PROJECT MANUAL

44 Lower College Road
Fire Protection & Fire Alarm Upgrades

University of Rhode Island
Kingston Campus

February 3, 2023

1MJB00329.052
Project KC.G.44LC.2019.001

Owner: State of Rhode Island Board of Education, University of Rhode Island, and State of Rhode Island

In care of: Office of Capital Projects
University of Rhode Island, Sherman Building
523 Plains Road, Kingston, RI 02881
Attn: Paul DePace, Director of Capitol Projects, 401-874-2725

Design Agent: Jensen Hughes
117 Metro Center Blvd., Suite 1002, Warwick, RI 02886
Attn: Joseph W. Spokis, P.E., Fire Protection Engineer
Tel: 401.736.8992 or 401.214.2898

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DOCUMENT 00 0110 - TABLE OF CONTENTS

PROCUREMENT AND CONTRACTING REQUIREMENTS

SPECIFICATIONS

END OF DOCUMENT

DOCUMENT 00 0115 - LIST OF DRAWINGS

Dwg. No.	Drawing Title	Date
FA-0.01	FIRE ALARM NOTES AND DETAILS	01/19/2023
FA-0.02	FIRE ALARM RISER	01/19/2023
FAD-1.0	BASEMENT AND FIRST FLOOR FIRE ALARM DEMOLITION PLAN	01/19/2023
FAD-1.1	SECOND FLOOR & ATTIC FIRE ALARM DEMOLTION PLAN	01/19/2023
FA-1.0	BASEMENT AND FIRST FLOOR FIRE ALARM PLAN	01/19/2023
FA-1.1	SECOND FLOOR AND ATTIC FIRE ALARM PLAN	01/19/2023
C1.0	FIRE SERVICE INSTALLATION PLAN	01/19/2023
C2.0	FIRE SERVICE INSTALLATION PLAN	01/19/2023
C3.0	FIRE SERVICE INSTALLATION PLAN	01/19/2023
FP-0.01	FIRE PROTECTION NOTES & DETAILS	01/19/2023
FP-1.0	BASEMENT AND FIRST FLOOR FIRE PROTECTION PLAN	01/19/2023
FP-1.1	SECOND FLOOR AND ATTIC FIRE PROTECTION PLAN	01/19/2023
S1.0	WEST ELEVATION PLAN, ELEVATION, AND 3D VIEW	01/19/2023
S2.0	REPAIR DETAILS	01/19/2023

END OF DOCUMENT

DOCUMENT 00 5200 – AGREEMENT FORM

PART 1 – GENERAL

1.1 The Agreement Form to be utilized on this project is AIA Document A101-2017 as amended, a copy of which follows this page.

END OF DOCUMENT

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, telephone and facsimile numbers, and website)

State of Rhode IslandOne Capitol Hill, Second Floor
Providence, Rhode Island 02908-5855
401.578.8100 (telephone); 401.574.8387 (facsimile)
www.puchasing.ri.gov

acting by and through,

The University of Rhode Island Purchasing Department
10 Tootell Road
Kingston, Rhode Island 02881
401.874.2171 (telephone); 401.874.2306 (facsmilie)
http://web.uri.edu/purchasing/
and
The University of Rhode Island Board of Trustees
35 Campus Ave, Green Hall
Kingston, Rhode Island 02881

on behalf of the User Agency:
(Name, legal status, address, telephone and facsimile numbers, and website)

The University of Rhode Island
Office of Capital Projects
60 Tootell Road – Sherman Building
Kingston, Rhode Island 02881
401.874.2725 (telephone)

and the Contractor:
(Name, legal status, address, telephone and facsimile numbers, and website)

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

The Design Agent:
(Name, legal status, address, telephone and facsimile numbers, and website)

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

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

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.

Init.
/

The Owner and Contractor agree as follows.

(Paragraph Deleted)

The Owner and Contractor agree as follows.

TABLE OF ARTICLES

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General Conditions, Supplementary Conditions (if any), 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. No part of the Work shall be performed by Subcontractors without the Owner's prior written consent.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall
be the later of: (i) the issuance of the Purchase Order by the Owner; and (ii) the
(Paragraph Deleted)

date set forth in a notice to proceed issued by the User Agency.

(Paragraphs Deleted)

§ 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. Subject to additions and deductions as provided in the Contract Documents, the Contract Sum shall be: $_____.

§ 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, are specified in the Bid Proposal Form and are included in the Contract Sum.

(Paragraph Deleted)

(Table Deleted)

§ 4.4 Unit prices, if
any, are specified in the Bid Proposal Form and include all costs, including without limitation, labor, materials, services, regulatory compliance, overhead, and profit necessary for the completion of the Work. Unit prices shall be used for both additions to, and deletions from the Work.

(Table Deleted)

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

.1 In the event that there is one date for Substantial Completion of the Work, the Contractor shall pay the Owner the sum stipulated in this Section 4.5.1 as liquidated damages, and not as a penalty, for each calendar day of delay until the Work is substantially complete: $_____.

.2 In the event that the Project is scheduled to be completed in phases, and there is more than one date for Substantial Completion of the Work, the Contractor shall pay the Owner an aggregate amount equal to the sums stipulated in this Section 4.5.2 as liquidated damages, and not as a penalty, for each calendar day of delay until the Work for each phase is substantially complete:

Phase	Liquidated Damages Sum

.3 The Owner and the Contractor have reasonably determined the sums set forth in this Section 4.5 to be a fair estimate of the Owner' actual damages which are difficult to ascertain in the event of delay.

§ 4.6 Other:
(Paragraph Deleted)

The Owner shall not be liable to the Contractor or any Subcontractor for claims or damages of any nature caused by or arising out of any delays. The sole remedy against the Owner for delays shall be the allowance of additional time for completion of the Work.

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Design Agent by the Contractor and Certificates for Payment issued by the Design Agent and approved by the Owner in writing, 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.

§ 5.1.3 The Owner shall make payment of the certified amount, less retainage, to the Contractor not later than the 30th working day following written approval by the Owner.

(Paragraph Deleted)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor and approved by the Design Agent and the Owner 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 Design Agent and the Owner 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™–2007, General Conditions of the Contract for Construction as modified by the Owner, 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 Design Agent determines, in the Design Agent'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 Design Agent has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2007 as modified by the Owner;

.3 For Work performed or defects discovered since the last payment application, any amount for which the Design Agent may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2007 as modified by the Owner; and

.4 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: five (5%) percent.

(Paragraph Deleted)

§ 5.1.7.1.1 Deleted.

(Paragraph Deleted)

§ 5.1.7.2 Deleted.

(Paragraph Deleted)

§ 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:
(Paragraph Deleted)

The amount of five (5%) percent shall be retained by the Owner through the date of Substantial Completion of the Work and then after the date of Substantial Completion of the Work in accordance with R.I. Gen. Laws § 37-12-10.1.

§ 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 A201–2007 as modified by the Owner.

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

§ 5.1.10 Within 10 working days of receipt of any progress payment from the Owner, the Contractor must pay its Subcontractors the full amount included for each such Subcontractor within the Contractor's Application for Payment in accordance with the provisions of AIA A201 – 2007, General Conditions of the Contract for Construction as modified by the
Owner.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, less the amount withheld pursuant to § 5.1.7.3, 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 A201–2007 as modified by the Owner, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Design Agent and approved in writing by the Owner;

.3 the Contractor has submitted its final release and final releases from all of its Subcontractors and suppliers in a form acceptable to the Owner; and

4 the Contractor has submitted to the Owner all close-out documents, including without limitation, all as-built plans, warranties, manuals, and other materials set forth in the Contract Documents.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 working days after the issuance of the Design Agent's final Certificate for Payment and written approval by the Owner.

§ 5.3 Interest
Payments due and unpaid under the Contract shall bear interest from the date payment is due in accordance with the provisions of "Prompt Payment by Department of Administration," R.I. Gen. Laws §§ 42-11.1-1 et seq.

§ 5.4 Owner's Rights
§ 5.4.1 The Owner shall have the right to deduct from any payments due to the Contractor the amount of any unpaid obligations owed to the State of Rhode Island by the Contractor, including without limitation, any and all unpaid taxes, the amount of any claim against the Contractor arising out of this Agreement, or any amount on account of any other reason permitted by applicable law.

§ 5.5 Pursuant to R.I. Gen. Laws § 44-1-6, the Owner shall withhold payment from the Contractor if the Contractor does not maintain a regular place of business in Rhode Island in the amount of three (3%) percent of the Contract Sum until 30 calendar days after Final Completion and compliance by the Contractor with the requirements of such section. The three (3%) percent withheld pursuant to R.I. Gen. Laws § 44-1-6 is not considered retainage which is held pursuant to § 5.1.7.

(Paragraph Deleted)

ARTICLE 6 DISPUTE RESOLUTION
§ 6.1 Initial Decision Maker
Claims shall be referred to the Initial Decision Maker for initial decision. The University of Rhode Island Vice President for Administration and Finance pursuant to the provisions of the "Delegation of Limited Procurement Authority," dated January 19, 2018 and the provisions of the "State Purchases Act," R.I. Gen. Laws § 37-2-1 et seq., will serve as the Initial Decision
Maker in accordance with the provisions of the State Purchases Act, State of Rhode Island Procurement Regulations, and this Section 6.1. An initial decision shall be required as a condition precedent to binding dispute resolution pursuant to Section 6.3 of any Claim arising prior to the date final payment is due.

§ 6.2 Mediation
For any Claim not resolved by the Initial Decision Maker procedures set forth in Section 6.1, and prior to the implementation of the binding dispute resolution procedures set forth in Section 6.3, the Contractor shall
have the
option to pursue mediation, exercisable by written notice to the Owner within 30 calendar days of an Initial Decision. In the event of the exercise of
such option by the Contractor, the Owner and the Contractor shall attempt to select a mediator, and in the event that the Owner and the Contractor cannot agree on a mediator, either party may apply in writing to the Presiding Justice of the Providence County Superior Court, with a copy to the other, with a request for the court to appoint a mediator, and the costs of the mediator shall be borne equally by both parties.

(Paragraph Deleted)

§ 6.3 Binding Dispute Resolution
For any Claim not resolved by the Initial Decision Maker procedures set forth in Section 6.1, or mediation at the option of the Contractor pursuant to Section 6.2, the method of binding dispute resolution shall be determined in accordance with the provisions of the "Public Works Arbitration Act," R.I. Gen. Laws §§ 37-16-1 et seq.

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 A201–2007, as modified by the Owner. The Contract may also be terminated by the Owner: (i) in the event of the unavailability of appropriated funds; (ii) in the absence of a determination of continued need; or (iii) as
otherwise provided in the State of Rhode Island Procurement Regulations General Conditions of Purchase or other applicable law.

§ 7.1.1 Deleted.

§ 7.2 The Work may be suspended by the Owner as provided in: (i) the State of Rhode Island General Conditions of Purchase Regulation or other applicable law; or (ii) Article 14 of AIA Document A201–2007 as modified by the Owner.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2007 or another Contract Document, the reference refers to: (i) the AIA Document A201 – 2007 or other Contract Document as modified by the Owner; and (ii) that provision in the AIA Document A201 – 2007 as modified by the Owner or other Contract Document as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 Representatives for the Owner

§ 8.2.1 The Owner's representative:
(Name, title, address, email address, and other information for the preferred methods of contact)

The University of Rhode Island, Purchasing Department
10 Tootell Road
Kingston, Rhode Island 02881
Paul M. DePace, PE
401.874.2725 (telephone)

§ 8.2.2 The User Agency's representative:
(Name, title, address, email address, and other information for the preferred methods of contact)

The University of Rhode Island
Office of Capital Projects
60 Tootell Road – Sherman Building
Kingston, Rhode Island 02881
Paul M. DePace, PE
401.874.2725 (telephone)

§ 8.2.3 The Design Agent's representative:
(Name, title, address, email address, and other information for the preferred methods of contact)

§ 8.3 The Contractor's representative:
(Name, title, address, email address, and other information for the preferred methods of contact)

§ 8.4 Neither the Owner's nor the Contractor's representative nor the Design Agent's representative shall be changed without 10 working 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 the Solicitation and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in the Solicitation and elsewhere in the Contract Documents.

§ 8.6 Deleted.

§ 8.7 Other provisions:
§ 8.7.1 The Contractor represents and warrants to the Owner, in addition to any other representations and warranties of the Contractor elsewhere in the Contract Documents:

.1 The Contractor and its Subcontractors are each financially solvent, able to pay their debts as they mature, and possess sufficient working capital to perform their obligations under the Contract Documents.
.2 The Contractor and its Subcontractors are each able to furnish the tools, materials, equipment, and labor required to complete the Project as required under the Contract Documents.
.3 *The Contractor and each Subcontractor are authorized to do business in the State of Rhode Island and are properly licensed by all necessary governmental authorities having jurisdiction over them and over the Work and the Project.*
.4 The execution of this Agreement and its performance is within its duly authorized powers.
.5 The Contractor has visited the site of the Project, familiarized itself with the local and special conditions under which the Work is to be performed, and correlated its observations with the requirements of the Contract Documents.
.6 The Contractor possesses the requisite level of experience and expertise in the business administration, construction, and superintendence of projects of the size, complexity, and nature of the Project, and it will perform the Work with the care, skill, and diligence of a contractor possessing such experience and expertise.

§ 8.7.2 The representations and warranties of the Contractor in this Section 8.7 and elsewhere in the Contract Documents will survive the execution and delivery of this Agreement, any termination of this Agreement, and the final completion of the Work.

§ 8.7.3 Any Change Orders or other Modifications must be approved in writing by the Owner.

§ 8.7.4 The Owner is the State of Rhode Island, acting by and through its Department of Administration, Division of Purchases, and therefore, pursuant to the provisions of R.I. Gen. Laws § 34-28-31, mechanics liens may not be placed against the Project.

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, as modified by the Owner

.2 Deleted.

.3 AIA Document A201™–2007, General Conditions of the Contract for Construction, as *modified by the* Owner.

.4 Deleted.

.5 Drawings

(Table Deleted)

The Drawings are included in the Solicitation and are available on the Division of Purchases website at www.purchasing.ri.gov.

.6 Specifications

(Table Deleted)

The Specifications are included in the Solicitation and are available on the Division of Purchases website at www.purchasing.ri.gov.

.7 Addenda, if

(Table Deleted)

any, issued pursuant to the Solicitation form a part of the Solicitation and are available on the Division of Purchases website at www.purchasing.ri.gov.

.8

Supplementary and other Conditions of the Contract, including without limitation, the State of Rhode Island General Conditions of Purchase Regulation.

.9 Other documents listed below:

(Paragraph Deleted)

.1 The Solicitation, issued by the Owner, including without limitation, the Invitation to Bid, the Instructions to Bidders, the Specifications and Drawings, any Addenda, and the Bid Checklist.

(Paragraph Deleted)

.2 The Bid Proposal, including without limitation, the Bid Form and the Bidder Certification Cover Form.

(Table Deleted)

.3 The Purchase Order issued by the Owner.

§ 9.2 This Agreement and the Contract Documents are subject to, and governed by, the laws of the State of Rhode Island, including all procurement statutes and regulations (available at www.purchasing.ri.gov), and applicable federal and local law, all of which are fully incorporated into this Agreement by this reference.

(Table Deleted)

(Paragraph Deleted)

§ 9.3 *In the event of any conflict between or among the Contract Documents, or any Contract Documents and any provision of the State of Rhode Island Procurement Regulations and/or any other provision of the Rhode Island General Laws, the State of Rhode Island Procurement Regulations and the Rhode Island General Laws shall control.*

ARTICLE 10 BENEFITS OF AGREEMENT

§ 10.1 The User Agency is a disclosed third-party beneficiary of this Agreement and shall have all of the rights and benefits hereunder to which such a party is entitled. Nothing contained in this Agreement shall create a contractual relationship with, or a cause of action in favor of, any other third party against the Owner or the User Agency.

