to start of irrigation work. Coordination and scheduling for excavation of sleeve ends is the responsibility of the Irrigation Contractor.

## PART 2 PRODUCTS

### 2.01 MATERIALS

- A. Electrical System: Existing system.
- B. Sprinkler Equipment: All sprinkler equipment to be of a brand compatible with existing systems. Acceptable manufacturers include Nelson, Rainbird, or Weathermatic. The Installer shall not use alternate equipment unless accepted in writing by the Landscape Architect.
1. Spray Nozzles; High-efficiency nozzles with a distribution uniformity (DULQ) of 70 % or greater (as published by the manufacturer) shall be used. The higher efficiency nozzle should result in better than a 1.2 SC, reducing runtime

accordingly. All nozzles shall have a matched precipitation rate with other nozzles on the same zone.

2. Utilize lower precipitation rate rotary nozzles (.6 in/p hour) on hilly areas and/or where infiltration is low and therefore runoff is expected.
  3. Utilizing high precipitation high-efficiency nozzles for improved wind resistance will allow for shortened run-times on flat areas or where infiltration rates allow.
- C. Pipes and Fittings: All piping shall be SDR 26-160# test P.V.C. plastic pipe and schedule 40 P.V.C. plastic fittings, free from defects of any description. Fittings shall provide snug seal.
- D. Sleeves: All sleeves shall be 2", 3", and/or 4" P.V.C. SDR 26-160# as shown on the Drawings. Stake sleeve locations immediately following installation.
- E. Nipples: P.V.C. schedule 80 nipples of the appropriate size to be used on all sprinkler heads.
- F. Wiring: All exterior wiring shall be #14 U.F., U.L. approved for underground burial.
- 120 Volt AC Wiring: 120 volt service to controller shall consist of three wires: one black, one white, and one ground. Electrical service is to be provided by the General Contractor unless otherwise directed by Owner's Representative. It is the Irrigation Contractors responsibility to coordinate the location of electrical service to be provided for controller.
1. Splices: Wire splices are critical. Use one of the following.
    - a. DBR-Y6 manufactured by 3M.
    - b. DB series connectors by Rainbird.
    - c. No substitutes will be accepted unless shown to be completely equivalent.
  2. Install splices in a 10" diameter valve box.
- G. Keys: Provide Owner with three keys for draining the system.
- H. Valves: Brass valves with flow control. Quick coupling or snap valves shall come complete with top. Provide Owner with 6 keys and matching hose swivels for each type.

1. Check Valves: All gear driven sprinklers shall be equipped with check valves to prevent low head drainage.
  2. Box and Cover: High impact plastic as manufactured by Ametek, or equal. The valve boxes shall be installed 2 inches below grade and shall have a gravel sump under each valve for draining.
- I. Manual Drain Valves for Manual or Quick Couple Systems: Manual drain valve suitable for draining main lines, such as AY McDonald #2891 Gas valve with stop, or equivalent.
1. Box and Cover: High impact plastic as manufactured by Ametek, or equal. The valve boxes shall be installed 2 inches below grade and shall have a gravel sump under each valve for draining.
- J. Control Box and Controllers: provide new.
1. Irrigation controller shall have a modular station capacity, by receiving expansion modules of 8 or 12 stations, to create a controller of up to 48 stations. The controller shall have a Cycle+Soak water management feature.
  2. The controller shall incorporate a FloManager feature that shall provide real-time flow, power, and station management. FloWatch shall compare the current real-time flow rate to the learned rates and take user defined actions if problem is detected. FloWatch shall automatically determine the location of the flow problem and isolate the problem by turning off the affected station or master valve.
  3. The controller shall be compatible with the IQ4 Central Control System utilizing IQ-NCC Network Communication Cartridges providing remote computer control of the controller via a variety of communication options (Direct Connect Cable, Phone, GPRS/Cellular, Ethernet, Radio, and IQNet Communication Cable)
- K. Other Equipment: Provide all other irrigation equipment required for smooth operation of system, utilizing existing system(s) to the extent possible and provide new equipment where needed.
- L. Backflow Preventer:

To be supplied and installed by the Irrigation Contractor. Backflow preventer shall be a RPZ reduced pressure backflow assembly type, capable of having an adequate

flow rate in gallons per minute (gpm) without excessive pressure loss, and shall be suitable for supply pressure of up to 150 psi. A. To be supplied and installed by the Irrigation Contractor. Backflow preventer shall be a RPZ reduced pressure backflow assembly type, capable of having an adequate flow rate in gallons per minute (gpm) without excessive pressure loss, and shall be suitable for supply pressure of up to 150 psi. Backflow preventer assembly must include (2) gate valves for isolating unit, and two (2) ball valve test cocks for testing unit to ensure proper operation.

## PART 3 EXECUTION

### 3.01 PREPARATION

- A. Protection of Existing Facilities: Protect all existing service lines and related structures encountered in excavation work. Where such lines and structures have been undermined due to excavation work, restore to original conditions including supports. If damaged, repair such lines or structures or arrange for their repair with the proper authorities or companies. Report any uncharted or incorrectly charted lines to the Architect for further direction.
- B. Preparation of Irrigation Areas: Clean all areas to receive irrigation lines of all trash and debris before placement of pipe. Remove and dispose of debris off site.

### 3.02 INSTALLATION

- A. Excavation: Excavate trenches at sufficient depths for proper bedding, installation and functioning of system. Grade trenches properly so that entire system may be drained. Leave no trenches open overnight. Legally dispose of any excess material off-site.
- B. Sleeves: Location of sleeving shall be coordinated with the General Construction Contractor. Make adjustments necessary to accommodate existing vegetation, utilities, and other existing conditions.
- C. Mains: Install mains required for system.
  - 1. Draining Mains: All mains having continuously applied pressure throughout the sprinkling season, shall be drained by the installation of a 1/4 turn gascock, draining into a dry well containing nine cubic feet of coarse gravel or crushed

stone (not limestone). The manual drain valves shall be installed at all low points of the main line and shall be located at intervals not to exceed 200 feet. The valve locations shall be determined on the jobsite by the installing irrigation contractor. All drainage is to be away from the building walls.

- D. Piping: Install all piping at an average depth of 12 inches on solid sub-base or otherwise appropriate depth for below metal decking, uniformly sloped piping without humps or depressions. Keep pipes free of dirt and debris during installation. Cut pipe using method which does not damage pipe, or create any obstruction of flow. Seal joints without creating obstructions. Allow sealer to set before pressure is applied to system.
- E. Laterals: Install laterals. Lateral sprinkler lines from the downstream side of all electric valves to be automatically drained at the Contractor's discretion. Automatic drain valves shall be installed at all low points of lateral piping and shall be located at intervals not to exceed 60 feet of pipe. The automatic drain valve locations shall be determined on the jobsite by the installing Irrigation Contractor. Each automatic drain valve shall have a gravel sump of at least one cubic foot in size.
- F. Heads: Flush system prior to installing heads. Install heads at manufacturer's recommended heights, or as required to meet coverage demand. Install sufficient appropriate heads to provide complete coverage.
  - 1. Swing Joints: All rotary heads shall be installed on swing joints to allow for maximum pipe flexibility.
- G. Control Box: Modify the existing Controller, as needed, or if not feasible, provide new.
- H. Booster Pump: Install booster pump if needed to meet demand per manufacturer's recommendations.
- I. Drain Valves and Gravel Sumps: Install drain valves and boxes with gravel sump measuring 24 inches by 24 inches minimum size.
- J. Trenching:
  - 1. All mainlines be installed in separate trenching hand dug process.



2. The initial backfill will always be placed by hand and shoveled in evenly along both sides of the pipe and hand tamped into place. Care will be exercised to ensure that soil does not bridge and final to go under the pipe. The soil in the trench shall be backfilled to the point of the same condition of the density of the surrounding soil.
3. Prior to trenching and excavation remove sod, preserve, and replace after backfilling is completed.
4. Irrigation Contractor shall paint the proposed trenching or excavation.
5. Irrigation trenching is not permitted after planting and mulching.

### 3.03 PROTECTION

- A. Protect all irrigation lines until covered over with finished surface or planting as shown on the Drawings.

### 3.04 POST INSTALLATION OPERATIONS

- A. Adjustments: Test system and make necessary adjustments to system to provide adequate and full coverage of area to be irrigated. If leaks develop, replace joints and repeat test until system is proven watertight. Correct all deficiencies in coverage during term of warranty.
  1. Make all adjustments to the system necessary to account for any slopes encountered.
  2. Do not spray walkways.
  3. Spray lawn sprinklers away from plant beds.
- B. Training: Provide Owner with as built drawing, training manual for operation and provide instruction for operations to Owner and maintaining Landscape Contractor.
- C. Furnish Tools and Keys: Provide Owner with all keys and tools specified prior to review.
- D. Maintenance: During the term of the warranty, provide Owner with winterizing service to drain system and spring start-up.

1. Winter Shut-down Information and Instruction: Inform and instruct Owner on annual care of system: Around October 1, shut down system, close water lines, and drain the entire system for the winter.
- E. Winterizing System: If the Owner's Representative so requires, irrigation piping must be winterized by blowing the system clear of water using compressed air (eighty (80) psi maximum) admitted into the piping at a quick coupling valve or hose bib located at a higher elevation on the system piping.

### 3.05 REPAIR AND CLEANING

- A. General: Perform final quality control work, repair, and cleaning with specified materials.
- B. Repair: Repair or replace any malfunctioning or damaged equipment, and all other defective work. Remove and legally dispose of off the site all non-conforming or defective work and replace with specified quality. Where defect occurs within a section, remove and replace entire section from joint to joint. Prior to topsoil placement, repair any pipe which becomes damaged by construction.
- C. Clean-up: Clean and remove from premises all unused material and debris resulting from work. Repair or replace all affected sod, including topsoil replacement, tamping, or rolling as needed to achieve a uniform appearance without bumps, depressions, gaps or bare spots. All effected planting areas shall be restored to their original grades, re-mulched with specified mulch, and cleared of all debris resulting from installation of system. All paved areas which have been affected by installation of the system shall be cleared of all resultant debris and shall be swept broom clean. Remove and dispose of resultant debris legally off the site.

END OF SECTION

## SECTION 32 91 00

### PLANTING PREPARATION

#### PART 1 GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of each Prime Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. This Section specifies all labor and materials necessary to install a complete multi-layered engineered soil profile on top of building structures specified elsewhere. Planters & Containers are essentially miniature rooftop gardens that have a total soil system depth of 10 to 30 inches. They require high-performance growth media to ensure plant growth, health and longevity. rooflite soil will not lose volume, which is essential for this system where root space is limited. This system supports a wide variety of plants.
- C. Related Work Specified Elsewhere:
  - 1. Section 12 93 00 – Site Furnishings
  - 2. Section 32 14 16 – Brick Unit Paving
  - 3. Section 32 18 13 – Synthetic Grass Surfacing
  - 4. Section 32 84 00 – Planting Irrigation
  - 5. Section 32 93 10 – Planter Insulation
  - 6. Section 32 93 00 – Landscape Plantings

##### 1.02 REFERENCES

- A. Referenced standards:
  - 1. ASTM D 422-63 Standard Test Method for Particle Size Distribution
  - 2. ASTM C 330 Standard Specification for Lightweight Aggregates

3. ASTM E 2396: Standard Testing Method for Saturated Water Permeability of Granular Drainage Media (Falling-Head Method) for Green Roof Systems
4. ASTM E 2399: Standard Testing Method for Maximum Media Density for Dead Load Analysis
5. ASTM E 2777 Standard Guide for Vegetative (Green) Roof Systems
6. ASTM E 2788 Standard Specification for Use of Expanded Shale, Clay and Slate (ESCS)
7. ASTM D 4491: Standard Test Methods for Water Permeability of Geotextiles by Permittivity
8. ASTM 4533 Standard Test Method for Trapezoid Tearing Strength of Geotextiles
9. ASTM D 4632: Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
10. ASTM D 4833 Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products
11. ASTM 5199 Standard Test Method for Measuring the Nominal Thickness of Geosynthetics
12. ASTM D 5261 Standard Test Method for Measuring Mass per Unit Area of Geotextiles
13. ASTM D 6241 Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe
14. AASHTO T103: Soundness of Aggregates by Freezing and Thawing
1. FLL - Forschungsgesellschaft Landschaftsentwicklung Landschaftsbau e.V. (The Landscape Development and Landscaping Research Society) latest English edition
15. TMECC -Test Methods for the Examination of Composting and Compost (latest edition)

### 1.03 DEFINITIONS (PER ASTM E2777-14)

A. Planter:

A permanent built- in-place structure on a non-permeable surface for the purpose of growing plants.

B. Container:

A freestanding receptacle for soil, and plants, which grow in it.

C. Granular Drainage Medium:

A coarse and porous mineral aggregate providing a natural root environment with excellent water and air distribution. Granular drainage layers promote healthy plant growth by retaining and draining water in a natural and efficient way.

D. Separation Fabric:

A thin yet durable fabric separating the coarse aggregate of the drainage layer from the planting media layer above. The filter fabric should be root-permeable so that plants can use the total system depth for root growth. At the same time, the fabric works as a filter, which is designed to keep the finer particles contained in the growing medium layer from migrating into the drainage without clogging.

E. Intensive Growing Medium:

An engineered planting media for intensive vegetative (green) roof systems with optimized performance characteristics for intensive green roofs promoting long lasting and healthy plant growth for ground covers, perennials, ornamental grasses, and shrubs.

B. System Provider:

Company that provides all materials required for installation of this Planter & Container soil profile.

### 1.04 SYSTEM DESCRIPTION

A. All components must be tailored to the whole system to optimize performance. Use a single source system provider for all system components.

B. Design Requirements for Planter & Container:

1. System components are a granular drainage layer, below a separation fabric, below a top layer of intensive growing medium. Planters & Containers are essentially miniature rooftop gardens that have a total system depth of 10 to 18 inches. Drainage layer depth can vary between 2 and 4 inches. Growing medium depth can vary between 8 and 14 inches. The intended plant palette consists of ground covers, perennials, ornamental grasses, and shrubs.
2. Depending on the foot print area of the planter or container embedded drainage channels and/or additional drainage components may have to be installed below the Planter & Container system to ensure adequate lateral flow of water run-off.
3. The system is compatible with drip and spray irrigation.

C. Performance Requirements:

1. The Planter & Container system shall support long lasting and healthy plant growth.
2. Build a stable structure of mineral components, which is not prone to loss of volume and change of physical properties.
1. Retain and distribute moisture for plants and stormwater mitigation while efficiently draining excess water.

## 1.05 SUBMITTALS

A. Product Data:

1. System Provider's technical literature showing compliance of all components with specified requirements.
2. Certified laboratory reports demonstrating compliance of the proposed media with this Specification.

B. Shop Drawings:

1. A CAD drawing showing the system build up including the thickness of each system layer.

C. Samples for approval by the Landscape Architect:

<u>Quantity</u>	<u>Size</u>	<u>Description</u>
1	6" x 6"	Separation Fabric
Courtyard Renovation	32 91 00	PLANTING PREPARATION
Union Square Condominiums		

1	16 oz	Granular Drainage Medium
1	16 oz	Intensive Growing Medium

- D. Certify all materials for the Planter & Container System come from one single source System Provider.

#### 1.06 DELIVERY, HANDLING, STORAGE

- A. Loose Bulk Media: Dump bulk growth media or granular drainage on paved areas only. Avoid any contamination by weed seeds, foreign materials, or debris. Tarp stockpile and maintain proper moisture content, and condition. Avoid sloped surfaces and site runoff in stockpiling locations.
- B. Crane Strapped Super Sacks (Flexible Intermediate Bulk Containers): Super Sacks are delivered on pallets. Extreme care should be used when lifting sacks. Damage or injury to persons or property is a potential risk. Lift sacks directly from truck with appropriately rated lifting equipment according to handling instructions on sack labels. Sacks may be staged onsite if moved and stored on pallets. Do not store onsite for more than thirty days without consulting System Provider for detailed instructions. Inspect all sacks for damage before lifting. Do not lift damaged or punctured bags.
- C. Retail Sized Packaging: Retail sized packages are delivered on stacked and stretch wrapped pallets. Keep material in packaging until use.
- C. Keep filter fabric wrapped and protected until used.
- D. Handle all components in accordance with the System Provider's instructions. Refer to PART 3 for installation instruction.