§ 10.2 This Agreement shall be binding on the Contractor and its successors and assigns; provided, however, that the Contractor may not assign its rights nor delegate its responsibilities under this Agreement without the Owner's prior written consent.

This Agreement is entered into as of the day and year first written above; provided, however, that this Agreement shall not become a valid, binding, and enforceable contract unless and until the Owner shall have issued a Purchase Order.

THE STATE OF RHODE ISLAND, acting by and through THE UNIVERSITY OF RHODE ISLAND PURCHASING DEPARMENT and THE UNIVERSITY OF RHODE ISLAND BOARD OF TRUSTEES

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
Abigail RiderVice President, Division of Administration and Finance, University of Rhode Island	
(Printed name and title)	*(Printed name and title)*

Additions and Deletions Report for

AIA® Document A101™ – 2017

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 14:34:44 ET on 03/16/2020.

PAGE 1

(Name, legal status, ~~address and other information)~~address, telephone and facsimile numbers, and website)

...

State of Rhode IslandOne Capitol Hill, Second Floor
Providence, Rhode Island 02908-5855
401.578.8100 (telephone); 401.574.8387 (facsimile)
www.puchasing.ri.gov

...

acting by and through,

The University of Rhode Island Purchasing Department
10 Tootell Road
Kingston, Rhode Island 02881
401.874.2171 (telephone); 401.874.2306 (facsmilie)
http://web.uri.edu/purchasing/
and
The University of Rhode Island Board of Trustees
35 Campus Ave, Green Hall
Kingston, Rhode Island 02881

...

on behalf of the User Agency:

...

(Name, legal status, address, telephone and facsimile numbers, and website)

...

The University of Rhode Island
Office of Capital Projects
60 Tootell Road – Sherman Building
Kingston, Rhode Island 02881
401.874.2725 (telephone)

...

and the Contractor:

...

(Name, legal status, ~~address and other information)~~address, telephone and facsimile numbers, and website)

...

The ~~Architect:~~Design Agent:

...

(Name, legal status, ~~address and other information)~~address, telephone and facsimile numbers, and website)

PAGE 3

The Owner and Contractor agree as follows.

...

The Contract Documents consist of this Agreement, Conditions of the Contract ~~(General, Supplementary,~~ (General Conditions, Supplementary Conditions (if any), 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.

...

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. No part of the Work shall be performed by Subcontractors without the Owner's prior written consent.

...

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

...

~~(Check one of the following boxes.)~~be the later of: (i) the issuance of the Purchase Order by the Owner; and (ii) the

...

~~[ ] The date of this Agreement.~~

...

~~[ ] A~~ date set forth in a notice to proceed issued by the ~~Owner.~~User Agency.

...

~~[ ] 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.~~

PAGE 4

§ 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~~ Subject to additions and deductions as provided in the Contract ~~Documents.~~Documents, the Contract Sum shall be: $_____.

...

§ 4.3 Allowances, if any, ~~included in the Contract Sum:~~are specified in the Bid Proposal Form and are 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.)*~~*any, are specified in the Bid Proposal Form and include all costs, including without limitation, labor, materials, services, regulatory compliance, overhead, and profit necessary for the completion of the Work. Unit prices shall be used for both additions to, and deletions from the Work.*

...

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

...

.1 In the event that there is one date for Substantial Completion of the Work, the Contractor shall pay the Owner the sum stipulated in this Section 4.5.1 as liquidated damages, and not as a penalty, for each calendar day of delay until the Work is substantially complete: $_____.

.2 In the event that the Project is scheduled to be completed in phases, and there is more than one date for Substantial Completion of the Work, the Contractor shall pay the Owner an aggregate amount equal to the sums stipulated in this Section 4.5.2 as liquidated damages, and not as a penalty, for each calendar day of delay until the Work for each phase is substantially complete:

Phase Liquidated Damages Sum

.3 The Owner and the Contractor have reasonably determined the sums set forth in this Section 4.5 to be a fair estimate of the Owner' actual damages which are difficult to ascertain in the event of delay.

PAGE 5

~~*(Insert provisions*~~

...

~~for bonus or other incentives, if any, that might result in a change to the Contract Sum.)~~The Owner shall not be liable to the Contractor or any Subcontractor for claims or damages of any nature caused by or arising out of any delays. The sole remedy against the Owner for delays shall be the allowance of additional time for completion of the Work.

...

§ 5.1.1 Based upon Applications for Payment submitted to the ~~Architect~~ Design Agent by the Contractor and Certificates for Payment issued by the ~~Architect,~~ Design Agent and approved by the Owner in writing, 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:~~month.

...

§ 5.1.3 ~~Provided that an Application for Payment is received by the Architect not later than the day of a month, the~~ The Owner shall make payment of the ~~amount~~ certified amount, less retainage, 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.~~30th working day following written approval by the Owner.

...

~~*(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 and approved by the Design Agent and the Owner 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~~ Design Agent and the Owner may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

...

§ 5.1.6 In accordance with AIA Document ~~A201™–2017,~~ A201™–2007, General Conditions of the Contract for ~~Construction,~~ Construction as modified by the Owner, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

...

.3 That portion of Construction Change Directives that the ~~Architect determines, in the Architect's~~ Design Agent determines, in the Design Agent's professional judgment, to be reasonably justified.

...

.2 The amount, if any, for Work that remains uncorrected and for which the ~~Architect~~ Design Agent 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;~~A201–2007 as modified by the Owner;

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~~**.4**~~ **.3** For Work performed or defects discovered since the last payment application, any amount for which the ~~Architect~~ Design Agent may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document ~~A201–2017;~~ A201–2007 as modified by the Owner; and

...

~~**.5**~~ **.4** Retainage withheld pursuant to Section 5.1.7.

...

§ 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: five (5%) percent.

...

~~*(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.)*~~

...

§ 5.1.7.1.1 ~~The following items are not subject to retainage:~~**Deleted.**

...

~~*(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:~~**Deleted.**

...

~~*(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.)*~~

...

~~*(Insert any other conditions for release*~~

...

~~of retainage upon Substantial Completion.)~~The amount of five (5%) percent shall be retained by the Owner through the date of Substantial Completion of the Work and then after the date of Substantial Completion of the Work in accordance with R.I. Gen. Laws § 37-12-10.1.

...

§ 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.~~A201–2007 as modified by the Owner.

...

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

...

§ 5.1.10 Within 10 working days of receipt of any progress payment from the Owner, the Contractor must pay its Subcontractors the full amount included for each such Subcontractor within the Contractor's Application for Payment in accordance with the provisions of AIA A201 – 2007, General Conditions of the Contract for Construction as modified by the

...

§ Owner.

...

§ 5.2 Final Payment

...

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, less the amount withheld pursuant to § 5.1.7.3, shall be made by the Owner to the Contractor ~~when~~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,~~ A201–2007 as modified by the Owner, 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.~~Design Agent and approved in writing by the Owner;

...

.3 the Contractor has submitted its final release and final releases from all of its Subcontractors and suppliers in a form acceptable to the Owner; and

...

4 the Contractor has submitted to the Owner all close-out documents, including without limitation, all as-built plans, warranties, manuals, and other materials set forth in the Contract Documents.

...

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 working days after the issuance of the ~~Architect's final Certificate for Payment, or as follows:~~Design Agent's final Certificate for Payment and written approval by the Owner.

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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~~ in accordance with the provisions of "Prompt Payment by Department of Administration," R.I. Gen. Laws §§ 42-11.1-1 et seq.

...

§ 5.4 Owner's Rights

...

~~the legal rate prevailing from time~~ **§ 5.4.1** The Owner shall have the right to deduct from any payments due to the Contractor the amount of any unpaid obligations owed to the State of Rhode Island by the Contractor, including without limitation, any and all unpaid taxes, the amount of any claim against the Contractor arising out of this Agreement, or any amount on account of any other reason permitted by applicable law.

...

~~to time at the place where the Project is located.~~**§ 5.5** Pursuant to R.I. Gen. Laws § 44-1-6, the Owner shall withhold

payment from the Contractor if the Contractor does not maintain a regular place of business in Rhode Island in the amount of three (3%) percent of the Contract Sum until 30 calendar days after Final Completion and compliance by the Contractor with the requirements of such section. The three (3%) percent withheld pursuant to R.I. Gen. Laws § 44-1-6 is not considered retainage which is held pursuant to § 5.1.7.

...

~~*(Insert rate of interest agreed upon, if any.)*~~

...

§ 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.~~Claims shall be referred to the Initial Decision Maker for initial decision. The University of Rhode Island Vice President for Administration and Finance pursuant to the provisions of the "Delegation of Limited Procurement Authority," dated January 19, 2018 and the provisions of the "State Purchases Act," R.I. Gen. Laws § 37-2-1 et seq., will serve as the Initial Decision

...

~~*(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)*~~*Maker in accordance with the provisions of the State Purchases Act, State of Rhode Island Procurement Regulations, and this Section 6.1. An initial decision shall be required as a condition precedent to binding dispute resolution pursuant to Section 6.3 of any Claim arising prior to the date final payment is due.*

...

§ 6.2 ~~Binding Dispute Resolution~~Mediation

...

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:~~not resolved by the Initial Decision Maker procedures set forth in Section 6.1, and prior to the implementation of the binding dispute resolution procedures set forth in Section 6.3, the Contractor shall

...

~~*(Check the appropriate box.)*~~*have the*

...

~~[ ] Arbitration pursuant to Section 15.4 of AIA Document A201–2017~~option to pursue mediation, exercisable by written notice to the Owner within 30 calendar days of an Initial Decision. In the event of the exercise of

...

~~[ ] Litigation in a court of competent jurisdiction~~such option by the Contractor, the Owner and the Contractor shall attempt to select a mediator, and in the event that the Owner and the Contractor cannot agree on a mediator, either party may apply in writing to the Presiding Justice of the Providence County Superior Court, with a copy to

the other, with a request for the court to appoint a mediator, and the costs of the mediator shall be borne equally by both parties.

...

~~[ ] Other *(Specify)*~~

...

§ 6.3 Binding Dispute Resolution

...

~~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.~~For any Claim not resolved by the Initial Decision Maker procedures set forth in Section 6.1, or mediation at the option of the Contractor pursuant to Section 6.2, the method of binding dispute resolution shall be determined in accordance with the provisions of the "Public Works Arbitration Act," R.I. Gen. Laws §§ 37-16-1 et seq.

...

§ 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:~~A201–2007, as modified by the Owner. The Contract may also be terminated by the Owner: (i) in the event of the unavailability of appropriated funds; (ii) in the absence of a determination of continued need; or (iii) as

...

~~*(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)*~~*otherwise provided in the State of Rhode Island Procurement Regulations General Conditions of Purchase or other applicable law.*

...

§ 7.1.1 Deleted.

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§ 7.2 The Work may be suspended by the Owner as provided ~~in Article 14 of AIA Document A201–2017.~~in: (i) the State of Rhode Island General Conditions of Purchase Regulation or other applicable law; or (ii) Article 14 of AIA Document A201–2007 as modified by the Owner.

...

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document ~~A201–2017~~ A201–2007 or another Contract Document, the reference refers ~~to that provision~~ to: (i) the AIA Document A201 – 2007 or other Contract Document as modified by the Owner; and (ii) that provision in the AIA Document A201 – 2007 as

modified by the Owner or other Contract Document as amended or supplemented by other provisions of the Contract Documents.

...

§ 8.2 Representatives for the Owner

...

§ 8.2.1 The Owner's representative:

...

(Name, title, address, email address, and other ~~information)~~information for the preferred methods of contact)

...

The University of Rhode Island, Purchasing Department
10 Tootell Road
Kingston, Rhode Island 02881
Paul M. DePace, PE
401.874.2725 (telephone)

...

§ 8.2.2 The User Agency's representative:

...

(Name, title, address, email address, and other information for the preferred methods of contact)

...

The University of Rhode Island
Office of Capital Projects
60 Tootell Road – Sherman Building
Kingston, Rhode Island 02881
Paul M. DePace, PE
401.874.2725 (telephone)

...

§ 8.2.3 The Design Agent's representative:

...

(Name, title, address, email address, and other information for the preferred methods of contact)

...

(Name, title, address, email address, and other ~~information)~~information for the preferred methods of contact)

...

§ 8.4 Neither the Owner's nor the Contractor's representative nor the Design Agent's representative shall be changed without ~~ten~~ 10 working days' prior notice to the other party.

...

§ 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,~~ the Solicitation and elsewhere in the Contract Documents.

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

...

§ 8.6 ~~Notice~~ **Deleted.**

...

§ 8.7 Other provisions:

...

~~**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~~ **§ 8.7.1 The Contractor represents and warrants to the Owner, in addition to any other representations and warranties of the Contractor elsewhere in the Contract Documents:**

...

.1 The Contractor and its Subcontractors are each financially solvent, able to pay their debts as they mature, and possess sufficient working capital to perform their obligations under the Contract Documents.

...

~~and Digital Data Exhibit, if completed, or as otherwise set forth below:~~ **.2** The Contractor and its Subcontractors are each able to furnish the tools, materials, equipment, and labor required to complete the Project as required under the Contract Documents.

...

~~(If other than in accordance~~ ***.3*** *The Contractor and each Subcontractor are authorized to do business in the State of Rhode Island and are properly licensed by all necessary governmental authorities having jurisdiction over them and over the Work and the Project.*

...

.4 The execution of this Agreement and its performance is within its duly authorized powers.

...

~~with AIA Document E203–2013, insert requirements for delivering notice~~ **.5** The Contractor has visited the site of the Project, familiarized itself with the local and special conditions under which the Work is to be performed, and correlated its observations with the requirements of the Contract Documents.

...

~~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.)~~ **.6** The Contractor possesses the requisite level of experience and expertise in the business administration, construction, and superintendence of projects of the size, complexity, and nature of the Project, and it will perform the Work with the care, skill, and diligence of a contractor possessing such experience and expertise.

...

§ 8.7.2 The representations and warranties of the Contractor in this Section 8.7 and elsewhere in the Contract Documents will survive the execution and delivery of this Agreement, any termination of this Agreement, and the final completion of the Work.

...

§ ~~**8.7** Other provisions:~~**8.7.3** Any Change Orders or other Modifications must be approved in writing by the Owner.

...

§ 8.7.4 The Owner is the State of Rhode Island, acting by and through its Department of Administration, Division of Purchases, and therefore, pursuant to the provisions of R.I. Gen. Laws § 34-28-31, mechanics liens may not be placed against the Project.

...

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and ~~Contractor~~Contractor, as modified by the Owner

...

.2 ~~AIA Document A101™–2017, Exhibit A, Insurance and Bonds~~ **Deleted.**

...

.3 AIA Document ~~A201™–2017,~~ A201™–2007, General Conditions of the Contract for ~~Construction~~

...

~~**.4** AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:~~Construction, as

...

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

...

Owner.

...

.4 Deleted.

...

~~Number~~	~~Title~~	~~Date~~

...

The Drawings are included in the Solicitation and are available on the Division of Purchases website at

...

www.purchasing.ri.gov.

...

~~Section~~	~~Title~~	~~Date~~	~~Pages~~

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The Specifications are included in the Solicitation and are available on the Division of Purchases website at www.purchasing.ri.gov.

...

.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.~~any, issued pursuant to the Solicitation form a part of the Solicitation and are available on the Division of Purchases website at www.purchasing.ri.gov.

...

.8 ~~Other Exhibits:~~

...