#### 1.07 QUALITY ASSURANCE

- A. The work of this section shall be performed by a contractor that specializes in planter and container installations. This company shall document the successful completion of at least 3 previous projects similar in scope.
- B. All test results must be from independent and qualified laboratories. Laboratories may include, but are not limited to:

1. Agricultural Analytical Services Laboratory, Penn State University, Tower Road, University Park, PA 16802
  2. CTL Group, 5400 Old Orchard Road, Skokie, IL 60077
  3. Geocomp Corporation, 125 Nagog Park, Acton, MA 01720
- C. Ensure that all components are engineered to be incorporated into a Planter & Container System via a single source by System Provider in order to ensure the performance requirements specified in Section 1.4 B

## PART 2 MATERIALS

### 2.01 PLANTER & CONTAINER SOIL SYSTEM

- A. Description: A Planter & Container system with a total depth of 10 - 18 inches consisting of a granular drainage medium, a separation fabric, and an intensive growing medium.
- B. All specified components shall be obtained as a single source from the system provider to ensure total system compatibility and integrity.

System Provider:

Skyland USA, LLC – Main Office  
P.O. Box 159  
Landenberg, PA 19350  
Tel. 610.268.0017  
E-Mail: sales@rooflitesoil.com

#### C. GRANULAR DRAINAGE MEDIUM – rooflite® drain 400

Description:

A granular drainage medium for intensive green roofs, as well as for planters and containers, designed to retain storm water and to provide horizontal drainage, and which meets the requirements described in ASTM E2777-14 Standard Guide for Vegetative (Green) Roof Systems and E2788-11 Standard Specification for Use of Expanded Shale, Clay and Slate (ESCS) as the Drainage Layer for Vegetative (Green) Roof Systems as detailed below. rooflite® drain consists of all lightweight mineral aggregate complying with the following technical and performance requirements:



1. Gradation Requirements for ESCS Granular Drainage Media (ASTM C330)
  - a. Proportion of particles < 12.50 mm      1/2-inch mesh      100 %
  - b. Proportion of particles < 9.50 mm      3/8-inch mesh      80 - 100 %
  - c. Proportion of particles < 4.75 mm      # 4 mesh      5 - 40 %
  - d. Proportion of particles < 2.36 mm      # 8 mesh      0 - 20 %
  - e. Proportion of particles < 1.18 mm      # 16 mesh      0 - 10 %
2. Gradation Requirements for natural Pumice or Scoria Drainage Media may contain more Fines as outlined in ASTM C330.
3. Bulk Density at max. water-holding capacity (ASTM E2399)      40 -50 lb/ft<sup>3</sup>
4. Water/Air Measurements
  - a. Maximum water-holding capacity (ASTM E2399)      > 10 %
  - b. Air-filled porosity (ASTM E2399)      > 20 %
  - c. Water permeability (ASTM E2396)      > 80 in/min
5. pH (in CaCl<sub>2</sub>)      6.0 - 8.5
6. Soluble salts (water, 1:10, m:v)      ≤ 2.5 g (KCl)/L
7. Organic Matter Content LOI at 500°C (SM 2540 G) < 5.0 g/L

D. SEPARATION FABRIC – rooflite® separation fabric SF135

A mechanically-consolidated, needle-punched geotextile for green roofs, planters, and containers as separation layer and filter between drainage and planting media layers. This fiber fleece has an open, three-dimensional surface structure that is highly resistant to clogging. Even very fine media particles are retained on top of the fabric while roots can penetrate and tap into the retained water in the layers below.

1. Material: Blend of Polypropylene and Polyester
2. Dry Weight (typical)      (ASTM D 5261)      4 oz/yd<sup>2</sup>
3. Thickness (typical)      (ASTM D 5199)      3/32 in
4. Static Puncture CBR      (ASTM D 6241)      120 lb
5. Pin Puncture      (ASTM D 4833)      20 lb

6. Elongation	(ASTM D 4632)	50%
7. Grab Tensile	(ASTM D 4632)	70 lb
8. Trapezoidal Tear	(ASTM D 4533)	30 lb
9. Flow Rate	(ASTM D 4491)	200 gpm/ft <sup>2</sup>
10. Permittivity	(ASTM D 4491)	2.5 sec <sup>-1</sup>

#### E. INTENSIVE GROWING MEDIUM – rooflite® intensive 500

##### Description:

A planting medium for intensive vegetative (green) roof systems with a separate drain layer, designed to retain stormwater and to promote long lasting vigorous plant growth, and which meets the requirements described in ASTM E2777-14 Standard Guide for Vegetative (Green) Roof Systems and detailed below. rooflite® intensive is a precisely balanced blend of carefully selected lightweight mineral aggregates and premium organic components, like USCC STA approved compost complying with the following technical and performance requirements:

##### 1. Particle Size Distribution (ASTM D422-63)

- a. Proportion of particles < 0.05 mm ≤ 20 %
- b. Proportion of particles < 0.25 mm # 60 mesh 15 - 40 %
- c. Proportion of particles < 1.00 mm # 18 mesh 25 - 60 %
- d. Proportion of particles < 2.00 mm # 10 mesh 40 - 80 %
- e. Proportion of particles < 3.20 mm 1/8-inch mesh 50 - 90 %
- f. Proportion of particles < 6.30 mm 1/4-inch mesh 75 - 100 %
- g. Proportion of particles < 9.50 mm 3/8-inch mesh 90 - 100 %
- h. Proportion of particles < 12.50 mm 1/2-inch mesh 100 %

##### 2. Bulk Density at max. water-holding capacity (ASTM E2399) 50-60 lb/ft<sup>3</sup>

##### 3. Water/Air Measurements (ASTM E2399)

- a. Total Pore Volume ≥ 50 %
- b. Maximum water-holding capacity 45 - 65 %
- c. Air-filled porosity at max water-holding capacity ≥ 7 %

- d. Water permeability (sat. hydraulic conductivity) 0.0118 – 1.18 in/min
- 4. pH (in CaCl<sub>2</sub>) 6.0 - 8.5
- 5. Soluble salts (water, 1:10, m:v) ≤ 2.5 g (KCl)/L
- 6. Organic Matter Content LOI at 500°C (SM 2540 G) 50 – 90 g/L
- 7. Nutrient Retention Capacity / Cation Exchange Capacity (CEC) ≥ 6 meq/100 g
- F. Testing methods

All values are based on compacted materials according to laboratory standards and testing methods defined by FLL - Forschungsgesellschaft Landschaftsentwicklung Landschaftsbau e.V. (The Landscape Development and Landscaping Research Society) if no other standard has been specified. Nutrients of newly blended products may temporarily exceed upper limits.

## PART 3 EXECUTION

### 3.01 PREPARATION & EXAMINATION

- A. Install each component of the Planter & Container System in accordance with the System Provider's instructions in planters and/or containers as specified in Section 12 93 00 or as first layer at the bottom of containers as specified in Section 12 93 00.
- B. Coordinate activities with other project contractors so that there is no growing media disturbance from traffic or other construction activities subsequent to placement.
- C. All surfaces shall be dry, smooth, free of depressions, voids, protrusions, clean and free of unapproved curing compounds, from release agents and other surface contaminants.
- D. Substrate cleaning:
  - 1. Thoroughly sweep the substrate which is to receive the Planter & Container assembly.
  - 2. Substrate may also be blown clean using an air compressor or backpack blower to remove any remaining loose debris.

- E. Ensure that underlying roof components have been installed and signed off prior to the installation of the Planter & Container System.

### 3.02 PROTECTION

- A. Until the drainage media layer is installed, traffic over the working area shall be strictly controlled and limited to essential personnel, only.
- B. All finished surfaces must be protected to prevent staining or infiltration of loose growing medium or plant materials into drainage structures or areas beyond zones defined for growing medium.
- C. Heavily traveled areas (e.g., corridors for transporting media to the working areas) must be protected in a manner approved by Construction Manager to prevent damage to finished Work.

### 3.03 CHECK CONTAINER / PLANTER

- A. Verify the correct position and proper placement of freestanding containers before installing the Planter & Container system.
- B. Consider the flow of run-off water from the container.
- C. For larger built in place planters it is crucial to ensure that a root resistant waterproofing membrane and an adequate protection layer have been installed and signed off prior to the installation of the Planter system.