~~*(Check all boxes that apply and include appropriate information identifying the exhibit where required.)*~~*Supplementary and other Conditions of the Contract, including without limitation, the State of Rhode Island General Conditions of Purchase Regulation.*

...

~~[ ] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated~~ **.9** Other documents listed below:

...

~~(Insert the date of the E204-2017 incorporated into this Agreement.)~~

...

.1 The Solicitation, issued by the Owner, including without limitation, the Invitation to Bid, the Instructions to Bidders, the Specifications and Drawings, any Addenda, and the Bid Checklist.

...

~~[ ] The Sustainability Plan:~~

...

.2 The Bid Proposal, including without limitation, the Bid Form and the Bidder Certification Cover Form.

...

~~Title~~	~~Date~~	~~Pages~~

...

.3 The Purchase Order issued by the Owner.

...

~~[ ] Supplementary and other Conditions of the Contract:~~ **§ 9.2** This Agreement and the Contract Documents are subject to, and governed by, the laws of the State of Rhode Island, including all procurement statutes and regulations (available at www.purchasing.ri.gov), and applicable federal and local law, all of which are fully incorporated into this Agreement by this reference.

...

~~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*~~ ***§ 9.3*** *In the event of any conflict between or among the Contract Documents, or any Contract Documents and any provision of the State of Rhode Island Procurement Regulations and/or any other provision of the Rhode Island*

General Laws, the State of Rhode Island Procurement Regulations and the Rhode Island General Laws shall control.

...

ARTICLE 10 BENEFITS OF AGREEMENT

...

~~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.)~~**§ 10.1** The User Agency is a disclosed third-party beneficiary of this Agreement and shall have all of the rights and benefits hereunder to which such a party is entitled. Nothing contained in this Agreement shall create a contractual relationship with, or a cause of action in favor of, any other third party against the Owner or the User Agency.

...

§ 10.2 This Agreement shall be binding on the Contractor and its successors and assigns; provided, however, that the Contractor may not assign its rights nor delegate its responsibilities under this Agreement without the Owner's prior written consent.

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This Agreement is entered into as of the day and year first written ~~above.~~above; provided, however, that this Agreement shall not become a valid, binding, and enforceable contract unless and until the Owner shall have issued a Purchase Order.

...

THE STATE OF RHODE ISLAND, acting by and through THE UNIVERSITY OF RHODE ISLAND PURCHASING DEPARMENT and THE UNIVERSITY OF RHODE ISLAND BOARD OF TRUSTEES

...

Abigail RiderVice President, Division of Administration and Finance, University of Rhode Island

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 14:34:44 ET on 03/16/2020 under Order No. 7842301080 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A101™ - 2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

_____

(Signed)

_____

(Title)

_____

(Dated)

DOCUMENT 00 6140 - WAIVER OF LIEN FORM

U. R. I. Document Waiver of Lien Form is included, following this page, as an integral part of the Contract documents. A copy with completed information must be submitted with the second and each succeeding Application for Payment.

UNIVERSITY OF RHODE ISLAND

Construction Project Title: _____

General Contractor: _____

Subcontractor/Supplier: _____

DUNS No.: _____

Application and Certificate for Payment No: _____
(prior to Application accompanying this form)

Schedule of Values Line Item No.: _____

DESCRIPTION OF WORK Heading: _____

Total payment Received, Including Current Payment: $ _____

The undersigned Representative of the above Subcontractor/Supplier has been contracted by the above General Contractor to furnish materials, or labor, or both, as included in the approved Schedule of Values under the Line Item No.___, and DESCRIPTION OF WORK heading indicated above, for the Construction Project listed above.

The undersigned acknowledges receipt of payment, under this Line Item No., and DESCRIPTION OF WORK heading, and hereby waives and releases any and all lien, or claim or right to lien, on the Construction Project listed above, and premises, under the statutes of the State of Rhode Island, relating to Mechanics Liens, on account of materials, or labor, or both, furnished, or which may be furnished, by the undersigned to, or on account of, the above numbered Application and Certificate for Payment.

Signed on this _____ day of _____, 20__.

_____ _____
(signature) (firm name)

END OF DOCUMENT

DOCUMENT 00 7000 – GENERAL CONDITIONS

PART 1 – GENERAL

1.1 The General Conditions to be utilized on this project is AIA Document A201-2007 as amended, a copy of which follows this page.

END OF DOCUMENT

AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

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

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

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

THE OWNER:
(Name, legal status and address)
State of Rhode Island
One Capitol Hill, Second Floor
Providence, Rhode Island 02908-5855
(401) 574-8100 (telephone)
(401 574-8387 (facsimile)

(Paragraphs deleted)
acting by and though
(Paragraphs deleted)
The University of Rhode Island Purchasing Department
(Paragraphs deleted)
10 Tootell Road
Kingston, Rhode Island 02881
(401) 874-2171 (telephone)
(401) 874-2306 (facsimile)
http://web.uri.edu/purchasing/
(Paragraph deleted)
and
(Paragraphs deleted)
The University of Rhode Island Board of Trustees
35 Campus Avenue, Green Hall
Kingston, Rhode Island, 02881
(Paragraphs deleted)
On behalf of the User Agency

THE USER AGENCY

(Paragraphs deleted)
(Name, address, telephone and facsimile numbers, and web address)

(Paragraphs deleted)
The University of Rhode Island
(Paragraphs deleted)
Office of Capital Projects
60 Tootell Road – Sherman Building
Kingston, Rhode Island 02881
(401) 874-2725 (telephone)

(Paragraphs deleted)
THE Design Agent:
(Paragraphs deleted)
(Name, legal status, address, telephone and facsimile numbers, and web address)

TABLE OF ARTICLES

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 (the Agreement) and consist of the Agreement (and the documents enumerated therein), Conditions of the Contract (General Conditions, Supplementary Conditions, if any, 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 Design Agent.

§ 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 Design Agent or the Design Agent's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Design Agent or the Design Agent's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Design Agent shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Design Agent'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 Design Agent and the Design Agent'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 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items and services 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; the Contractor shall perform all work reasonably inferable from the Contract Documents as being necessary to produce the indicated results.

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

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

§ 1.2.4 In the event of any conflicts or discrepancies among the Contract Documents, the provisions of the Contract Documents will be interpreted in in the order of priority set forth in Rhode Island Procurement Regulation 220-RICR-30-00-13.4(B).

§ 1.2.5 In the event of any conflicts or discrepancies between the Contract Documents and the State of Rhode Island Procurement Regulations or any provision of the Rhode Island General Laws, the State of Rhode Island Procurement Regulations and the Rhode Island General Laws will control.

§ 1.2.6 In the event of any inconsistency between the Drawings and Specifications, the better quality or greater quantity of Work shall be provided.

§ 1.2.7 The Owner will be the final decision maker for any and all interpretations.

§ 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 Owner and the User Agency shall have a perpetual license to utilize the Drawings, Specifications, and other documents, including electronic or digital documents, prepared by the Design Agent and the Design Agent's consultants, for the execution of the Project and shall have and retain all rights to use them and reproduce them for the production and maintenance of the Work described therein. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Design Agent's or Design Agent's consultants' reserved rights.

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

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

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

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner 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 Design Agent does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 Deleted.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Deleted.

§ 2.2.2 The Contractor shall secure and pay for permits and fees, necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 If required for the Work in the discretion of the Owner, 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 any information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 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.

§ 2.2.5 Deleted.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

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

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a 10 working-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Design Agent's additional services made necessary by such default, neglect, or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Design Agent. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

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. 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 obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Design Agent, 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 2.2.3, 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 Owner and the Design Agent any errors, inconsistencies, or omissions discovered by or made known to the Contractor or additional Drawings, Specifications, or instructions required to define the Work in greater detail to permit the proper progress of the Work as a request for information in such form as the Design Agent 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 Design Agent and the Owner any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Design Agent or Owner may require.

§ 3.2.3.1 Omissions from the Drawings and Specifications of items obviously needed to perform the Work properly, such as attachments, bolts, hangers, and other fastening devices, shall not relieve the Contractor from the obligation to furnish and install such items.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Design Agent 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 make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2, 3.2.3, or 3.2.3.1, the Contractor shall pay such costs and damages to the Owner 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 Design Agent 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.

§ 3.2.4.1 The Contractor shall not make any changes without prior written authorization from the Design Agent and the Owner.

§ 3.2.5 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Design Agent for evaluating and responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents or where the requested information is 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.

§ 3.3 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, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Design Agent and shall not proceed with that portion of the Work without further written instructions from the Design Agent. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required 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. Whenever the Contractor has an obligation to provide labor and materials under the Agreement, the Contractor, at a minimum, shall provide the labor for, and furnish and install and place in operation all items, including without limitation, all proper connections.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Design Agent in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Design Agent 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

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

§ 3.6 TAXES

§ 3.6.1 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.

§ 3.6.2 The State of Rhode Island is exempt from payment of any federal or state excise, transportation, or sales tax. The Rhode Island Department of Administration Division of Purchases will furnish Exemption Certificates upon request.

§ 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 required by the Rhode Island State Building Code 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. The Contractor shall be responsible for obtaining the Certificate of Occupancy from the appropriate governmental authorities.

§ 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 The Contractor shall promptly notify the Design Agent and the Owner if the Contractor becomes aware that the Contract Documents are not in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities. 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 Design Agent before conditions are disturbed and in no event later than 21 working days after first observance of the conditions. The Design Agent will promptly investigate such conditions and, if the Design Agent determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Design Agent 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 Design Agent shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Design Agent's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Design Agent. 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 furnish in writing to the Owner through the Design Agent the name and qualifications of a proposed superintendent. The Design Agent may reply within 14 working days to the Contractor in writing stating (1) whether the Owner or the Design Agent has reasonable objection to the proposed superintendent or (2) that the Design Agent requires additional time to review. Failure of the Design Agent to reply within the 14 working-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 Design Agent 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 SCHEDULES

§ 3.10.1 The Contractor, within 20 working days after the issuance of the Purchase Order, shall prepare and submit for the Owner's and Design Agent's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals, not less frequently than monthly, as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work. The Contractor shall certify on the initial schedule and all revised schedules that they comply with the Contract Documents.

§ 3.10.2 The Contractor shall prepare a submittal schedule, within 20 working days after the issuance of the Purchase Order, and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Owner's and the Design Agent's approval. The Owner's and the Design Agent's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Owner and the Design Agent reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

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

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

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

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

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

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

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

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Design Agent is subject to the limitations of Section 4.2.7. Informational submittals upon which the Design Agent 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 Design Agent without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Design Agent Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Owner and the Design Agent 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 Design Agent 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 Design Agent.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Design Agent's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Design Agent in writing of such deviation at the time of submittal and (1) the Design Agent 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 Design Agent'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 Design Agent on previous submittals. In the absence of such written notice, the Design Agent's approval of a resubmission shall not apply to such revisions.

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

§ 3.12.11 The Owner shall be entitled to reimbursement from the Contractor for amounts paid to the Design Agent for evaluation of resubmittals.

§ 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, and any restrictions imposed by the User Agency or the Owner, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 CUTTING AND PATCHING

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

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

§ 3.15 CLEANING UP

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

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

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Design Agent 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 Design Agent harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Design Agent. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Design Agent and the Owner.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, the User Agency and the State of Rhode Island in accordance with Rhode Island Procurement Regulation 220-RICR-30-00-13.21.

§ 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.

§ 3.18.3 Without limiting the generality of the foregoing, the defense and indemnity set forth in this Section 3.18 includes, without limitation, all liabilities, damages, losses, claims, demands, and actions on account of bodily injury, death, or property loss to a person or entity indemnified hereunder or any other persons or entities, whether based upon statutory (including, without limitation, workers compensation), contractual, tort, or other liability of any person or entity so indemnified.

§ 3.18.4 The remedies set forth herein shall not deprive any person indemnified hereunder of any other indemnity action, right, or remedy otherwise available to any such person or entity at common law or otherwise.

§ 3.18.5 The Contractor will include the indemnity set forth in this Section 3.18, without modification, in each Subcontract with any Subcontractor.

§ 3.18.6 Notwithstanding any other language in the Contract Documents to the contrary, the indemnity hereunder shall survive Final Completion of the Work and final payment under the Agreement and shall survive any termination of the Agreement.

ARTICLE 4 DESIGN AGENT

§ 4.1 GENERAL

§ 4.1.1 The Design Agent is the person lawfully licensed to practice his or her profession in the State of Rhode Island or an entity lawfully practicing its profession in the State of Rhode Island and identified in the Contract Documents as the Design Agent. The term "Design Agent" means the Design Agent or the Design Agent's authorized representative.

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

§ 4.1.3 If the employment of the Design Agent is terminated, the Owner shall employ a successor Design Agent as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Design Agent.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Owner with assistance from the Design Agent will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction through the date the Design Agent issues the final Certificate for Payment and continuing until the expiration of the one-year period following Final Completion. The Design Agent will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Design Agent 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 Design Agent will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Design Agent 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, except as provided in Section 3.3.1.

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

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

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Design Agent about matters arising out of or relating to the Contract. Communications by and with the Design Agent's consultants shall be through the Design Agent. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

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

§ 4.2.6 The Design Agent has authority to reject Work that does not conform to the Contract Documents. Whenever the Design Agent considers it necessary or advisable, the Design Agent will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Design Agent 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 Design Agent to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Design Agent 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 Design Agent's action will be taken in accordance with the submittal schedule approved by the Design Agent or, in the absence of an approved

submittal schedule, with reasonable promptness while allowing sufficient time in the Design Agent'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 Design Agent'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 Design Agent's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Design Agent, of any construction means, methods, techniques, sequences or procedures. The Design Agent's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

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

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

§ 4.2.11 The Design Agent will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Design Agent'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 Design Agent 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 Design Agent 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 Design Agent's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents and approved by the Owner.

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

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

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

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

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

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner and the Design Agent the names of

persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each portion of the Work. The Owner may reply within 14 working days to the Contractor in writing stating (1) whether the Owner or the Design Agent has reasonable objection to any such proposed person or entity or (2) that the Owner or Design Agent requires additional time for review.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Design Agent 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 Design Agent has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Design Agent 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 previously selected if the Owner or Design Agent makes reasonable objection to such substitution.

§ 5.2.5 MANUFACTURERS AND FABRICATORS

§ 5.2.5.1 Not later than 10 working days after the date of commencement of the Work, the Contractor shall furnish in writing to the Owner and the Design Agent the names of the manufacturers or fabricators for certain products, equipment, and systems identified in the Specifications and, where applicable, the name of the installing Subcontractor. The Owner may reply within 14 working days to the Contractor in writing, stating: (i) whether the Owner or the Design Agent has reasonable objection to any such proposed person manufacturer or fabricator; or (ii) whether the Owner or Design Agent requires additional time to review.

§ 5.2.5.2 The Contractor shall not contract with a proposed manufacturer, fabricator, or Subcontractor to whom the Owner or Design Agent 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 Design Agent has an objection to a manufacturer, fabricator, or Subcontractor proposed by the Contractor, the Contractor shall propose another to whom the Owner or Design Agent has no objection.

§ 5.2.5.4 The Contractor shall not substitute a manufacturer, fabricator, or Subcontractor previously selected if the Owner or Design Agent 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, which the Contractor, by these Documents, assumes toward the Owner and Design Agent. Upon the request of the User Agency and/or the Owner, the Contractor shall provide the User Agency and/or the Owner with copies of each subcontract agreement. Each subcontract agreement shall preserve and protect the rights of the Owner and Design Agent 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 in writing; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

(Paragraph deleted)

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

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

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions 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 other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

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

§ 6.2 MUTUAL RESPONSIBILITY

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

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

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

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

§ 6.3 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 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 between the Owner and the Contractor; a Construction Change Directive requires agreement by the Owner 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 Design Agent alone.

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

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Contractor and signed by the Owner, Contractor and Design Agent stating their agreement upon all of the following:

- **.1** The change in the Work;
- **.2** The amount of the adjustment, if any, in the Contract Sum; and
- **.3** The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Subsequent to the approval of a Change Order as provided in § 7.1.2, whether such Change Order changes the Contract Sum or Contract Time or both, no additional claim related to such Change Order will be considered by the Owner. Any change, once incorporated into a Change Order, is all inclusive, and includes all factors that could have been considered at the time of the Change Order such as Project impact or schedule "ripple" effect.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Design Agent and signed by the Owner, 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 7.3.7.

§ 7.3.4 Deleted.

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

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

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Design Agent shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in Section 7.3.1. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Design Agent may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

.1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
.2 Costs of materials, supplies and equipment, including cost of delivery;
.3 Rental costs of machinery and equipment, exclusive of hand tools; or
.4 Costs of premiums for all bonds and insurance and permit fees related to the Work..

§ 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 Design Agent. 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 Design Agent will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Design Agent determines, in the Design Agent's professional judgment, to be reasonably justified. The Design Agent'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 Design Agent 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 Contractor will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

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

.1 For the Contractor, for work performed by the Contractor's own forces, an amount not to exceed ten (10%) percent of the cost.
.2 For the Contractor, for work performed by the Contractor's Subcontractors, an amount not to exceed five (5%) of the amount due to the Subcontractors.
.3 For each Subcontractor, for work performed by the Subcontractor's own forces, an amount not to exceed ten (10%) percent of the cost.
.4 Where the Work represents both additions and deletions and results in a net increase, the allowable overhead and profit shall be in accordance with this Section 7.3.11, but in no event shall the amount exceed fifteen (15%) percent of the net increase in the cost of the Work.

§ 7.3.12 All proposals with an aggregate cost equal to or in excess of $500.00 shall be accompanied by a detailed itemization of costs, including labor, materials (quantities and prices), and Subcontracts, in a form acceptable to the Owner. In no event will a change order request reflecting an aggregate cost equal to or in excess of $500.00 be approved without such itemization.

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

ARTICLE 8 TIME

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

The date of commencement of the Work is the date established in Section 3.1 of the Agreement..

(Paragraph deleted)
§ 8.1.3 The date of Substantial Completion is the date certified by the Design Agent in accordance with Section 9.8.

§ 8.1.4 Deleted.

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

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

§ 8.3 DELAYS AND EXTENSIONS OF TIME
§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Design Agent, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control, then the Contract Time shall be extended by Change Order for such reasonable time as the Owner may determine.

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

(Paragraph deleted)

ARTICLE 9 PAYMENTS AND COMPLETION

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

§ 9.2 SCHEDULE OF VALUES
Within 20 working days of the issuance of the Purchase Order, and promptly if revision is necessary from time to time as a result of a Change Order, the Contractor shall submit to the Owner, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Design Agent and the Owner may require. This schedule, if and when approved by the Design Agent and the Owner in writing, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT
§ 9.3.1 At least 10 working days before the date established for each progress payment, the Contractor shall submit to the Design Agent and the Owner for approval an itemized Application for Payment prepared in accordance with the schedule of values for completed portions of the Work. Such application shall be notarized, if required, and supported

by such data substantiating the Contractor's right to payment as the Owner or the Design Agent may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 All Applications for Payment for Change Orders must be accompanied by a Notice of Change in Purchase Order issued by the Owner, and if directed by the Owner, by the User Agency.

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

§ 9.3.1.3 The form of Application for Payment shall be AIA Document G702, Application and Certification for Payment, supported by AIA Document G702A, Continuation Sheet.

§ 9.3.1.4 Until Substantial Completion, the Owner shall pay ninety-five (95%) percent of the amount due the Contract on account of progress payments.

§ 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 be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work. The Contractor shall immediately satisfy any lien, claim, or encumbrance against the site where the Project is located and indemnify the Owner from and against all resulting costs and expenses, including without limitation, attorneys' fees.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Design Agent will, within 7 working days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Design Agent determines is properly due, or notify the Contractor and Owner in writing of the Design Agent's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Design Agent to the Owner, based on the Design Agent's evaluation of the Work and the data comprising the Application for Payment, that, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Design Agent. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Design Agent has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.4.3 The Contractor must submit all product literature, material and color samples with each Application for Payment, or as otherwise required by the Owner.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Design Agent will withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Design Agent's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Design Agent is unable to certify payment in the amount of the Application, the Design Agent will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Design Agent cannot agree on a revised amount, the Design Agent will promptly issue a Certificate for Payment for the amount for which the Design Agent is able to make such representations to the Owner. The Design Agent 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 Design Agent's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of:

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

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

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

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Design Agent has issued a Certificate for Payment and the Owner has approved the Certificate for Payment in writing, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Design Agent.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than 10 working 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 Design Agent 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 Design Agent and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within 7 working days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. The Owner shall have the right to withhold payment(s) to the Contractor in the event that any Subcontractors or material and equipment suppliers have not been properly paid. Neither the Owner nor Design Agent shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

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

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

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

§ 9.7 FAILURE OF PAYMENT

If the Design Agent does not issue a Certificate for Payment, through no fault of the Contractor, within 7 working days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within 7 working days after the date established in the Contract Documents the amount certified by the Design Agent or awarded by binding dispute resolution, then the Contractor may, upon 7 additional working days' written notice to the Owner and Design Agent, make a claim for payment as provided under the provisions of applicable law.

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§ 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 Design Agent 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 Design Agent will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Design Agent'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 Design Agent. In such case, the Contractor shall then submit a request for another inspection by the Design Agent to determine Substantial Completion. The Design Agent will perform no more than 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 Design Agent for any additional inspections.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Design Agent will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment less the amount of five (5%) percent to be retained by the Owner in accordance with R.I. Gen. Laws § 37-12-10.1. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments,

retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Design Agent 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 Design Agent.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Design Agent 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 written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Design Agent will promptly make such inspection and, when the Design Agent finds the Work acceptable under the Contract Documents and the Contract fully performed, the Design Agent will promptly issue a final Certificate for Payment stating that to the best of the Design Agent's knowledge, information and belief, and on the basis of the Design Agent's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Design Agent'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. The Design Agent will perform no more than 2 inspections 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 Design Agent for any additional inspections.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Design Agent (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 working days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner, and (6) all other close-out documents required by the Owner, including without limitation, all as-built plans, warranties, manuals, and other materials set forth in the Contract Documents. 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. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, Final Completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting Final Completion, and the Design Agent so confirms, the Owner shall, upon application by the Contractor and certification by the Design Agent, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Design Agent 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 claims permitted under the State of Rhode Island General Conditions of Purchase Regulation.

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

§ 9.11 The Contractor and the Contractor's surety shall be liable for and shall pay the Owner as liquidated damages the sums specified in the Solicitation and Bid Form, or if completed, the amount set forth in Section 3.4 of the Agreement.

§ 9.12 Warranties required by the Contract Documents shall commence on the date of Final Completion of the Work.

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 or the Contractor's Subcontractors or Sub-subcontractors; and
.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

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

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel and in consultation with the appropriate governmental authorities.

§ 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 User Agency and 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.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Design Agent 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 Design Agent.

§ 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, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time. The notice shall provide sufficient detail to enable the other party to investigate the matter.

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

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Design Agent the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Design Agent 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 Design Agent has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Design Agent have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the extent permitted by the provisions of R.I. Gen. Laws §§ 9-31-1 et seq., the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Design Agent, Design Agent'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 materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

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

§ 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 indemnify 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 LIABILITY INSURANCE

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

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

§ 11.1.1.2 The Contractor's liability insurance shall include all major coverages and be on a comprehensive general liability basis.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance as specified in the Solicitation and as otherwise acceptable to the Owner shall be filed with the Owner and the User Agency prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 working days' prior written notice has been given to the Owner and the User Agency. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the User Agency, and their elected and appointed officials, members, employees, and agents, the Design Agent and the Design Agent's consultants as additional insureds for claims caused in whole or in part by the Contractor's acts or omissions during the Contractor's operations; and (2) the Owner, the User Agency, and their

elected and appointed officials, members, employees, and agents, as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.1.5 The Contractor shall be responsible for the prompt payment to the Owner of any deductible amounts under any insurance policies required under the Contract Documents for claims made pursuant to such policies.

§ 11.2 OWNER'S LIABILITY INSURANCE.

§ 11.2.1 The Contractor shall furnish the Owner and the User Agency, through the Design Agent, an insurance certificate providing Owner's Protective Liability extended to include the interests of the Design Agent, and to protect the Owner, User Agency, and Design Agent from any liability which might be incurred against any of them as a result of any operation of the Contractor or Subcontractors or their employees or anyone for whom either the Contractor or Subcontractors are responsible. Such insurance shall be written for the same limits as the Contractor's commercial general liability insurance and shall include the same coverage.

§ 11.2.2 If the Owner engages separate contractors to perform work for, or in or around, the Project, it shall require in its contracts with each separate contractor that Contractor and its officers, directors, partners, members, employees, and agents shall be: (i) named as additional insureds on a primary, noncontributory basis to any commercial general liability, pollution liability, and excess liability insurance policies; and (ii) provided a waiver of subrogation on all workers compensation and professional liability insurance policies.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 The Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the state of Rhode Island, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the User Agency, the Contractor, Subcontractors and Sub-subcontractors in the Project. If the Owner and/or the User Agency incur any damages by failure of the Contractor to maintain such insurance, then the Contractor shall bear all reasonable cost resulting from such failure.

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

§ 11.3.1.2 Deleted.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

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

§ 11.3.2 Deleted.

§ 11.3.3 Deleted.

§ 11.3.4 Deleted.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Contractor shall file with the Owner a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 working days' prior written notice has been given to the Owner and the User Agency.

§ 11.3.7 WAIVERS OF SUBROGATION

The Contractor waives all rights against the Owner and the User Agency and any of their subcontractors, sub-subcontractors, agents and employees, and (2) the Design Agent, Design Agent's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Design Agent, Design Agent's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under this property insurance shall be adjusted by the Contractor 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 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Contractor's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Contractor shall deposit in a separate account proceeds so received, which the Contractor shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Contractor as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within 5 working days after occurrence of loss to the Contractor's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in the Solicitation.

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

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 Design Agent's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Design Agent, be uncovered for the Design Agent'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 Design Agent has not specifically requested to examine prior to its being covered, the Design Agent may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Design Agent or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Design Agent'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 Final Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. If the Contractor fails to correct nonconforming Work within a reasonable time after receipt of notice from the Owner or Design Agent, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 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.

§ 12.2.2.4 Upon request by the Owner and prior to the expiration of one year from the date of Final Completion, the Design Agent will conduct and the Contractor shall attend 2 meetings with the Owner to review the facility operations and performance.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

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

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be

sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

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

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the State of Rhode Island.

§ 13.2 SUCCESSORS AND ASSIGNS

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

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to any executive, legislative, judicial, regulatory, or administrative body of the state, or any political subdivision thereof, including without limitation, any department, division, agency, commission, board, office, bureau, authority, school, water, or fire district, or other agency of Rhode Island state or local government that exercises governmental functions, any other governmental authority, and any quasi-public corporation and/or body corporate and politic. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 WRITTEN NOTICE

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

§ 13.4 RIGHTS AND REMEDIES

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

§ 13.4.2 No action or failure to act by the Owner, Design Agent 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 there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

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

§ 13.5.2 If the Design Agent, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Design Agent 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 Design

Agent of when and where tests and inspections are to be made so that the Design Agent may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

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

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

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

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

§ 13.6 INTEREST

No interest shall be due or payable on account of any payment due or unpaid under the Contract Documents except in accordance with the provisions of "Prompt Payment by Department of Administration," R.I. Gen. Laws §§ 42-11.1-1 et seq.

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

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 calendar days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;

.2 An act of government, such as a declaration of national emergency that requires all Work to be stopped; or

.3 Because the Design Agent 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

§ 14.1.2 Deleted.

§ 14.1.3 If one of the reasons described in Section 14.1.1 exists, the Contractor may, upon 7 working days' written notice to the Owner and Design Agent, terminate the Contract and recover from the Owner payment for Work executed.

§ 14.1.4 If the Work is stopped for a period of 60 calendar days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon 7 additional days' written notice to the Owner and the Design Agent, 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 refuses or fails to supply enough properly skilled workers or proper materials;

.2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
.3 disregards or fails to comply with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority;
.4 otherwise is guilty of breach of a provision of the Contract Documents; or
.5 cancels or the Contractor or the Owner receives notice of cancellation or nonrenewal of any insurance required under the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, 7 working days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

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

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

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Design Agent'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

(Paragraphs deleted)

Owner shall not be liable to the Contractor or any Subcontractor for claims or damages of any nature caused by or arising out of any delays. The sole remedy against the Owner for delays shall be the allowance of additional time for completion of the Work in accordance with the provisions of Section 8.3.1.

§ 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 written 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 Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

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

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party. 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 serviced if delivered in person, by mail, by courier, or by electronic transmission. Claims by either party must be initiated within 21 working days after occurrence of the event giving rise to such Claim or within 21 working days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Design Agent will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

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

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

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

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

§ 15.1.5.3 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.

§ 15.1.5.4 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.

§ 15.1.6 The Contractor waives Claims against the Owner for consequential damages arising out of or relating to this

(Paragraphs deleted)

Contract. This waiver includes 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. This waiver is applicable, without limitation, to all consequential damages due to the Contractor's termination in accordance with Article 14. Nothing in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims shall be referred to the Initial Decision Maker for initial decision. The University of Rhode Island Vice President for Administration and Finance appointed pursuant to the provisions of the "Delegation of Limited Procurement Authority," dated January 19, 2018, will serve as the Initial Decision Maker in accordance with the provisions of the "Delegations of Limited Procurement Authority," State Purchases Act, State of Rhode Island Procurement Regulations, and this Section 15.2.1. An initial decision shall be required as a condition precedent to binding dispute resolution pursuant to Section 15.3.1 of any Claim arising prior to the date final payment is due.

§ 15.2.2 Deleted.

§ 15.2.3 Deleted.

§ 15.2.4 Deleted.

§ 15.2.5 Deleted.

§ 15.2.6 Deleted.

§ 15.2.6.1 Deleted.

§ 15.2.7 Deleted.

§ 15.2.8 Deleted.

§ 15.3 MEDIATION

§ 15.3.1 For any Claim not resolved by the Initial Decision Maker procedures set forth in Section 15.2.1, and prior to the implementation of the binding dispute resolution procedures set forth in Section 15.4.1, the Contractor or the Design Agent shall have the option to pursue mediation, exercisable by written notice to the Owner within 30 calendar days of an Initial Decision. In the event of the exercise of such option by the Contractor or the Design Agent, the Owner and the Contractor or the Design Agent shall attempt to select a mediator, and in the event that the Owner and the Contractor or the Design Agent cannot agree on a mediator, either party may apply in writing to the Presiding Justice of the Providence County Superior Court, with a copy to the other, with a request for the court to appoint a mediator, and the costs of the mediator shall be borne equally by both parties.

§ 15.3.2 Deleted.

§ 15.3.3 Deleted.

§ 15.4 BINDING DISPUTE RESOLUTION

§ 15.4.1 For any Claim not resolved by the Initial Decision Maker procedures set forth in Section 15.2.1, or mediation at the option of the Contractor pursuant to Section 15.3.1, the method of binding dispute resolution shall be determined in accordance with the provisions of the "Public Works Arbitration Act," R.I. Gen. Laws §§ 37-16-1 et seq.

(Paragraphs deleted)

§ 15.4.4 Deleted.

§ 15.4.4.1 Deleted.