### 3.04 CHECK ROOF DRAINS

- A. Locate roof drains and check for proper water run-off.
- B. Protect roof drains during the installation of the Planter & Container layers to avoid contamination or clogging of drain pipes.
- C. Do not cover roof drains with any Planter & Container components. All roof drains located within the Planter or Container area must be accessible for maintenance and inspection. Inspection chambers or drain boxes prevent the clogging of water outlets by roots or soil and allow for inspection of these critical points.

### 3.05 INSTALL DRAINAGE LAYER

- A. Place the granular drainage layer as first component of the Planter & Container System and level the surface evenly at the specified depth.
- B. The depth of the drainage layer depends on the depth of the total system.  
See details in the Drawings.
- C. Drainage media shall be placed carefully to avoid damage or displacement of other materials such as walls, edging, paving, or any components of the drainage and/or waterproofing system.

### 3.06 INSTALL SEPARATION FABRIC

- A. Verify that the green roof drainage system has been installed and accepted.
- B. Place the separation fabric on top of the drainage layer.
- C. Overlap joints by at minimum of 6 inches.
- D. Filter fabric layer shall be laid overlapping adjacent rolls a minimum of 6 inches (side and end laps). Enough material shall be left to be drawn up at perimeters and penetrations so that fabric extends a minimum of 8-inches above the anticipated soil level. Any excess shall be trimmed and folded down into the top level of the growing medium after completion of planting installation.

### 3.07 INSTALL GROWING MEDIUM

- A. Verify that the green roof drainage system and filter fabric have been installed and accepted.
- B. Place the growing medium directly on the separation fabric and level the surface evenly.
- C. Growing media shall be placed carefully to avoid damage or displacement of other materials such as walls, edging, paving, drainage components, filter fabric, or any components of the waterproofing system.
- D. Growing media shall be placed to within 1 inch greater than final grade or to a depth of no greater than 8 inches and compacted as described below. For final grades less

- than 8 inches only one round of compaction shall be performed and remaining soil loosely placed such that top of growing media exceeds final grade by 1 inch.
- E. For final grades greater than 8 inches, place soil at no greater than 6 inches and repeat procedure until soil has been compacted within 1 inch of final grade. The remaining soil shall be loosely placed at 1 inch greater than final grade and hand compacted
  - F. Compaction shall be performed with a 200 – 300 lb. landscape roller and/or lightly compacted with a hand held, non-mechanical tool to achieve a uniform growing medium compaction.
    - 1. Compress the growing medium to a degree where full exposure of body weight on one foot does not further reduce depth.
    - 2. Mechanical compactors including plate compactors are not acceptable because they can over compact the media and can damage the underlayment.
    - 3. Proper compaction is crucial to avoid loss of volume and to maintain a healthy root environment.
  - G. Adjust the final compressed growing medium surface to the specified depth as indicated on the grading plan or Planter & Container detail. See details in the Drawings.

END OF SECTION

## SECTION 32 93 00

### LANDSCAPE PLANTINGS

#### PART 1 GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of the General Construction Services Agreement, including the General Conditions and the Supplementary Conditions and all other Specification Sections, apply to this Section.

##### 1.02 SUMMARY

- A. Work included: Furnish all labor and materials to provide all landscape plantings of every description, as required by the Drawings. The work included consists of but is not limited to the following:
  - 1. Plantings: Furnish and install, maintain, and warranty all trees and plantings, including shrubs, vines, bulbs, perennials, flowers, and groundcovers. Some plantings may be pre-purchased by Owner.
  - 2. Mulches: Provide specified mulches.
  - 3. Wrap: Tree wrap only provided on tree in Autumn and removed in Spring.
  - 4. Supports: Provide all guys, stakes and other supporting appurtenances to maintain plants in a plumb and straight position. No initial guying or staking shall be required.
  - 5. Tree Standpipes: Provide inspection pipe necessary to inspect drainage of trees as indicated on plans and/or details. Depends on drainage.
  - 6. Water Supply: Provide all required temporary water supply from source(s) provided by Landscape Architect. There will be an automatic irrigation system on this project. There are hose bibs on the building.
  - 7. Warranty: Warrant plantings for a period of one year from acceptance by Landscape Architect.

8. Initial Maintenance: Maintain all plantings until substantial inspection.
- B. Sequence of Work: Contractor's bid shall include all cost increases due to delays in construction, including nursery price increases or holding and maintenance fees for material held beyond anticipated schedule.
- C. Alternate Bids: Include an alternate bid to provide all materials and labor to accomplish the following:
  1. Alternate No. 1: - First Year Maintenance: Provide landscape maintenance specified herein for the entire site, as shown on the Drawings, from substantial completion and coinciding exactly with the guarantee period.
- D. Related Work Specified Elsewhere:
  1. Section 12 93 00 - Site Furnishings
  2. Section 32 14 16 - Brick Unit Paving
  3. Section 32 18 13 - Synthetic Grass Surfacing
  4. Section 32 84 00 – Planting Irrigation
  5. Section 32 91 00 - Planting Preparation
  1. Section 32 93 10 - Planter Insulation

### 1.03 QUALITY ASSURANCE

- A. Installer Qualifications: A single pre-approved Landscape Contractor with a minimum of five (5) years of experience on comparable projects and shall be the same Installer as will install all landscape soils.
  1. Plant installer shall be a pre-qualified local landscape contractor.
  2. Plant installer shall be a member in good standing of the local Landscape Contractors Association in IL.
  3. Spray Applicator: State licensed commercial spray applicator.
- B. Conformance with Laws: Comply with any State or Federal laws including regarding inspection of plant materials and seed for plant diseases and insect



infestation and use of architecturally chemicals. Any required inspection certificates shall accompany each shipment and on arrival, be filed with the Architect. It shall be the Contractor's responsibility to research any laws regarding the transportation of materials across state lines, and he shall conform. The Department of Agriculture, Division of Plant Industries, may have such information.

C. Warranty: Warrant that all work in this section shall be free from defects of materials and workmanship for a period of one (1) year from the date of acceptance of the project. Warrant all plant materials, including pre-tagged or pre-purchased materials, for a period of one year from the date of acceptance to be in good, healthy, and flourishing condition. Correct any imperfect work whenever discovered until termination of warranty obligations. When the work is accepted in part, the warranty periods extend from each of the partial acceptances to the terminal date of the last warranty period. Thus, all planting warranty periods terminate at one time.

D. Acceptance Procedure:

1. Completion of Work: Upon completion of the work, a review will be made by the Architect upon written notice requesting such a review submitted by the Contractor at least ten (10) days in advance of the anticipated date. The purpose of the review shall be to determine whether the Contractor has completed all of the work of this contract, including maintenance of all planted areas.
2. Review for Substantial Completion: This review shall take place at the same time as the maintenance review. The Landscape Architect will make a review to begin the warranty of planting areas on the date requested by the Contractor, as above specified, or as soon thereafter as possible. If the work is found to be in compliance with the Contract Documents, the Landscape Architect will notify in writing the Contractor and Owner of the beginning of the warranty period. The Contractor shall prepare an initial punch list for the Landscape Architect's review, noting any plant not in healthy condition at this time, recommending changes in maintenance procedures and creating a list

for replacements. The Contractor and Landscape Architect shall then review the work together on-site.

3. Maintenance Review: Maintenance review and substantial completion review shall take place simultaneously, if possible. If planting areas are found to be defective, make necessary replacements, continue initial maintenance for ten days, and request another inspection.
4. Warranty Period: Make periodic inspections during the warranty period to determine what changes should be made to the maintenance program. Submit in writing to the Landscape Architect any recommended changes. Upon completion of the warranty period submit a request for a review at least ten (10) days in advance of the anticipated date.
5. Review for Final Acceptance: The Architect will make a review for Final Acceptance of the Contract work, including maintenance but exclusive of replacements. If the work is found to be in compliance, the Landscape Architect will recommend acceptance by the Owner, exclusive of possible replacement of plants subject to warranty. If there are any deficiencies in the maintenance, the Contractor will be notified of these deficiencies in writing and the work shall be subject to re-review before acceptance.