§ 15.4.4.2 Deleted.

§ 15.4.4.3 Deleted.

§ 16 COMPLIANCE WITH APPLICABLE LAW

The Contractor and its Subcontractors shall comply with all applicable federal, state, and local laws.

Additions and Deletions Report for

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State of Rhode Island
One Capitol Hill, Second Floor
Providence, Rhode Island 02908-5855
~~THE ARCHITECT:~~(401) 574-8100 (telephone)
~~(Name, legal status and address)~~(401 574-8387 (facsimile)

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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~~ (the Agreement) and consist of the Agreement (and the documents enumerated therein), Conditions of the Contract (General Conditions, Supplementary Conditions, if any, 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 requirements.~~Design Agent.

...

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~~ Design Agent or the ~~Architect's~~ Design Agent's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the ~~Architect~~ Design Agent or the ~~Architect's~~ Design Agent's consultants or (4) between any persons or entities other than the Owner and the Contractor. The ~~Architect~~ Design Agent shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the ~~Architect's~~ Design Agent's duties.

...

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

...

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~~ Design Agent and the ~~Architect's~~ Design Agent'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.

...

§ 1.2.1 The intent of the Contract Documents is to include all items and services 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~~ the Contractor shall perform all work reasonably inferable from the Contract Documents as being necessary to produce the indicated results.

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§ 1.2.4 In the event of any conflicts or discrepancies among the Contract Documents, the provisions of the Contract Documents will be interpreted in in the order of priority set forth in Rhode Island Procurement Regulation 220-RICR-30-00-13.4(B).

§ 1.2.5 In the event of any conflicts or discrepancies between the Contract Documents and the State of Rhode Island Procurement Regulations or any provision of the Rhode Island General Laws, the State of Rhode Island Procurement Regulations and the Rhode Island General Laws will control.

§ 1.2.6 In the event of any inconsistency between the Drawings and Specifications, the better quality or greater quantity of Work shall be provided.

§ 1.2.7 The Owner will be the final decision maker for any and all interpretations.

...

§ 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 will retain all common law, statutory and other reserved rights, including copyrights.~~ Owner and the User Agency shall have a perpetual license to utilize the Drawings, Specifications, and other documents, including electronic or digital documents, prepared by the Design Agent and the Design Agent's consultants, for the execution of the Project and shall have and retain all rights to use them and reproduce them for the production and maintenance of the Work described therein. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the ~~Architect's or Architect's~~ Design Agent's or Design Agent's consultants' reserved rights.

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

...

§ 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~~ Design Agent 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.~~ **Deleted.**

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§ 2.2.1 ~~Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.~~ **Deleted.**

§ 2.2.2 ~~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~~ The Contractor shall secure and pay for permits and fees, necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 ~~The~~ If required for the Work in the discretion of the Owner, 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 any information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

...

§ 2.2.5 ~~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.~~**Deleted.**

...

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ~~ten-day~~ 10 working-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the ~~Architect's~~ Design Agent's additional services made necessary by such default, ~~neglect~~ neglect, or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the ~~Architect.~~ Design Agent. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

...

§ 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.~~ licensed. 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.

...

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

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§ 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 2.2.3, 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~~ Owner and the Design Agent any errors, inconsistencies, or omissions discovered by or made known to the Contractor or additional Drawings, Specifications, or instructions required to define the Work in greater detail to permit the proper progress of the Work as a request for information in such form as the ~~Architect~~ Design Agent 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~~ Design Agent and the Owner any nonconformity discovered by or made known to the Contractor as a request for information in such form as the ~~Architect may require.~~ Design Agent or Owner may require.

§ 3.2.3.1 Omissions from the Drawings and Specifications of items obviously needed to perform the Work properly, such as attachments, bolts, hangers, and other fastening devices, shall not relieve the Contractor from the obligation to furnish and install such items.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the ~~Architect~~ Design Agent 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 make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections ~~3.2.2 or 3.2.3,~~ 3.2.2, 3.2.3, or 3.2.3.1, the Contractor shall pay such costs and damages to the Owner 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~~ Design Agent for damages resulting from errors, ~~inconsistencies~~ 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.

§ 3.2.4.1 The Contractor shall not make any changes without prior written authorization from the Design Agent and the Owner.

§ 3.2.5 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Design Agent for evaluating and responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents or where the requested information is 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.

...

§ 3.3.1 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, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and ~~Architect~~ Design Agent and shall not proceed with that portion of the Work without further written instructions from the ~~Architect.~~ Design Agent. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.
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§ 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. Whenever the Contractor has an obligation to provide labor and materials under the Agreement, the Contractor, at a minimum, shall provide the labor for, and furnish and install and place in operation all items, including without limitation, all proper connections.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the ~~Architect~~ Design Agent in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the ~~Architect~~ Design Agent and in accordance with a Change Order or Construction Change Directive.

...

The Contractor warrants to the Owner and ~~Architect~~ the Design Agent that materials and equipment furnished under the Contract will be of ~~good quality~~ first quality, prime manufacture, 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~~ requirements, including substitutions not properly authorized, may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient

maintenance, improper operation, or normal wear and tear and normal usage. If required by the ~~Architect,~~ Design Agent, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

...

~~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.~~

§ 3.6.1 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.

§ 3.6.2 The State of Rhode Island is exempt from payment of any federal or state excise, transportation, or sales tax. The Rhode Island Department of Administration Division of Purchases will furnish Exemption Certificates upon request.

...

§ 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~~ required by the Rhode Island State Building Code 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. The Contractor shall be responsible for obtaining the Certificate of Occupancy from the appropriate governmental authorities.

...

§ 3.7.3 The Contractor shall promptly notify the Design Agent and the Owner if the Contractor becomes aware that the Contract Documents are not in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities. 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~~ Design Agent before conditions are disturbed and in no event later than 21 working days after first observance of the conditions. The ~~Architect~~ Design Agent will promptly investigate such conditions and, if the ~~Architect~~ Design Agent determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the ~~Architect~~ Design Agent 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~~ Design Agent shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the ~~Architect's~~ Design Agent's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and ~~Architect.~~ Design Agent. 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.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the ~~Architect~~ Design Agent the name and qualifications of a proposed superintendent. The ~~Architect~~ Design Agent may reply within 14 working days to the Contractor in writing stating (1) whether the Owner or the ~~Architect~~ Design Agent has reasonable objection to the proposed superintendent or (2) that the ~~Architect~~ Design Agent requires additional time to review. Failure of the ~~Architect~~ Design Agent to reply within the 14 ~~day~~ working-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~~ Design Agent 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.

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§ 3.10.1 The Contractor, ~~promptly after being awarded the Contract,~~ within 20 working days after the issuance of the Purchase Order, shall prepare and submit for the Owner's and ~~Architect's~~ Design Agent's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate ~~intervals~~ intervals, not less frequently than monthly, as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work. The Contractor shall certify on the initial schedule and all revised schedules that they comply with the Contract Documents.

§ 3.10.2 The Contractor shall prepare a submittal schedule, ~~promptly after being awarded the Contract~~ within 20 working days after the issuance of the Purchase Order, and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for ~~the Architect's approval. The Architect's~~ the Owner's and the Design Agent's approval. The Owner's and the Design Agent's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow ~~the Architect~~ the Owner and the Design Agent reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

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

...

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

...

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the ~~Architect~~ Design Agent is subject to the limitations of Section 4.2.7. Informational submittals upon which the ~~Architect~~ Design Agent 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~~ Design Agent without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the ~~Architect~~ Design Agent Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the ~~Architect~~ Owner and the Design Agent 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~~ Design Agent 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.~~Design Agent.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the ~~Architect's~~ Design Agent's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the ~~Architect~~ Design Agent in writing of such deviation at the time of submittal and (1) the ~~Architect~~ Design Agent 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~~ Design Agent'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~~ Design Agent on previous submittals. In the absence of such written notice, the ~~Architect's~~ Design Agent's approval of a resubmission shall not apply to such revisions.

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

§ 3.12.11 The Owner shall be entitled to reimbursement from the Contractor for amounts paid to the Design Agent for evaluation of resubmittals.

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The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public ~~authorities~~ authorities, and any restrictions imposed by the User Agency or the Owner, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

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The Contractor shall provide the Owner and ~~Architect~~ Design Agent access to the Work in preparation and progress wherever located.

...

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~~ Design Agent harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or ~~Architect.~~ Design Agent. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the ~~Architect.~~Design Agent and the Owner.

...

§ 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.~~the User Agency and the State of Rhode Island in accordance with Rhode Island Procurement Regulation 220-RICR-30-00-13.21.

...

~~**ARTICLE 4 ARCHITECT**~~

§ 3.18.3 Without limiting the generality of the foregoing, the defense and indemnity set forth in this Section 3.18 includes, without limitation, all liabilities, damages, losses, claims, demands, and actions on account of bodily injury, death, or property loss to a person or entity indemnified hereunder or any other persons or entities, whether based upon statutory (including, without limitation, workers compensation), contractual, tort, or other liability of any person or entity so indemnified.

§ 3.18.4 The remedies set forth herein shall not deprive any person indemnified hereunder of any other indemnity action, right, or remedy otherwise available to any such person or entity at common law or otherwise.

§ 3.18.5 The Contractor will include the indemnity set forth in this Section 3.18, without modification, in each Subcontract with any Subcontractor.

§ 3.18.6 Notwithstanding any other language in the Contract Documents to the contrary, the indemnity hereunder shall survive Final Completion of the Work and final payment under the Agreement and shall survive any termination of the Agreement.

ARTICLE 4 DESIGN AGENT

§ 4.1.1 The ~~Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.~~ Design Agent is the person lawfully licensed to practice his or her profession in the State of Rhode Island or an entity lawfully practicing its profession in the State of Rhode Island and identified in the Contract Documents as the Design Agent. The term "Design Agent" means the Design Agent or the Design Agent's authorized representative.

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

§ 4.1.3 If the employment of the ~~Architect~~ Design Agent is terminated, the Owner shall employ a successor ~~architect~~ Design Agent as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the ~~Architect.~~Design Agent.

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§ 4.2.1 The ~~Architect~~ Owner with assistance from the Design Agent 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~~ through the date the Design Agent issues the final Certificate for Payment and continuing until the expiration of the one-year period following Final Completion. The Design Agent will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The ~~Architect~~ Design Agent 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~~ Design Agent will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The ~~Architect~~ Design Agent 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, except as provided in Section 3.3.1.

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

§ 4.2.3 On the basis of the site visits, the ~~Architect~~ Design Agent will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The ~~Architect~~ Design Agent will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The ~~Architect~~ Design Agent 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.

...

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the ~~Architect~~ Design Agent about matters arising out of or relating to the Contract. Communications by and with the ~~Architect's~~ Design Agent's consultants shall be through the ~~Architect.~~ Design Agent. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

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

§ 4.2.6 The ~~Architect~~ Design Agent has authority to reject Work that does not conform to the Contract Documents. Whenever the ~~Architect~~ Design Agent considers it necessary or advisable, the ~~Architect~~ Design Agent will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the ~~Architect~~ Design Agent 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~~ Design Agent to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The ~~Architect~~ Design Agent 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~~ Design Agent's action will be taken in accordance with the submittal schedule approved by the ~~Architect~~ Design

Agent or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the ~~Architect's~~ Design Agent'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~~ Design Agent'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~~ Design Agent's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the ~~Architect,~~ Design Agent, of any construction means, methods, techniques, sequences or procedures. The ~~Architect's~~ Design Agent'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~~ Design Agent will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The ~~Architect~~ Design Agent will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

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

§ 4.2.11 The ~~Architect~~ Design Agent 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~~ Design Agent'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~~ Design Agent 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~~ Design Agent 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~~ Design Agent's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract ~~Documents.~~Documents and approved by the Owner.

§ 4.2.14 The ~~Architect~~ Design Agent will review and respond to requests for information about the Contract Documents. The ~~Architect's~~ Design Agent'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~~ Design Agent will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

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§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner ~~through the Architect~~ and the Design Agent the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each ~~principal~~ portion of the Work. The ~~Architect~~ Owner may reply within 14 working days to the Contractor in writing stating (1) whether the Owner or the ~~Architect~~ Design Agent has reasonable objection to any such proposed person or entity or (2) that the ~~Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14-day period shall constitute notice of no reasonable objection.~~Owner or Design Agent requires additional time for review.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or ~~Architect~~ Design Agent 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~~ Design Agent has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or ~~Architect~~ Design Agent 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 previously selected if the Owner or ~~Architect~~ Design Agent makes reasonable objection to such substitution.

§ 5.2.5 MANUFACTURERS AND FABRICATORS

§ 5.2.5.1 Not later than 10 working days after the date of commencement of the Work, the Contractor shall furnish in writing to the Owner and the Design Agent the names of the manufacturers or fabricators for certain products, equipment, and systems identified in the Specifications and, where applicable, the name of the installing Subcontractor. The Owner may reply within 14 working days to the Contractor in writing, stating: (i) whether the Owner or the Design Agent has reasonable objection to any such proposed person manufacturer or fabricator; or (ii) whether the Owner or Design Agent requires additional time to review.

§ 5.2.5.2 The Contractor shall not contract with a proposed manufacturer, fabricator, or Subcontractor to whom the Owner or Design Agent 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 Design Agent has an objection to a manufacturer, fabricator, or Subcontractor proposed by the Contractor, the Contractor shall propose another to whom the Owner or Design Agent has no objection.

§ 5.2.5.4 The Contractor shall not substitute a manufacturer, fabricator, or Subcontractor previously selected if the Owner or Design Agent makes reasonable objection to such substitution.

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By appropriate ~~agreement, written where legally required for validity,~~ written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and ~~Architect.~~ Design Agent. Upon the request of the User Agency and/or the Owner, the Contractor shall provide the User Agency and/or the Owner with copies of each subcontract agreement. Each subcontract agreement shall preserve and protect the rights of the Owner and ~~Architect~~ Design Agent 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.

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~~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 working days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

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

...

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation.~~If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.~~

...

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

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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.

...

§ 7.1.2 A Change Order shall be based upon agreement ~~among the Owner, Contractor and Architect;~~ between the Owner and the Contractor; 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~~ Design Agent alone.

...

§ 7.2.1 A Change Order is a written instrument prepared by the ~~Architect~~ Contractor and signed by the Owner, Contractor and ~~Architect~~ Design Agent stating their agreement upon all of the following:

...

.3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Subsequent to the approval of a Change Order as provided in § 7.1.2, whether such Change Order changes the Contract Sum or Contract Time or both, no additional claim related to such Change Order will be considered by the Owner. Any change, once incorporated into a Change Order, is all inclusive, and includes all factors that could have been considered at the time of the Change Order such as Project impact or schedule "ripple" effect.

...

§ 7.3.1 A Construction Change Directive is a written order prepared by the ~~Architect~~ Design Agent and signed by the ~~Owner and Architect,~~ Owner, 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.

...

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

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the ~~Architect~~ Design Agent 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.

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§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the ~~Architect~~ Design Agent shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in ~~the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount.~~ Section 7.3.1. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the ~~Architect~~ Design Agent may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

...

.2 Costs of materials, supplies and equipment, including cost of ~~transportation, whether incorporated or consumed;~~delivery;

.3 Rental costs of machinery and equipment, exclusive of hand ~~tools, whether rented from the Contractor or others;~~tools; or

.4 Costs of premiums for all bonds and ~~insurance, permit fees, and sales, use or similar taxes related to the Work; and~~

~~**.5** Additional costs of supervision and field office personnel directly attributable to the change.~~insurance and permit fees related to the Work..