#### 1.04 SUBMITTALS

- A. General: Submit descriptions of materials to the Landscape Architect. For samples of plant materials see "Review" hereinafter. Submit descriptions of organic fertilizer, commercial fertilizer, burlap, and each source of supply prior to the beginning of work under this Section. Delivery of materials may begin only after descriptions or samples have been approved.
- B. Plants review: The Landscape Architect will tag and/or review plant material for specified quality, size and variety, at place of growth, upon delivery to the site, or during progress of the work. Such inspection shall not impair the right of inspection and rejection during the progress of work. All materials furnished for the work shall conform in every respect to reviewed samples. Plants which do not

conform shall be removed from the site and immediately replaced with conforming material at Contractor's expense.

1. Trees will have been previously pre-tagged and some may have been prepurchased by owner. See Plant List Schedule on the Drawings for specific nurseries specified.
2. Other tagging shall take place at nursery of harvest, Plants shall have been grown in similar plant hardiness zone as the project site, for at least two years prior to planting on the Project site.
3. The Landscape Architect shall tag all material as soon as possible to be held until time of installation. All deposits required for material being held until the site is ready for planting shall be paid by the Contractor as part of their bid if it has not already been pre-purchased.
4. All materials which are designated as Spring only shall be dug in the Spring and held until the Project site is ready for planting.
5. Under no circumstances will plants be accepted which are held over a winter out of the ground. Coordinate work so that trees are obtained at the correct time for planting whether for Spring or for Fall.
6. Contract with suppling nurseries to assure availability of perennial plants required.
7. Photos: Provide photos of all plants requested by Landscape Architect. Label photos with nursery name, species and variety names, size and quantity. In cover letter or email, note all deviations from type, size or quantity specified.
8. Submit photos of all containerized plants for review. Photograph the top of the plant and remove plant from container to photograph roots.
9. Submit photos of all proposed balled and burlapped plants not pre-purchased one month prior to inspection.
10. Note all size and variety deviations.

C. Written Request for Inspection: Written requests for inspection of plant materials not-pre-purchased at their place of growth shall be submitted at least 10 calendar days prior to anticipated harvest. Inspection may be refused at this time if all specified plants are not available for inspection. Submit information with request including the following:

1. Proposed nursery, location, contact and phone number.
2. Name of plant, including genus, species, and variety.
3. Size. Quantity available.
4. Deviations for specified type or size of plant.

D. Inspection at Nurseries: Contractor shall accompany Landscape Architect for the purposes of tagging woody plant materials. Arrange schedule for tagging from a minimum number of sources, so that travel from one nursery to another is sequential without geographic backtracking. Trips shall be limited to 1-2 days. All quantity of plants of a particular selected genus, species and variety shall be tagged from the same nursery, unless otherwise accepted. Arrange for back up sources of supply in the event that reviewed plants do not conform.

1. All trees will have been pre-tagged. See Plant List Schedule on the Drawings and supplemental pre-purchased material supplied to the general contractor.
2. All shrubs shall be tagged and pregrown for project.
3. Upon delivery and before planting, request an inspection of the plants at the site. Contractor shall be present at inspection. Plants which do not confirm shall be removed from the site and immediately replaced with conforming material at Contractor's expense.
4. Inspection and approval is for quality, size and variety only, and in no way impairs the right of rejection for failure to meet other requirements during progress of Work. All materials furnished for the work shall conform in every respect to reviewed samples.
5. Tagging by Landscape Architect: If woody material sources further than 200 miles are accepted, the entire cost of travel will be borne by the Contractor.

Arrangements for travel will be made by the Landscape Architect at the Landscape Architect's convenience.

6. Container grown Perennials may be obtained at nurseries acceptable to the Landscape Architect. All container material shall have been grown for previous season in supplied container.
- E. Certificates: Furnish Certificates of Inspection as may be required by law to accompany shipments.
- F. Mulches: Submit samples of all specified mulches to Landscape Architect for review prior to placement of mulch. Each sample shall be submitted in plastic bag equal to one quart size, sealed and labeled as to contents, name, brand, type, and supplier.

#### 1.05 PRODUCT HANDLING

##### A. Plants:

1. Harvesting Red Bud trees: Balled and burlapped plants (B&B) shall be dug with firm, natural balls of earth of sufficient diameter and depth to include all fibrous and feeding roots. Treated burlap or nylon ropes around balls are not acceptable. Plants to be transplanted shall be balled burlapped in low profile baskets.
2. Handling: Handle plant so as to avoid damage to any of its parts. Broken branches, bruised bark, broken root balls or other damage shall constitute grounds for rejection. Handle plants from bottom of root ball only. Protect all plants from drying out. Plants that cannot be planted immediately or within 24 hours from delivery shall be kept in the shade, well protected, and moist. Do not transport plant materials in sub-zero weather. No plant with a frozen root ball shall be accepted.
  - a. Plants that arrive on site in a wilted condition are subject to being rejected.
  - b. Do not plant plants which arrive at the site with broken branches.

- c. Balled and Burlapped Plants: Carefully set and protect balled and burlapped plants with wet soil or moss until planting.
  - d. Container Plants: Protect plants in their containers until time for planting, and then remove them from their containers with a can cutter, not an axe or spade.
  - e. Bulbs: Store bulbs in a cool location but protect them from freezing prior to planting.
3. Pruning: Do not prune before delivery or prior to planting or transplanting. New plants which show evidence of having been pruned or new trees which have fresh cuts of limbs over 1-1/4" not completely calloused over shall be rejected.
- B. Fertilizers: Deliver in standard size bags, showing weight, analysis and name of processor, and store in weatherproof storage place and kept dry so that its effectiveness is not impaired.
- C. Maintenance Materials: Deliver anti-desiccant spray in containers of the manufacturer; mix and use according to manufacturer's direction. Deliver insecticide spray in the manufacturer's containers, mix and spray according to manufacturer's directions. Deliver fungicide in manufacturer's containers; mix and apply according to manufacturer's directions only with the acceptance of the Architect. Deliver herbicide in the manufacturer's containers; apply per manufacturer's directions, only with the acceptance of the Architect. Do not use horticultural chemicals without consent of Owner's representative.
- D. Other Materials: Store all other materials to keep them clean and protected from damage, in accordance with the manufacturer's recommendations.

## 1.06 JOB CONDITIONS

- A. Review of Site: Thoroughly review the site to determine if all grading and soil preparation has been satisfactorily achieved. Report unsatisfactory conditions to the Landscape Architect and make repairs prior to start of work.

- B. Water Source: Provide all required temporary water supply from source(s) provided by Owner. See Drawings for permanent locations of water sources such as hose bibs.
1. Water Distribution: Quick couplers are provided as part of the irrigation system. Provide all required distribution equipment to accomplish any watering.
  2. An automatic irrigation system will be provided as part of this project.
  3. System operation is to be done remotely.
- C. Protection of the Work: Protect the entire project area against traffic, damage, erosion, or other use by means accepted by the Landscape Architect. The Contractor shall not be responsible for repairing damage caused by Acts of God or acts of vandalism or malicious intent. Any barricades or temporary fencing and signs shall be maintained until acceptance. Upon final acceptance of the work, remove said barricades or temporary fences, or leave them if so desired by the Owner. Damage to existing structures, utilities, trees, lawns, shrubs, pavements, or other property caused by the Contractor shall be restored to original conditions at the Contractor's expense.

## PART 2 PRODUCTS

### 2.01 MATERIALS

- A. Trees, shrubs, and perennials: Refer to the Plant Schedule, or Drawings, for specific types and quantities of plants to be furnished. Quantities are included for convenience only. In the event that discrepancies occur, the actual plant designations as drawn on the Drawings shall govern.
1. Source: Plants shall be nursery grown, not field collected, in accordance with good horticultural practices, root pruned within the last two years, and grown under climate conditions similar to those in the locality of the project for at least two years.