§ 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.~~ Design Agent. 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~~ Design Agent will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the ~~Architect~~ Design Agent determines, in the ~~Architect's~~ Design Agent's professional judgment, to be reasonably justified. The ~~Architect's~~ Design Agent'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~~ Design Agent 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~~ Contractor will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

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

.1 For the Contractor, for work performed by the Contractor's own forces, an amount not to exceed ten (10%) percent of the cost.

.2 For the Contractor, for work performed by the Contractor's Subcontractors, an amount not to exceed five (5%) of the amount due to the Subcontractors.

.3 For each Subcontractor, for work performed by the Subcontractor's own forces, an amount not to exceed ten (10%) percent of the cost.

.4 Where the Work represents both additions and deletions and results in a net increase, the allowable overhead and profit shall be in accordance with this Section 7.3.11, but in no event shall the amount exceed fifteen (15%) percent of the net increase in the cost of the Work.

§ 7.3.12 All proposals with an aggregate cost equal to or in excess of $500.00 shall be accompanied by a detailed itemization of costs, including labor, materials (quantities and prices), and Subcontracts, in a form acceptable to the Owner. In no event will a change order request reflecting an aggregate cost equal to or in excess of $500.00 be approved without such itemization.

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The ~~Architect~~ Design Agent with the prior written approval of the Owner has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be ~~effected~~ affected by written order signed by the ~~Architect~~ Design Agent and shall be binding on the Owner and Contractor.

...

The date of commencement of the Work is the date established in Section 3.1 of the Agreement..

~~**§ 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~~ Design Agent 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.~~**Deleted.**

...

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

...

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or ~~Architect,~~ Design Agent, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's ~~control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay,~~ control, then the Contract Time shall be extended by Change Order for such reasonable time as the ~~Architect~~ Owner may determine.

...

~~**§ 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.~~

...

~~Where the Contract is based on a stipulated sum or Guaranteed Maximum Price,~~ Within 20 working days of the issuance of the Purchase Order, and promptly if revision is necessary from time to time as a result of a Change Order, the Contractor shall submit to the ~~Architect,~~ Owner, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the ~~Architect may require. This schedule, unless objected to by the Architect,~~ Design Agent and the Owner may require. This schedule, if and when approved by the Design Agent and the Owner in writing, shall be used as a basis for reviewing the Contractor's Applications for Payment.

...

§ 9.3.1 At least ~~ten~~ 10 working days before the date established for each progress payment, the Contractor shall submit to the ~~Architect~~ Design Agent and the Owner for approval an itemized Application for Payment prepared in accordance with the schedule of ~~values, if required under Section 9.2,~~ values for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or ~~Architect~~ the Design Agent may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 ~~As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.~~All Applications for Payment for Change Orders must be accompanied by a Notice of Change in Purchase Order issued by the Owner, and if directed by the Owner, by the User Agency.

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§ 9.3.1.3 The form of Application for Payment shall be AIA Document G702, Application and Certification for Payment, supported by AIA Document G702A, Continuation Sheet.

§ 9.3.1.4 Until Substantial Completion, the Owner shall pay ninety-five (95%) percent of the amount due the Contract on account of progress payments.

§ 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,~~ shall be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work. The Contractor shall immediately satisfy any lien, claim, or encumbrance against the site where the Project is located and indemnify the Owner from and against all resulting costs and expenses, including without limitation, attorneys' fees.

...

§ 9.4.1 The ~~Architect~~ Design Agent will, within ~~seven~~ 7 working days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the ~~Architect~~ Design Agent determines is properly due, or notify the Contractor and Owner in writing of the ~~Architect's~~ Design Agent's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the ~~Architect~~ Design Agent to the Owner, based on the ~~Architect's~~ Design Agent's evaluation of the Work and the data comprising the Application for Payment, that, ~~to the best of the Architect's knowledge, information and belief,~~ the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the ~~Architect.~~ Design Agent. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the

~~Architect~~ Design Agent has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.4.3 The Contractor must submit all product literature, material and color samples with each Application for Payment, or as otherwise required by the Owner.

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§ 9.5.1 The ~~Architect may~~ Design Agent will withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the ~~Architect's~~ Design Agent's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the ~~Architect~~ Design Agent is unable to certify payment in the amount of the Application, the ~~Architect~~ Design Agent will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and ~~Architect~~ Design Agent cannot agree on a revised amount, the ~~Architect~~ Design Agent will promptly issue a Certificate for Payment for the amount for which the ~~Architect~~ Design Agent is able to make such representations to the Owner. The ~~Architect~~ Design Agent 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~~ Design Agent'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~~of:

...

.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; or

.8 any other failure to comply with the obligations of the Contractor under the Contract Documents.

...

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

...

§ 9.6.1 After the ~~Architect has issued a Certificate for Payment,~~ Design Agent has issued a Certificate for Payment and the Owner has approved the Certificate for Payment in writing, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the ~~Architect.~~Design Agent.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than ~~seven~~ 10 working 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~~ Design Agent 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~~ Design Agent and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within ~~seven~~ 7 working days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. The Owner shall have the right to withhold

payment(s) to the Contractor in the event that any Subcontractors or material and equipment suppliers have not been properly paid. Neither the Owner nor ~~Architect~~ Design Agent shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

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If the ~~Architect~~ Design Agent does not issue a Certificate for Payment, through no fault of the Contractor, within ~~seven~~ 7 working days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within ~~seven~~ 7 working days after the date established in the Contract Documents the amount certified by the ~~Architect~~ Design Agent or awarded by binding dispute resolution, then the Contractor may, upon ~~seven additional~~ 7 additional working days' written notice to the Owner and ~~Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.~~Design Agent, make a claim for payment as provided under the provisions of applicable law.

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...

§ 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~~ Design Agent 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~~ Design Agent will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the ~~Architect's~~ Design Agent'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.~~ Design Agent. In such case, the Contractor shall then submit a request for another inspection by the ~~Architect to determine Substantial Completion.~~Design Agent to determine Substantial Completion. The Design Agent will perform no more than 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 Design Agent for any additional inspections.

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

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment ~~of retainage applying to such Work or designated portion thereof.~~ less the amount of five (5%) percent to be retained by the Owner in accordance with R.I. Gen. Laws § 37-12-10.1. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

...

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit

a list to the ~~Architect~~ Design Agent 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.~~Design Agent.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and ~~Architect~~ Design Agent 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.

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§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the ~~Architect~~ Design Agent will promptly make such inspection and, when the ~~Architect~~ Design Agent finds the Work acceptable under the Contract Documents and the Contract fully performed, the ~~Architect~~ Design Agent will promptly issue a final Certificate for Payment stating that to the best of the ~~Architect's~~ Design Agent's knowledge, information and belief, and on the basis of the ~~Architect's~~ Design Agent's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The ~~Architect's~~ Design Agent'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. The Design Agent will perform no more than 2 inspections 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 Design Agent for any additional inspections.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the ~~Architect~~ Design Agent (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 working days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final ~~payment and~~ payment, (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated ~~by the Owner.~~ by the Owner, and (6) all other close-out documents required by the Owner, including without limitation, all as-built plans, warranties, manuals, and other materials set forth in the Contract Documents. 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. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, ~~final completion~~ Final Completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting ~~final completion, and the Architect~~ Final Completion, and the Design Agent so confirms, the Owner shall, upon application by the Contractor and certification by the ~~Architect,~~ Design Agent, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the ~~Architect~~ Design Agent 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~~from:

- **.1** liens, Claims, security ~~interests~~ interests, or encumbrances arising out of the Contract and unsettled;
- **.2** failure of the Work to comply with the requirements of the Contract Documents;~~or~~
- **.3** terms of special warranties required by the Contract ~~Documents.~~Documents; or
- **.4** claims permitted under the State of Rhode Island General Conditions of Purchase Regulation.

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§ 9.11 The Contractor and the Contractor's surety shall be liable for and shall pay the Owner as liquidated damages the sums specified in the Solicitation and Bid Form, or if completed, the amount set forth in Section 3.4 of the Agreement.

§ 9.12 Warranties required by the Contract Documents shall commence on the date of Final Completion of the Work.

...

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss ~~to~~to:

...

§ 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.~~personnel and in consultation with the appropriate governmental authorities.

§ 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 User Agency and 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.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or ~~Architect~~ Design Agent 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.~~Design Agent.

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

...

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

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract

Documents, the Owner shall furnish in writing to the Contractor and ~~Architect~~ Design Agent the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the ~~Architect~~ Design Agent 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~~ Design Agent has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the ~~Architect~~ Design Agent have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the ~~fullest extent permitted by law,~~ extent permitted by the provisions of R.I. Gen. Laws §§ 9-31-1 et seq., the Owner shall indemnify and hold harmless the Contractor, Subcontractors, ~~Architect, Architect's~~ Design Agent, Design Agent'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.

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

...

.8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.1.2 The Contractor's liability insurance shall include all major coverages and be on a comprehensive general liability basis.

...

§ 11.1.3 Certificates of insurance as specified in the Solicitation and as otherwise acceptable to the Owner shall be filed with the Owner and the User Agency prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 working days' prior written notice has been given to the ~~Owner.~~ Owner and the User Agency. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the ~~Architect and the Architect's~~ User Agency, and their elected and appointed officials, members, employees, and agents, the Design Agent and the Design Agent'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~~ the Owner, the User Agency, and their elected and appointed officials, members, employees, and agents, as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.1.5 The Contractor shall be responsible for the prompt payment to the Owner of any deductible amounts under any insurance policies required under the Contract Documents for claims made pursuant to such policies.

§ 11.2 ~~OWNER'S LIABILITY INSURANCE~~**OWNER'S LIABILITY INSURANCE.**

§ 11.2.1 The Contractor shall furnish the Owner and the User Agency, through the Design Agent, an insurance certificate providing Owner's Protective Liability extended to include the interests of the Design Agent, and to protect the Owner, User Agency, and Design Agent from any liability which might be incurred against any of them as a result of any operation of the Contractor or Subcontractors or their employees or anyone for whom either the Contractor or Subcontractors are responsible. Such insurance shall be written for the same limits as the Contractor's commercial general liability insurance and shall include the same coverage.
~~The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.~~**§ 11.2.2** If the Owner engages separate contractors to perform work for, or in or around, the Project, it shall require in its contracts with each separate contractor that Contractor and its officers, directors, partners, members, employees, and agents shall be: (i) named as additional insureds on a primary, noncontributory basis to any commercial general liability, pollution liability, and excess liability insurance policies; and (ii) provided a waiver of subrogation on all workers compensation and professional liability insurance policies.

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§ 11.3.1 ~~Unless otherwise provided, the Owner~~ The Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the ~~jurisdiction in which the Project is located,~~ state of Rhode Island, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the User Agency, the Contractor, Subcontractors and Sub-subcontractors in the Project. If the Owner and/or the User Agency incur any damages by failure of the Contractor to maintain such insurance, then the Contractor shall bear all reasonable cost resulting from such failure.

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

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

...

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

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

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

§ 11.3.4 ~~If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.~~**Deleted.**
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§ 11.3.6 Before an exposure to loss may occur, the ~~Owner~~ Contractor shall file with the ~~Contractor~~ Owner a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 working days' prior written notice has been given to the ~~Contractor.~~Owner and the User Agency.

...

The ~~Owner and Contractor waive all rights against (1) each other~~ Contractor waives all rights against the Owner and the User Agency and any of their subcontractors, sub-subcontractors, agents and employees, ~~each of the other,~~ and (2) the ~~Architect, Architect's~~ Design Agent, Design Agent's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the ~~Architect, Architect's~~ Design Agent, Design Agent's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under ~~the Owner's~~ this property insurance shall be adjusted by the ~~Owner~~ Contractor 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 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the ~~Owner's~~ Contractor's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The ~~Owner~~ Contractor shall deposit in a separate account proceeds so received, which the ~~Owner~~ Contractor shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The ~~Owner~~ Contractor as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within ~~five~~ 5 working days after occurrence of loss to the ~~Owner's~~

Contractor's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. ~~If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.~~

...

§ 11.4.1 The ~~Owner shall have the right to require the Contractor to~~ Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in ~~bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.~~the Solicitation.

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

...

The Contractor shall promptly correct Work rejected by the ~~Architect~~ Design Agent or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the ~~Architect's~~ Design Agent's services and expenses made necessary thereby, shall be at the Contractor's expense.

...

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

...

§ 12.2.2.4 Upon request by the Owner and prior to the expiration of one year from the date of Final Completion, the Design Agent will conduct and the Contractor shall attend 2 meetings with the Owner to review the facility operations and performance.

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The Contract shall be governed by the law of the ~~place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.~~State of Rhode Island.

...

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

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to ~~a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents.~~ any executive, legislative, judicial, regulatory, or administrative body of the state, or any political subdivision thereof, including without limitation, any department, division, agency, commission, board, office, bureau, authority, school, water, or fire district, or other agency of Rhode Island state or local government that exercises governmental functions, any other governmental authority, and any quasi-public corporation and/or body corporate and politic. The Contractor shall execute all consents reasonably required to facilitate such assignment.

...

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

...

§ 13.4.2 No action or failure to act by the Owner, ~~Architect~~ Design Agent 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 there under, except as may be specifically agreed in writing.

...

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

§ 13.5.2 If the ~~Architect,~~ Design Agent, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the ~~Architect~~ Design Agent 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~~ Design Agent of when and where tests and inspections are to be made so that the ~~Architect~~ Design Agent may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

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

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

§ 13.5.5 If the ~~Architect~~ Design Agent is to observe tests, inspections or approvals required by the Contract Documents, the ~~Architect~~ Design Agent will do so promptly and, where practicable, at the normal place of testing.
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~~Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may 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.~~No interest shall be due or payable on account of any payment due or unpaid under the Contract Documents except in accordance with the provisions of "Prompt Payment by Department of Administration," R.I. Gen. Laws §§ 42-11.1-1 et seq.

...

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable ~~law, but in any case not more than 10 years after the date of Substantial Completion of the Work.~~ law. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

...

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 ~~consecutive~~ calendar days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

...

.2 An act of government, such as a declaration of national emergency that requires all Work to be stopped; or

.3 Because the ~~Architect~~ Design Agent 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 promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.~~9.4.1

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

§ 14.1.3 If one of the reasons described in Section 14.1.1 ~~or 14.1.2~~ exists, the Contractor may, upon ~~seven~~ 7 working days' written notice to the Owner and ~~Architect,~~ Design Agent, terminate the Contract and recover from the Owner payment for Work ~~executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.~~ executed.

§ 14.1.4 If the Work is stopped for a period of 60 ~~consecutive~~ calendar days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon ~~seven~~ 7 additional days' written notice to the Owner and the ~~Architect,~~ Design Agent, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

...

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

.1 ~~repeatedly~~ refuses or fails to supply enough properly skilled workers or proper materials;

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.3 ~~repeatedly disregards~~ disregards or fails to comply with 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~~ breach of a provision of the Contract Documents; or

.5 cancels or the Contractor or the Owner receives notice of cancellation or nonrenewal of any insurance required under the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, 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~~ 7 working days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

...

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the ~~Architect's~~ Design Agent'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.

...

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

~~**.1** that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or~~

~~**.2** that an equitable adjustment is made or denied under another provision of the Contract.~~Owner shall not be liable to the Contractor or any Subcontractor for claims or damages of any nature caused by or arising out of any delays. The sole remedy against the Owner for delays shall be the allowance of additional time for completion of the Work in accordance with the provisions of Section 8.3.1.

...

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

...

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such ~~termination, along with reasonable overhead and profit on the Work not executed.~~termination.

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Claims by either the Owner or Contractor must be initiated by written 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.~~ 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 serviced if delivered in person, by mail, by courier, or by electronic transmission. Claims by either party must be initiated within 21 working days after occurrence of the event giving rise

to such Claim or within 21 working days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

...