2. Plant Hardiness: All plants provided by the Contractor shall be grown under climate conditions similar to those in the locality of the project for at least two years.
3. Quality: All plants shall be true genus, species and variety and have a normal habit of growth. They shall be sound, healthy, and vigorous, well branched and densely foliated when in leaf, be free of disease, insect pests, eggs or larvae, and have healthy well developed root systems. They shall be free from physical damage or adverse conditions that would prevent thriving with the specified result. They shall be of specimen quality, exceptionally heavy, symmetrical, tightly knit and so trained or favored in development and appearance as to be unquestionably and outstandingly superior in form, number of branches, compactness, and symmetry. Under-grown, overgrown, or root-bound plants are not acceptable quality. All plants shall show evidence of satisfactory growth prior to Final Acceptance.
  - a. Shrubs: Full plants with many branches after planting, as described above. Bare root plants are not acceptable. For Shrubs located in the perimeter screen, medians, and parking islands; at the time of planting must be an average spread of 24"x24" measured in size at a minimum or they will be rejected and replaced by the contractor at no additional cost to the owner.
  - b. Container Plants: Thoroughly rooted within the container, but not root bound.
  - c. Perennials and Vines: Vegetatively propagated to insure genus, species and variety.
  - d. Bulbs: "Highest quality": live, clean, top-size bulbs, free of rot, bruises or abrasions.
4. Size: Conform to the measurements specified in the Plant List or on the Drawings measured before pruning when their branches are in their normal position. Height and spread dimensions specified refer to the main body of the plant and not from root tip to top. Tree caliper measurement shall be taken at a point on the trunk, 6" above natural ground line, for trees up to 4" in diameter,



and at a point 12" above the natural ground line for trees over 4" in diameter. Plants that meet the measurements specified, but do not possess a normal balance between height and spread, are not acceptable.

- a. Do not deliver undersize material. Trees specified to be 2" Cal must measure at min. 2" in caliper. Shrubs specified to be 24"x24" in size must at minimum be 24"x24" in size or they will be rejected. Contact Landscape Architect if plants are not found in specified size. Submit a list of at least 10 nurseries contacted who are unable to supply plants at specified sizes.
  - b. Substitutions: Substitutions may be permitted, only if proof is submitted that any plant specified is not obtainable. Possible sources of shrubs and perennials may be listed on the Plant List Schedule on the Drawings. A proposal will be considered for use of nearest equivalent size of variety with an equitable adjustment of contract price. Such proof shall be submitted in writing and shall be subject to verification by the Landscape Architect.
5. Spring Harvested Plants: Plants which are shown on the Drawings as 'Spring Dig only' plants shall be harvested in early spring and held at the nursery until the site is ready for planting.
- a. Nursery Holding Yard: The nursery holding yard is required for holding Spring harvested plants.
  - b. All Spring harvested trees shall be held at a nursery acceptable to the Landscape Architect. Where they shall be shrink-wrapped, watered with drip irrigation, calibrated to the requirements of the specific trees, sheltered from damage and winds, monitored and treated for potential pests, and otherwise kept in top condition. Defoliated trees, trees with dead limbs, damaged barks, abrasions of the bark, sun scalds, insect damage, or fresh cuts of limbs are not acceptable quality and will be rejected.

6. Labels: All plants shall be labeled with correct scientific plant name, variety and size when delivered to the site. Labels shall be securely attached to all plants, bundles and containers of plants delivered.
7. Tree Seals: No trees shall be delivered to the site without the Landscape Architect's seals. Seals have been placed on the north side of the tree at the nursery and are to be oriented the same way on site. However, the Landscape Architect may change specific trees orientation on site.

B. Fertilizers:

1. Commercial Fertilizers: Complete fertilizer, uniform in composition, free flowing and suitable for application with approved equipment. Type and application rate shall be determined by testing agency's soil test but may contain the following percentages by weight: 10% nitrogen, 10% phosphorous, and 10% potash.
2. Super Phosphate: A soluble mixture of treated minerals, 20% available phosphoric acid.
3. Bone Meal: Commercial, raw, finely ground; 4% nitrogen and 20% phosphoric acid.
4. Maintenance Fertilizers: For projects located in Illinois, applications of phosphorous are not permitted starting two years after installation, unless soil tests show a deficiency of phosphorous in the soil.

C. Plant Maintenance Materials: Do not use horticultural chemicals without consent of Owner's representative.

1. Anti-desiccant Spray: An emulsion which provides a protective film over plant surfaces, permeable enough to permit transpiration, such as "Wiltpruf", NCF Nursery Specialty Products, Inc., Groton Falls, N.Y., or equivalent.
2. Insecticides, Herbicides, and Fungicides: Materials used for the control of pests shall be appropriate to the pest or pests which pose a problem to the materials, and shall be used by licensed personnel in strict accordance with the manufacturer's recommendations. No phytotoxic materials shall be used.

#### D. Other Horticultural Materials:

1. Mulch: Shredded Hardwood Mulch such as the “Dark Brown Mulch, Newport News, VA” by Lawn venture material supply.
2. Shredded Leaf Mulch: Clean shredded leaf mulch, well composted, free of foreign matter, sticks, stones, and clods.
3. Green roof metered overflow drains, model GR-650 to be used in all planters for drainage. Drainage apparatus installation to be coordinated with General Contractor and subject to approval by Landscape Architect and Owner. Planter drains to be wrapped in soil separator fabric as specified below.
4. Soil Separator/ Geotextile Fabric: rooflite® separation fabric SF135  
A mechanically-consolidated, needle-punched geotextile for green roofs, planters, and containers as separation layer and filter between drainage and planting media layers. This fiber fleece has an open, three-dimensional surface structure that is highly resistant to clogging. Even very fine media particles are retained on top of the fabric while roots can penetrate and tap into the retained water in the layers below.

1.	Material: Blend of Polypropylene and Polyester		
2.	Dry Weight (typical)	(ASTM D 5261)	4 oz/yd <sup>2</sup>
3.	Thickness (typical)	(ASTM D 5199)	3/32 in
4.	Static Puncture CBR	(ASTM D 6241)	120 lb
5.	Pin Puncture	(ASTM D 4833)	20 lb
6.	Elongation	(ASTM D 4632)	50%
7.	Grab Tensile	(ASTM D 4632)	70 lb
8.	Trapezoidal Tear	(ASTM D 4533)	30 lb
9.	Flow Rate	(ASTM D 4491)	200 gpm/ft <sup>2</sup>
10.	Permittivity	(ASTM D 4491)	2.5 sec <sup>-1</sup>

## PART 3 EXECUTION

### 3.01 PREPARATION

- A. General: Prior to planting, clear planters of trash, debris, and stones larger than 1-1/2" in diameter, and all roots, brush, wire, grade stakes and other objects which would interfere with planting and maintenance operations.
- B. Maintain Elevations: Verify soil elevations established during final soil preparation as being true to finished elevations shown in the Drawings and maintain such areas until the effective date to begin planting. Level any undulations or irregularities in the surface resulting from soil amendment operations prior to planting.
- C. Treated Soil: Treated soils are not acceptable.
- D. Planting Season: Planting shall be done only within noted timeframes that follow. Special conditions exist which may warrant a variance in the planting dates. Submit a written request for such variance to the Architect.
- E. Deciduous Trees and Shrubs: Workable ground to May 30th and October 15th to December 1st, except as noted on plans. Ground cover can be planted no later than November 1st.
- F. Evergreen Trees and Shrubs: Spring only - workable ground to June 15th. Trees shall be planted only while in a dormant state, unless otherwise directed by the Landscape Architect. The determination as to when the ground can be worked shall be made by the Landscape Architect, and such determination shall be conclusive of this question. Container grown plants may provide an extended season to plant as directed by Landscape Architect.
- G. Evergreen Groundcovers: Spring only - workable ground to May 15th. Plant evergreen groundcovers only while in a dormant state, unless otherwise accepted by Architect.
- H. Spring Only Materials: Harvest crabapples, dawn redwoods, maples, sweetgums, pines, shrubs, and other designated Spring-Only plants only in the spring -

workable ground to May 15 - and only in a dormant state unless otherwise accepted by Landscape Architect.

- I. Perennials and Bulbs: Plant perennials from spring to early summer. Plant bulbs in fall as soon as bulbs become available from bulb supplier.
- J. Layout containerized plants into areas shown. Notify Landscape Architect at least eleven days in advance to schedule layout.
  - 1. Layout beds with all plants present for areas to be planted within one day. Where two or more plants are specified for an area, evenly distribute them throughout the area; triangularly spaced. After setting plants into place, lay the plantings out in adjacent areas.
  - 2. Proceed with planting only after adjoining areas have been fully laid out.
- K. Tree Root Ball Preparation: Prior to planting the first tree into a tree pit or bed, remove the top layer of burlap and expose the tree's root flare. Remove all excess soil from the top of root ball. Measure the depth of root ball after removing excess soil. Excavation and setting of trees shall result in root flare being 2" above finish grade after settlement. Reestablish drum lacing prior to planting.
- L. Inspection: Notify Landscape Architect at least 48 hours in advance to obtain inspection and acceptance of root ball conditions prior to planting trees.
- M. Repeat procedure for each tree after first tree has been inspected and approved.

### 3.02 INSTALLATION

#### A. Planting:

- 1. Setting and Planting: Set trees and shrubs in center of pits on layer of soil mix, plumb and straight and at such level that, after settlement, the crown of the tree root balls shall be 2" above the adjacent finished grade, and shrub root balls shall be at finish grade. Do not backfill beds with planting soil until they have been reviewed by the Landscape Architect. Tamp thoroughly before installing the remainder of the planting soil to the top of pit, eliminating all air pockets.

2. Trees in Tree Pits: Place trees centrally in pits so that all tree trunks are straight and plumb. When shown in-line, plant trees so that they are in alignment when viewed from the end of the row.
  - a. Container Plants: Set container grown stock as shown in the drawings. Plant groundcover and perennial plants, triangularly spaced unless otherwise shown on the Drawings. Never plant groundcover or other plants over top of root ball of tree or other plants.
  - b. Bulbs: Plant bulbs in U-shaped holes, triangularly spaced unless otherwise shown on the Drawings, to depths specified on plant list, with one tablespoon bone meal fertilizer placed in the bottom of the hole.
- B. Remove Wrappings: See Drawings. For low profile basket trees, removal of wrapping is not required. For high profile basket trees, cut and remove ropes, strings and wrapping from the top ½ of ball immediately after plant has been set. Leave balance of wrapping intact around the ball.
  1. All waterproof, water repellant or rot resistant wrappings shall be entirely removed from the ball.
- C. Watering: Thoroughly water all plantings immediately after planting. A full irrigation system will be provided, coordinate watering with the irrigation contractor.
  1. Trees: Initial watering must be performed on all trees which are designated for root pruning. Water trees immediately by thoroughly saturating root balls using a tree irrigation bag.
  2. Shrubs: Soak plant by fully saturating plant pit with water to full depth of plant pit.
  3. Groundcover, bulb, and perennial beds may be sprinkled directly with a hose that has a water dispersing attachment, taking care not to wash soil away from roots.
- D. Relationship to finished soil surface: After planting and settlement, trees shall be 2" above adjacent finished soil surface. Where soil mix exceeds 4" in depth

between drainage course and bottom of root ball, install high enough to achieve this relationship after settlement.

- E. Mulching: Mulch all plantings immediately after planting, as planting progresses, including all trees in beds to cover a four-to-six-foot diameter concentric circular or four-to-six foot square rectangular area. Mulch all plant beds, including beds for shrubs, groundcovers, perennials, and bulbs in their entirety.

### 3.03 POST-PLANTING OPERATIONS:

- A. Anti-Desiccant Spray: If deciduous trees or shrubs are accepted by Landscape Architect to be moved full leaf, spray with anti-desiccant at nursery before moving and again two weeks after planting. Apply anti-desiccant using power spray to provide an adequate film over trunks, branches, stems, twigs, and foliage immediately after planting.
- B. Pruning: Prune, thin out and shape trees and plants in accordance with standard horticultural practice, under the direct observation of the Landscape Architect, to preserve the natural character of the plant and to compensate the loss of roots during transplantation. Do not prune before delivery or planting of plants. Perform pruning with clean, sharp tools. Do not use pruning paint unless directed by Landscape Architect. Required height and spread sizes are after pruning except as accepted by the Landscape Architect.
  - 1. Prune out and thin lower minor branches of *Cercis canadensis* trees to a height of 3'30" from base of planter in the presence of and at the direction of the Landscape Architect after installation. Tree installation to be at the direction of the landscape architect.
- C. Other Supports: Securely install all other plant support systems shown on the Drawings.

### 3.04 OTHER REQUIRED OPERATIONS

- A. Straighten and guy all trees which fail to remain plumb during the guarantee period. Provide guying of trees only if they fail to remain plumb.

### 3.05 REPAIR AND CLEANING

- A. Disposal of Surplus Materials: Dispose of surplus and waste materials off the site resulting from planting operations daily and as the work progresses.
- B. Protection: Protect plants against damage, including erosion and trespass, and provide proper safeguards as needed. Replant damaged areas. Repair or replace all such defective work, and all other work damaged thereby, which becomes defective until substantial completion. Advise Landscape Architect at that time as to whether continuing protections are required and leave them in place if acceptable.
- C. Repair of Grade Relationship: Plants that do not bear the correct relationship to finished grade after settlement shall be raised or lowered, regardless of size, at no additional cost to Owner, throughout the specified warranty period.
- D. Replacements: Replace, without cost to the Owner, and as soon as weather conditions permit and within a specified planting period, all dead plants and those which are not in a vigorous, thriving condition during and at the end of the warranty period. "Vigorous, thriving condition" is defined as a live, symmetrical plant which is free of dead or dying branches and branch tips, and which bears foliage of normal density, size, and color. Through the specified period, assume full responsibility for failure to maintain in good condition all landscape plantings. Remove and replace excessively pruned or miss-formed stock resulting from improper pruning. Replacements shall closely match adjacent specimens of the same species. They shall be furnished, planted, mulched, wrapped, staked or guyed, watered, basin-ed, maintained and warranted as specified, and shall be subject to all requirements stated in the Contract Documents. Make all necessary repairs due to plant replacements at no extra cost to the Owner.
- E. Work Damaged by Others: In the circumstance whereby the Owner requests repair of planting areas which have been damaged by others, repair said areas designated by the Architect upon issuance of a written change order which



specifies the cost to the Owner. Replanting shall cause a minimum of disturbance to the existing plantings. This work shall be installed, maintained and warranted according to the same conditions as specified herein.

F. Completion Cleaning: Furnish all labor and materials to perform daily cleaning operations as the work progresses and at the conclusion of work. During the progress of the work, remove and properly dispose off-site any resultant dirt and debris. Keep sidewalks and other paved areas clean of debris. Upon completion of the work, remove all equipment and materials needed for work, and leave the premises in a neat and clean condition.

G. Tree Seal Removal: Remove trees seals just prior to end of warranty period.

### 3.06 3.06 MAINTENANCE

A. Maintenance Periods: Perform landscape maintenance, as specified hereunder, for the following periods:

1. Initial Maintenance: The Contractor is responsible for maintenance of each area until it has been accepted by the Landscape Architect and the warranty period is formally started. Begin maintenance immediately upon delivery to the site and as each plant and each portion is planted and continue maintenance until the start of the warranty.
2. Alternate No. 1 - First Year Maintenance Bid: Perform landscape maintenance for a one year period by installing contractor, coinciding exactly with the guarantee period, commencing with substantial completion and ending with Final Acceptance of the project by the Owner.

B. Work Subject to Maintenance: Perform work for the following portions of the site or the work:

1. Initial Maintenance: The work installed under this contract for the entire Project site.
2. Alternate First Year Maintenance: The entire Project site.

C. Maintenance of Plant Materials: Maintain all plantings in a healthy flourishing condition. Maintenance of new planting consists of pruning, watering, cultivating, replanting, weeding, mulching, tightening and repairing of guys, repair of wrapping, cleaning, edging, and furnishing and applying sprays as are necessary to keep the plants free of insects and disease. First and Second Year Maintenance also includes "annual" soil tests, pH adjustments, fertilizations, "annual" pruning and two clean-ups per season specified. The term "annual" is used herein for the convenience of describing operations which take place yearly by the maintaining Contractor, and does not imply any performance obligation beyond the specified maintenance periods. See "Maintenance Periods" above.

1. Objectives: The objectives of the landscape maintenance program are to present a landscape that preserves in manner and proportion the effect intended by the Landscape Architect. Utilize the best horticultural practices of the trade, the best methods, materials, and equipment. Perform all tests necessary to maintain plants in a healthy, flourishing, condition. The Contractor shall be so familiar with all elements of the landscape in his care that if a problem arises, he resolves the problem before it progresses beyond control.
2. Landscape Maintenance Season: The landscape maintenance season is defined as the months during which landscape maintenance operations are required and extends from April 1 to November 30 of any given year. When substantial completion occurs after April 1, the season extends from substantial completion through November 30.
3. Watering: Provide all necessary watering to ensure the success of all plantings by supplying a sufficient quantity of water to penetrate the root systems of the plants on a frequent enough basis so as to avoid any moisture related stress. Monitor the application of water to prevent any too-dry or too-wet condition from occurring. Immediately bring any excessive moisture condition to the attention of the Landscape Architect. Regardless of watering method, it is the responsibility of the Contractor to monitor the application of water and to correct and adjust its application to ensure success of the plantings.