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. The ~~Architect~~ Design Agent will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

...

§ 15.1.5.3 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.

§ 15.1.5.4 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.

§ 15.1.6 ~~CLAIMS FOR CONSEQUENTIAL DAMAGES~~

~~The Contractor and Owner waive Claims against each other~~ The Contractor waives Claims against the Owner 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~~ Contract. This waiver includes 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~~ profit. This waiver is applicable, without limitation, to all consequential damages due to ~~either party's~~ the Contractor's termination in accordance with Article ~~14. Nothing contained~~ 14. Nothing in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

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§ 15.2.1 ~~Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10,~~ Claims shall be referred to the Initial Decision Maker for initial decision. The ~~Architect~~ University of Rhode Island Vice President for Administration and Finance appointed pursuant to the provisions of the "Delegation of Limited Procurement Authority," dated January 19, 2018, 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~~ Maker in accordance with the provisions of the "Delegations of Limited Procurement Authority," State Purchases Act, State of Rhode Island Procurement Regulations, and this Section 15.2.1. An initial decision shall be required as a condition precedent to ~~mediation~~ binding dispute resolution pursuant to Section 15.3.1 of any Claim arising prior to the date final payment is ~~due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no 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.~~due.

§ 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.~~ **Deleted.**

§ 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.~~**Deleted.**

§ 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 such 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.~~**Deleted.**

§ 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.~~**Deleted.**

§ 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.~~**Deleted.**

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

§ 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.~~**Deleted.**

§ 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.~~ **Deleted.**

...

§ 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 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.~~ For any Claim not resolved by the Initial Decision Maker procedures set forth in Section 15.2.1, and prior to the implementation of the binding dispute resolution procedures set forth in Section 15.4.1, the Contractor or the Design Agent shall have the option to pursue mediation, exercisable by written notice to the Owner within 30 calendar days of an Initial Decision. In the event of the exercise of such option by the Contractor or the Design Agent, the Owner and the Contractor or the Design Agent shall attempt to select a mediator, and in the event that the Owner and the Contractor or the Design Agent cannot agree on a mediator, either party may apply in writing to the Presiding Justice of the Providence County Superior Court, with a copy to the other, with a request for the court to appoint a mediator, and the costs of the mediator shall be borne equally by both parties.

§ 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.~~**Deleted.**

§ 15.3.3 ~~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.~~**Deleted.**

§ 15.4 ~~ARBITRATION~~**BINDING DISPUTE RESOLUTION**

§ 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. 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.~~ For any Claim not resolved by the Initial Decision Maker procedures set forth in Section 15.2.1, or mediation at the option of the Contractor pursuant to Section 15.3.1, the method of binding dispute resolution shall be determined in accordance with the provisions of the "Public Works Arbitration Act," R.I. Gen. Laws §§ 37-16-1 et seq.

~~**§ 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~~**Deleted.**

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

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

§ 15.4.4.3 ~~The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.~~**Deleted.**

§ 16 COMPLIANCE WITH APPLICABLE LAW

The Contractor and its Subcontractors shall comply with all applicable federal, state, and local laws.

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, , hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 09:27:57 ET on 03/17/2020 under Order No. 7842301080 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ – 2007, General Conditions of the Contract for Construction, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

_____

(Signed)

_____

(Title)

_____

(Dated)

DOCUMENT 00 7200 – URI STANDARD DOCUMENTS

PART 1 – GENERAL

1.1 The latest version of the following documents, available on the URI Capital Projects website, http://web.uri.edu/capitalprojects/manual-for-construction-project-safety-procedures/, will apply to all of the work of this project and are hereby incorporated by reference:

URI Sexual Harassment Policy
Manual for Construction Project Safety Procedures
Access Box Keys
Residential Sprinkler Protection
Hot Work Permitting
Fire Protection System Impairment
Fire Watches
URI Water System Regulations/Policies

END OF DOCUMENT

SECTION 01 1000 - SUMMARY

PART 1 - GENERAL

1.01 PROJECT

A. See Bid Form for official Project Information.

B. The Project consists of the construction of the following types of work:
   1. Automatic sprinkler system installation
   2. Fire alarm system installation
   3. Repair existing fire escape stairs

1.02 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 00 5200 - Agreement.

1.03 DESCRIPTION OF WORK

A. Scope of demolition and removal work is shown on drawings and/or as specified herein.

B. Site modifications:
   1. Install a new fire water service.

C. Architectural modifications:
   1. Repair the existing fire escape stairs.

D. Fire Protection modifications:
   1. Install new fire sprinkler system throughout the entire building.

E. Fire Alarm modifications
   1. Install a new fire alarm system throughout the entire building.
   2. Demolish the existing fire alarm system throughout the entire building.

1.04 OWNER OCCUPANCY/SCHEDULE

A. Owner intends to continuously occupy the facility. Work areas will be made available as mutually agreed to during project scheduling. See Attachment A at the end of this section for availability and restrictions on access to spaces.

B. Work to begin within 7 days of receipt of Purchase Order unless otherwise defined in Attachment A at the end of this section.

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

1.05 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings. Coordinate with Attachment A following this section. Include all costs of this coordination, including all premium time wages that may be required to meet these requirements, in the Base bid.

B. Arrange use of site and premises to allow:
   1. Adjacent projects to progress as planned for the Owner.
   2. Use of street and adjacent properties by the Public.
   3. Continued operation of the facility in accordance with Attachment A.

C. Provide access to and from site as required by law and by Owner:
   1. Maintain appropriate egress for workforce and users of the facility.
   2. Do not obstruct roadways, sidewalks, or other public ways without permit. Provide necessary signage and barriers to direct pedestrians around work areas.

D. Time Restrictions:
   1. Limit conduct of especially noisy work during normal business hours are in process.
   2. Night and weekend work is allowed but shall be coordinated with the Owner.
   3. Refer to Attachment A following this section for building specific scheduling restrictions

E. Utility Outages and Shutdown:
   1. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 48 hour notice to Owner and authorities having jurisdiction.
   2. Prevent accidental disruption of utility services to other facilities.
   3. Contractor to provide written notification on Fire Sprinkler and Alarm System Impairment Notification Form following this section as Attachment B.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION – NOT USED

END OF MAIN SECTION – See Attachments A, B, and C following.

Attachment A – 01 1010

NOTE:
Unrestricted = Contractor to plan and schedule work and submit for review by Owner
Limited Restriction = Contractor to meet with Owner and coordinate access to these areas
Restricted = Contractor to perform work on dates provided in this document

OFFICE AREA:

The office area has limited restrictions and work activities will need to be planned and coordinated in advance to minimize impacts to the occupants.

Second shift work can take place in this area; however, the area must be restored at the end of each shift.

CAMPUS DISPATCH:

The campus dispatch area has limited restrictions and the equipment in this area needs to be covered and protected with plastic during installation.

OTHER AREAS/GENERAL NOTES:

This is a fully occupied building. There will be 2nd shift work involved. Any premium time required must be included in the base bid.

The Contractor will be responsible for providing protection for all furniture and belongings in each office. The Contractor is also responsible for cleaning their work areas after each shift so that they are ready for Owner occupancy the next day.

The Contractor is responsible for maintaining egress paths during construction to the satisfaction of the Fire Marshall and the AHJ.

The building occupants are sensitive to dust issues in the Office areas. The Contractor will be responsible for providing dust containment in each area while it is under construction and then cleaning each contained area daily when the shift is over.

THE UNIVERSITY OF RHODE ISLAND
DIVISION OF ADMINISTRATION AND FINANCE

THINK BIG WE DO™

OFFICE OF CAPITAL PROJECTS
Sherman Building, 523 Plains Road, Kingston, RI 02881 USA p: 401.874.2725 f: 401.874.5599

Fire Sprinkler and Alarm System Impairment Notification Form

To: URI Office of Capital Projects

Date _____

Start of Planned Impairment: _____
End of Planned Impairment: _____
Building occupied during impairment: Yes:_____ No:_____
Any hot work to be performed: Yes:_____ No:_____

Description of Work to be performed: _____

URI Manager of Alarms, Mike Suriani, can also be directly contacted at 401-639-2268.

Contractor supervisory personnel shall remain in the building for the entire duration of the impairment.

Name:_____

Company:_____

Phone:_____

SECTION 01 2000 - PRICE AND PAYMENT PRO

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Allowances.

B. Testing and inspection allowances.

C. Schedule of values.

D. Applications for payment.

E. Warranty inspection retainage.

F. Sales tax exemption.

G. Change procedures.

H. Defect assessment.

I. Unit prices.

J. Alternates.

1.02 ALLOWANCES

A. See General Conditions Article 3.8 for Allowance provisions.

B. Design Agent Responsibility:
   1. Consult with Contractor for consideration and selection of products, suppliers, and Installers.
   2. Select products in consultation with Owner and transmit decision to Contractor.
   3. Prepare Change Order to adjust final cost.

C. Contractor Responsibility:
   1. Assist Design Agent or its Consultants in selection of products, suppliers and installers.
   2. Obtain proposals from suppliers and installers, and offer recommendations.
   3. On notification on selection by Design Agent, execute purchase agreement with designated supplier and installer.
   4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
   5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.

D. Schedule of Allowances: See Attachment A.

1.03 TESTING AND INSPECTION ALLOWANCE

A. All costs of regularly scheduled testing are included in the Base Bid. See Attachment A for allowance to cover costs of additional testing to be provided when directed by the Owner.

B. See Section 01 4000 and its attachment for testing requirements.

1.04 SCHEDULE OF VALUES

A. Submit Schedule of Values in duplicate, one copyrighted original and one copy.

B. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the major specification Section. Identify site mobilization, bonds, insurance and closeout.

C. Include in each line item, the amount of Allowances specified in this Section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.

D. Include separately for each line item, a direct proportional amount of Contractor's overhead and profit.

E. Revise schedule to list approved Change Orders, with each Application for Payment.

1.05 APPLICATIONS FOR PAYMENT

A. Submit each application on an original AIA Form G702 - Application and Certificate for Payment and AIA G703 - Continuation Sheet, accompanied by three copies.
   1. Prepare a draft version “pencil copy” of each application and distribute via email 5 days prior to due date for review by Design Agent and Owner’s representative.
   2. After making agreed revisions, individually sign and notarize and emboss with notary's official seal, the original and each of the three copies. Deliver to Owner’s representative for further processing and distribution.
   3. Applications not including original copyrighted AIA G702, and G703 Forms, will be rejected, and returned for re-submittal.
   4. Applications not properly signed and notarized will be rejected, and returned for re-submittal.
   5. Applications submitted without the following items described in this section and its attachments will be returned for resubmittal.

B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.

C. Provide one hard copy and one copy in disc form of the updated construction schedule with each Application for Payment submission, prepared per Section 01 3300.

1. Provide a statement signed by the Contrac
unidentified outstanding claims for delay.

D. Include with each monthly Application for Payment, following the first application, Certified Monthly Payroll Records with proper compliance cover sheet for the previous month's pay period. Identify MBE/DBE subcontractors and hours worked in a format acceptable to URI. See Attachment A this section for current State and Federal requirements.

E. Submit with transmittal letter as specified for Submittals in Section 01 3300.

F. Beginning with the second Application for Payment, Contractor's right to payment must be substantiated by documenting, on a copy of the URI Waiver of Lien Form included in Document 00 6140 - Waiver of Lien Form in this Project Manual, that payment monies due, less retainage not exceeding ten percent, have been paid in full to subcontractor and suppliers for work, materials, or rental of equipment billed for under specific line item numbers in the immediately preceding application.

G. Substantiating Data: When the Owner or Design Agent requires additional substantiating information from the review of the "pencil copy", submit data justifying dollar amounts in question.

H. In addition to the items above, include the following with the Application for Payment :
1. Record Documents as specified in Section 01 7800, for review by the Owner which will be returned to the Contractor.
2. Affidavits attesting to off-site stored products with insurance certificates as requested.
3. Digital Photographs as specified in Section 01 3300. Include on same disc with construction schedule.

I. Payment Period: Submit at monthly intervals unless stipulated otherwise in the Supplemental General Conditions.

1.06 WARRANTY INSPECTION RETAINAGE

A. A percentage of job cost as defined in Attachment A will be retained from Final Payment for a duration of ten months. If, after ten months, all systems including mechanical and electrical, are determined by the Owner to be properly functioning, the Warranty Inspection Retainage will be released.

B. If, after ten months, there are found to be modifications, adjustments, or corrections necessary to be made to address any system or product malfunction, in order to fulfill specified performance or requirements of such systems or products, release of the warranty inspection retainage will be delayed until such malfunctions are rectified.

C. If, after twelve months from the date of Final Completion, all systems have not been fully addressed, the Owner may utilize the Warranty Inspection Retainage to hire others to execute necessary modifications, adjustments, or corrections.

1.07 SALES TAX EXEMPTION

A. Owner is exempt from sales tax on products permanently incorporated in Work of the Project.
   1. Obtain sales tax exemption certificate number from Owner.
   2. Place exemption certificate number on invoice for materials incorporated in the Work of the Project.
   3. Furnish copies of invoices to Owner.
   4. Upon completion of Work, file a notarized statement with Owner that all purchases made under exemption certificate were entitled to be exempt.
   5. Pay legally assessed penalties for improper use of exemption certificate number.

1.08 CHANGE PROCEDURES

A. Submittals: Submit name of the individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.

B. The Design Agent will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time by issuing supplemental instructions on AIA Form G710.

C. The Design Agent may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required, and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within 15 days.

D. The Contractor may propose changes by submitting a request for change to the Design Agent, describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation, and a statement describing the effect on Work by separate or other Contractors. Document any requested substitutions in accordance with Section 01 6000.

E. Stipulated Sum Change Order: Based on Proposal Request, and Contractor's fixed price quotation, or Contractor's request for a Change Order as approved by Design Agent.

F. Unit Price Change Order: For contract unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute the Work under a Construction Change Directive. Changes in the Contract Sum or Contract Time will be computed as specified for a Time and Material Change Order.

G. Construction Change Directive: Design Agent may issue a directive, on AIA Form G713 Construction Change Directive signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in the Contract Sum or Contract Time. Promptly execute the change.

H. Time and Material Change Order: Submit an itemized account and supporting data after completion of the change, including timeslips signed by Owner's representative, within the time limits indicated in the Conditions of the Contract. The Design Agent will determine the change allowable in the Contract Sum and Contract Time as provided in the Contract Documents. Only Owner-representative-signed timeslips will be considered.

I. Maintain detailed records of work done on a Time and Material basis. Submit timeslips daily for verification and sign-off by Owner's representative on-site. Provide full information required for an evaluation of the proposed changes, and to substantiate costs for the changes in the Work.

J. Document each quotation for a change in cost or time with sufficient data to allow an evaluation of the quotation. Provide detailed breakdown of costs and estimates for labor and materials including a detailed breakdown for subcontractor's or vendor's Work. Include copies of written quotations from subcontractors or vendors.

K. Change Order Forms: AIA G701 Change Order.

L. Execution of Change Orders: The Design Agent will issue Change Orders for signatures of the parties as provided in the Conditions of the Contract.

M. Correlation Of Contractor Submittals:
   1. Promptly revise the Schedule of Values and the Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum. Promptly revise progress schedules to reflect any change in the Contract Time, revise sub-schedules to adjust times for any other items of work affected by the change, and resubmit.
   2. Promptly enter changes in the Project Record Documents.

1.09 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of the Design Agent, it is not practical to remove and replace the Work, the Design Agent will direct an appropriate remedy or adjust payment.

C. The defective Work may remain, but the unit sum will be adjusted to a new sum at the discretion of the Design Agent.

D. The defective Work will be partially repaired to the instructions of the Design Agent, and the unit sum will be adjusted to a new sum at the discretion of the Design Agent.