- a. Confirm Irrigation Water Source: Adjust irrigation system seasonally or as drought conditions require.
  - b. Pits and Beds: Auger test root balls of trees and plants on a weekly basis to assure consistent and adequate moisture content for their survival. Shrubs may be routinely watered with soakers, provided that the Contractor thoroughly saturates the root zones. Otherwise, he shall use a "Ross Root Feeder". Hand sprinkling of the shrubs is not acceptable. Use a "Ross Root Feeder" for trees to assure adequate saturation of the root balls.
4. Annual Pruning: Commence annual pruning operations with the start of the First Year Maintenance Period. Contact Owner to review on-site aesthetic considerations and techniques prior to performing annual pruning maintenance. Light annual pruning shall be required on all trees and shrubs. Prune groundcover beds annually in late spring as required to keep a neat and trim appearance, to remove winter-burn, to prevent a buildup of thatch and to have a clean edge at pavements.
5. Cut back grasses in early Spring to encourage new growth.
6. Annual Soil Tests: Commence annual soil tests with the start of the First Year Maintenance Period and resubmit thereafter at the start of each maintenance period, in early spring. Submit soil test data from four locations on the project site to be designated by the Landscape Architect or Owner. Annual soil tests include a chemical analysis which includes pH, N, P and K, other essential nutrients, and soluble salts, and provide recommendations for fertilizations and pH adjustment for Architect's or Owner's review.
7. Fertilization and pH Adjustment: Perform annual fertilizations and pH adjustments according to the recommendations of the testing agency after review of soil test data by Architect or Owner. Type and application rates of fertilizer and pH adjuster are dependent on results of soil tests.

- a. Deciduous Trees and Shrubs: Fertilize once between March 15 and April 15 each period, commencing with the start of the First Year Maintenance Period.
  - b. Evergreen Trees, Shrubs, and Groundcovers: Fertilize once between March 15 and April 15 each period.
8. Pest Control and Control of Damage: Perform all pest control operations to maintain all trees, shrubs, and plant beds in a flourishing condition, including control of insects, fungus and other diseases. Do not use phytotoxic materials on plants. Keep all drain inlets in plant beds clean and draining freely, and make frequent inspections to assure proper drainage
  - a. Do not use horticultural sprays or other chemicals, such as insecticides, herbicides or fungicides, without the express written consent of the Owner. If approved by Owner, use according to manufacturer recommendations, obeying all governmental regulations and spray using licensed personnel only.
9. Weed Control: Perform weed control in all planted, mulched or gravel areas by pulling or cultivation. Spraying or drenching may be allowed only if approved by Owner and accepted by Landscape Architect so that susceptible vegetation is protected.
10. Other Maintenance Operations: Clean, rake and maintain all mulch areas at specified depths throughout the maintenance period. Monitor growth and adjust supports for trees, vines and perennials. Sweep or rake up and re-deposit gravel mulches, such as at tree grates or drip strips, which has spilled off of the gravel areas.
11. Clean-Up: Clean up after all maintenance operations daily, by removing and disposing of any resultant dirt and debris. Keep sidewalks and other paving clean of material resulting from maintenance. The Owner will provide general maintenance of sidewalks. Put site in a neat and clean condition after all operations, including removal of pruned vegetation and all other resultant refuse.

12. Annual Seasonal Clean-ups: Furnish necessary labor and equipment to perform a general clean-up of the project area, commencing with the First Year Maintenance Period.
- a. Early April Clean-up: Clean perennials and vines of all dead stalks and leaves. Rake beds, remove and legally dispose of accumulated debris, dead leaves, twigs, and other materials. Remove burlap wrap from trees after first wintering, and each spring thereafter.
  - b. Early November Clean-up and Mulching: Rake beds, remove and legally dispose of accumulated debris, dead leaves, twigs and other materials. Mulch all of the plant beds and tree pits after clean-up to protect plants during winter months. Re-wrap frost-crack susceptible trees with specified burlap wrap.

END OF SECTION 329200

SECTION 32 93 10  
PLANTER INSULATION

PART 1        GENERAL

1.01    RELATED DOCUMENTS

- A. Drawings and General Provisions of the General Construction Services Agreement, including the General Conditions and the Supplementary Conditions and all other Specification Sections, apply to this Section.

1.02    SUMMARY

- A. Provide all materials and labor required to complete all operations shown on the Drawings or specified herein. Furnish and install rigid insulation vertically on inside of planter walls. Attach to walls as shown on drawings or as specified herein.
- B. Related Sections:
  - 1. Section 12 93 00 – Site Furnishings
  - 2. Section 32 14 16 – Brick Unit Paving
  - 3. Section 32 93 00 – Landscape Plantings
  - 4. Section 32 18 13 – Synthetic Grass Surfacing
  - 5. Section 32 84 00 – Planting Irrigation
  - 6. Section 32 91 00 – Planting Preparation

1.03    QUALITY ASSURANCE

- A. Landscape Contractor Qualifications: A single pre-approved Landscape Contractor with a minimum of seven (7) years' experience with elevated or on-structure urban projects of similar size and scope.

- B. Codes and Standards: Comply with local governing regulations regarding installation of inlets, pipe and connections.

#### 1.04 SUBMITTALS

- A. Manufacturer's Data: Submit for Landscape Architect's approval, manufacturers' data regarding rigid insulation and other insulation items.
- B. Samples: Submit to Landscape Architect labeled actual samples of:
  - 1. Rigid Insulation: One sample measuring 12"x12" with manufacturers label intact.
  - 2. Flexible Insulation: One sample measuring 12"x12" with manufacturers label intact.

#### 1.05 PRODUCT HANDLING

- A. Transport, deliver, handle, and store all manufactured insulation products per manufacturer's recommendations. Handle with care as to not puncture rigid insulation. Store all insulation materials out of the direct rays of the sun, in UV resistant wrappers, until used.

#### 1.06 JOB CONDITIONS

- A. Verify all planter dimensions, and configurations, for conformance with Drawings. Verify correct location of existing drain inlets. Immediately notify Landscape Architect of any discrepancies.
- B. Coordinate installation of rigid insulation with General Contractor, and all pertinent trades.

### PART 2 PRODUCTS

#### 2.01 MATERIALS

- A. Rigid Insulation

1. Tongue and groove reinforced extruded poly styrene foam 1” thick, which meets requirements of ASTM C578 and ASTM D1621, for every one inch of insulation R-5.0 (if 2” thick then R-10). Compressive strength of insulation shall be a minimum of 60 psi. Contractor shall use Owens Corning Foamular 600 High Compressive Strength Rigid Foam Insulation or approved equal.
2. Flexible Insulation 1” thick, with a minimum R-value of 4.

## PART 3 EXECUTION

### 3.01 PREPARATION

- A. Clean all landscape planting areas of all trash and debris before placing flexible or rigid insulation. Remove and dispose of all debris off site.
- B. Prior to installation of insulation, check all elevations and tops of pavement. Report any discrepancies to the General Contractor immediately. Do not start landscape drainage, soil placement or other landscape work until insulation installation is complete.

### 3.02 INSTALLATION

- C. Install all rigid insulation on non-curving vertical planter wall surfaces as shown on Drawings and specified herein.
- D. Install flexible insulation on all curved vertical planter wall surfaces as shown and noted on the Drawings.
- E. If insulation does not remain attached to walls, adhere in place with a manufacturer’s approved material. The Contractor shall confirm whether adhesive is compatible with planter wall surface material.



### 3.02 PROTECTION

- A. Protect all insulation until it is completely covered by soil mix.
- B. Handle and store all per manufacturer's recommendations and protect from direct sun exposure.

### 3.03 REPAIR AND CLEANING

- A. Remove, and legally dispose off site, all non-conforming, or defective work. Replace with specified quality if directed by Landscape Architect. Where defects or damaged insulation occurs within a section, remove and replace entire section. Prior to soil mix placement, repair any insulation damaged during installation of drainage or planting soil.
- B. Clean, remove and legally dispose of all unused material and debris resulting from work.

END OF SECTION 329310