E. The individual Specification Sections may modify these options or may identify a specific formula or percentage sum reduction.

F. The authority of the Design Agent to assess the final.

G. Non-Payment for Rejected Products: Payment will not be made for rejected products for any of the following:
   1. Products wasted or disposed of in a manner that is not acceptable.
   2. Products determined as unacceptable before or after placement.
   3. Products not completely unloaded from the transporting vehicle.
   4. Products placed beyond the lines and levels of the required Work.
   5. Products remaining on hand after completion of the Work.
   6. Loading, hauling, and disposing of rejected products.

1.10 UNIT PRICES

A. See Attachment A.

1.11 ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at the Owner's option. Accepted Alternates will be identified in the Purchase Order.

B. Coordinate related work and modify surrounding work as required.

C. Schedule of Alternates: See Attachment A.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

01 2010 PRICE AND PAYMENT PROCEDURES - Attachment A

A. Allowances

1. Unforeseen Fire Alarm Coordination ($20,000.00)
2. Unforeseen Fire Sprinkler Coordination ($20,000.00)
3. Unforeseen Architectural Coordination ($40,000.00)

B. Testing Allowance

1. None.

C. Unit Prices

1. Fire Sprinkler Unit Scope
   a. Furnish and Install Wet Sprinkler
   b. Furnish and Install Dry Sprinkler
   c. Furnish and Install 1" Sprinkler Piping (cost per LF)
   d. Furnish and Install 1.5" Sprinkler Piping (cost per LF)
   e. Furnish and Install 2" Sprinkler Piping (cost per LF)

2. Fire Alarm Unit Scope
   a. Furnish and Install Addressable Initiating Device
   b. Furnish and Install Notification Appliance
   c. Furnish and Install Fire Alarm Wiring in MC (cost per LF)
   d. Furnish and Install Fire Alarm Wiring in EMT (cost per LF)

D. Alternates

1. None

E. Payroll Reporting

1. Forms for the submission of Certified Payroll Records may be found from the Rhode Island Prevailing Wage Website in either PDF or Excel formats. These forms must be used on monthly submittals.

2. Identify Apprenticeship hours required under RIGL 37-13-3.1 for all contracts over $1million in value.

3. A Minority Utilization Report for minority subcontractors must be included. Use the form provided as Attachment B.

F. Warranty Inspection Retainage

1. One-half of one percent of the cost of the Work will be retained from Final Payment for this purpose.

END OF ATTACHMENT

Office of Diversity, Equity and Opportunity (ODEO) Attachment B - 01 2020

MBE Compliance Office **(401) 574-8670**
1 Capitol Hill, 3rd Floor **www.mbe.ri.gov**
Providence, RI 02908

Pursuant to RIGL 37-14.1 as well as the regulations promulgated thereto, the MBE Compliance Office requires that you complete the following table. Please note that these figures will be verified with the MBEs identified. If there are outstanding issues, such as retainage or a dispute, please indicate and attach supporting documentation for same. Also note that copies of invoice and cancelled checks for payment to all MBE subcontractors and suppliers are required.

Contractor/Vendor Name:
Project Name & Location:
Original Prime Contract Amount: $_____ Current Prime Contract Amount: $_____ % Complete: _____

MBE/WBE Subcontractor	Original Contract Amount	Change Orders	Revised Contract Value	% Completed To Date	Amount Paid To Date	Amount Due	Retainage %	Retainage Amount	Explanation

I declare, under penalty of perjury, that the information provided in this verification form and supporting documents is true and correct.

_____ _____
Signature Date

_____
Printed Name

Notary Certificate:

Sworn before me this _____ day of _____ , 20___.

_____ _____
Notary Signature Commission Expires

01 2030 PRICE AND PAYMENT PROCEDURES - Attachment C
Small Project Changes

A. The following amendments are made to this Section in order to facilitate execution of smaller projects at URI. They apply to the work of this project. All portions of the specification Section not deleted or amended remain in full force and effect for this project.

B. No amendments are necessary in this Section due to project size. See Attachment A for project specific amendments.

END OF ATTACHMENT

SECTION 01 3000 - ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Site administration

B. Coordination and project conditions.

C. Preconstruction meeting.

D. Site mobilization meeting.

E. Progress meetings.

F. Pre-installation meetings.

1.02 SITE ADMINISTRATION

A. Maintain a daily attendance log to include the names of all project employees and guests to the site. Each guest signing the log should indicate a brief description of the reason for the visit, the guest's employer or organization. The log sheet, or sheets, must clearly indicate the Project Name, and the name of the Prime contractor. Each line in the log should allow for the name of that employee, the employee's job title (use terminology used by prevailing wage job title), and the name of that employee's employer. This log shall be kept on a uniform form prescribed by the Director of Labor and Training. Such log shall be available for inspection on the site at all times by the Purchaser, Owner, and/or the Director of the Department of Labor and Training and his or her designee. Provide copies when requested. The log shall comply with requirements of RIGL 37-12-12(c.).

1.03 COORDINATION AND PROJECT CONDITIONS

A. Coordinate the scheduling, submittals, and the Work of the various Sections of the Project Manual to ensure an efficient and orderly sequence of the installation of interdependent construction elements.

B. Verify that the utility requirements and characteristics of the operating equipment are compatible with the building utilities. Coordinate the Work of the various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

C. Coordinate the space requirements, supports and installation of the mechanical and electrical Work, which are indicated diagrammatically on the Drawings. Follow the routing shown for the pipes, ducts, and conduit, as closely as practicable; place runs parallel with the lines of the building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. Coordinate the completion and clean up of the Work of the separate Sections in preparation for Substantial Completion and for portions of the Work designated for the Owner's partial occupancy.

E. After the Owner's occupancy of the premises, coordinate access to the site for correction of defective Work and the Work not in accordance with the Contract Documents to minimize disruption of the Owner's activities.

1.04 PRECONSTRUCTION MEETING

A. The Design Agent will schedule a meeting after a Purchase Order is issued to the Contractor.

B. Attendance Required: Owner's Representative, Design Agent, and Contractor.

C. Agenda:
1. Distribution of the Contract Documents.
2. Submission of a list of Subcontractors, a list of products, schedule of values, and a progress schedule.
3. Designation of the personnel representing the parties in the Contract and the Design Agent.
4. The procedures and processing of the field decisions, submittals, substitutions, applications for payments, proposal requests, Change Orders, and Contract closeout procedures.
5. Scheduling.

D. Contractor shall record the minutes and distribute copies within two days after the meeting to the participants, with copies to the Design Agent, Owner, other participants, and those consultants affected by the decisions made.

1.05 SITE MOBILIZATION MEETING

A. The Design Agent will schedule a meeting at the Project site prior to the Contractor's occupancy and may occur at the same time as the Preconstruction meeting noted above.

B. Attendance Required: The Owner, Design Agent, Contractor, the Contractor's Superintendent, and major Subcontractors.

C. Agenda:
1. Use of the premises by the Owner and the Contractor.
2. The Owner's requirements and partial occupancy.
3. Construction facilities and controls provided by the Owner.
4. Temporary utilities provided by the Owner.
5. Security and housekeeping procedures.
6. Schedules.
7. Application for payment procedures.
8. Procedures for testing.

9. Procedures for maintaining the record documents.
10. Requirements for the start-up of equipment.
11. Inspection and acceptance of the equipment put into service during the construction period.

D. Contractor shall record the minutes and distribute the copies within two days after the meeting to the participants, with copies to the Design Agent, Owner, other participants, and those consultants affected by the decisions made.

1.06 PROGRESS MEETINGS

A. Schedule and administer the meetings throughout the progress of the Work at weekly intervals while work is in process.

B. Make arrangements for the meetings, prepare the agenda with copies for the participants, and preside at the meetings.

C. Attendance Required: The job superintendent, major subcontractors and suppliers, the Owner, Design Agent, and Consultants as appropriate to agenda topics for each meeting.

D. Agenda:
1. Review the minutes of previous meetings.
2. Review of the Work progress.
3. Field observations, problems, and decisions.
4. Identification of the problems which impede the planned progress.
5. Review of the submittals schedule and status of the submittals.
6. Review of delivery schedules.
7. Maintenance of the progress schedule.
8. Corrective measures to regain the projected schedules.
9. Planned progress during the succeeding work period.
10. Coordination of the projected progress.
11. Maintenance of the quality and work standards.
12. Effect of the proposed changes on the progress schedule and coordination.
13. Other business relating to the Work.

E. Contractor shall record the minutes and distribute the copies within two days after the meeting to the participants, with copies to the Design Agent, Consultants, Owner, participants, and others affected by the decisions made.

1.07 PREINSTALLATION MEETINGS

A. When required in the individual specification Sections, convene a pre-installation meeting at the site prior to commencing the Work of the Section.

B. Require attendance of the parties directly affecting, or affected by, the Work of the specific Section.

C. Notify the Design Agent four days in advance of the meeting date.

D. Prepare an agenda and preside at the meeting:
   1. Review the conditions of installation, preparation and installation procedures.
   2. Review coordination with the related work.

E. Record the minutes and distribute the copies within two days after the meeting to the participants, with copies to the Design Agent, Owner, participants, and those Consultants affected by the decisions made.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

01 3010 ADMINISTRATIVE REQUIREMENTS - Attachment A

A. Pre-installation Meetings

1. The following items of work will require pre-installation meetings:
   - Fire Alarm and Fire Sprinkler work in the Office Area / Attic
   - Fire Alarm and Fire Sprinkler work in Campus Dispatch

END OF ATTACHMENT

01 3020 ADMINISTRATIVE REQUIREMENTS - Attachment B
Small Project Changes

A. The following amendments are made to this Section in order to facilitate execution of smaller projects at URI. They apply to the work of this project. All portions of the specification Section not deleted or amended remain in full force and effect for this project.

B. Replace headings 1.01 C, D, E, and F with "C. Meetings".

C. Delete paragraphs 1.04, 1.05 and 1.07. Retitle 1.06 Progress Meetings to be "1.06 Meetings". Insert the words "or other requested" after "weekly" in 1.06 A. Delete subparagraph 1.06 D. Agenda. Meeting requirements may be less formal in small projects.

END OF ATTACHMENT

SECTION 01 3300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Submittal procedures.

B. Construction progress schedules.

C. Proposed products list.

D. Product data.

E. Shop drawings.

F. Design Data.

G. Samples.

H. Test reports.

I. Certificates.

J. Manufacturer's instructions.

K. Manufacturer's field reports.

L. Digital Photographs.

M. Erection drawings.

N. Construction photographs.

1.02 SUBMITTAL PROCEDURES

A. Master List Submittal:
   1. Submit a master list of the required submittals with a proposed date for each item to be submitted. See Attachment A for initial minimum list on which to base master.
   2. Show the date submittal was sent, days since submittal was sent, status of submittal, date submittal was received in return, and any date associated with resubmittals.
   3. Up date master list with each submission and response.
   4. Issue copy of master list at least monthly to the Design Agent.

B. Transmit each submittal with a dated Design Agent-accepted transmittal form.

C. Transmit printed copies and electronic PDF copy of each submittal to the Design Agent for review and comment as outlined in each section below.

D. Sequentially number the transmittal form. Mark revised submittals with an original number and a sequential alphabetic suffix.

E. Identify the Project, Contractor, subcontractor and supplier; the pertinent drawing and detail number, and the specification Section number, appropriate to the submittal.

F. Apply a Contractor's electronic stamp certifying that the review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of the information is in accordance with the requirements of the Work and the Contract Documents.

G. Schedule submittals to expedite the Project, and deliver to the Design Agent's FTP site. Coordinate the submission of related items.

H. For each submittal, allow 15 days for review.

I. Identify all variations from the Contract Documents and any Product or system limitations which may be detrimental to a successful performance of the completed Work.

J. Allow space on the submittals for the Contractor's, Design Agent's, and Consultant's electronic review stamps.

K. When revised for resubmission, identify the changes made since the previous submission.

L. Distribute copies of the reviewed submittals as appropriate. Reproduce as necessary to inform subcontractors without internet download capabilities. Instruct the parties to promptly report any inability to comply with the Contract requirements.

M. Produce additional copies as required for the Record Document purposes as described in Section 01 7800.

1.03 CONSTRUCTION PROGRESS SCHEDULES

A. Submit initial progress schedule in duplicate within 20 days after Date of Commencement for Design Agent to review. After a review, submit detailed schedules within 15 days modified to accommodate the revisions recommended by the Design Agent and Owner.

B. Distribute copies of the reviewed schedules to the Project site file, subcontractors, suppliers, and other concerned parties. Instruct the recipients to promptly report, in writing, the problems anticipated by the projections indicated in the schedules

C. Submit updated schedules with each Application for Payment, identifying changes since previous version as follows:
   1. Indicate the progress of each activity to the date of submittal, and the projected completion date of each activity.
   2. Identify the activities modified since the previous submittal, major changes in the scope, and other identifiable changes.
   3. Provide a narrative report to define the problem areas, the anticipated delays, and impact on the Schedule. Report the corrective action taken, or proposed, and its effect including the effect of changes on the schedules of separate contractors.

D. Submit a computer-generated horizontal bar chart with separate line for each major portion of the Work or operation, identifying the first work day of each week.

E. Show a complete sequence of construction by activity, identifying the Work of separate stages and other logically grouped activities. Indicate the early and late start, the early and late finish, float dates, and duration.

F. Indicate an estimated percentage of completion for each item of the Work at each submission.

G. Provide a separate schedule of submittal dates for shop drawings, product data, and samples, including Owner-furnished Products and Products identified under Allowances, if any, and the dates reviewed submittals will be required from the Design Agent. Indicate the decision dates for selection of the finishes.

H. Indicate the delivery dates for Owner furnished Products, and for Products identified under Allowances.

1.04 PROPOSED PRODUCTS LIST

A. Within 20 days after the Date of Commencement, submit a list of major products proposed for use, with the name of the manufacturer, the trade name, and the model number of each product.

B. For the products specified only by reference standards, give the manufacturer, trade name, model or catalog designation, and reference standards.

C. With each product listed, indicate the submittal requirements specified to be adhered to, and an indication of relevant "long-lead-time" information , when appropriate.

1.05 PRODUCT DATA

A. Product Data: Submit to the Design Agent for review for the limited purpose of checking for conformance with the information given and the design concept expressed in the Contract Documents. Provide copies and distribute in accordance with the SUBMITTAL PROCEDURES article and for the record documents purposes described in Section 01 7800.

B. Submit one (1) printed copy and one (1) electronic PDF copy for review. The Design Agent will retain the reviewed printed copy for record and return the reviewed electronic PDF copy to the Contractor for distribution.

C. Mark each copy to identify the applicable products, models, options, and other data. Supplement the manufacturers' standard data to provide the information specific to this Project.

D. Indicate the product utility and electrical characteristics, the utility connection requirements, and the location of utility outlets for service for functional equipment and appliances.

E. After a review distribute in accordance with the Submittal Procedures article above and provide copies for record documents described in Section 01 7800.

1.06 SHOP DRAWINGS

A. Shop Drawings: Submit to the Design Agent for review for the limited purpose of checking for conformance with the information given and the design concept expressed in the Contract Documents. Produce copies and distribute in accordance with the SUBMITTAL PROCEDURES article and for the record documents purposes described in Section 01 7800.

B. Submit two (2) printed copies and one (1) electronic PDF copy for review. The Design Agent and /or Consultants will retain the reviewed printed copies for record and return the reviewed electronic PDF copy to the Contractor for distribution.

C. Indicate the special utility and electrical characteristics, the utility connection requirements, and the location of utility outlets for service for functional equipments and appliances.

1.07 SAMPLES

A. Samples: Submit to the Design Agent for review for the limited purpose of checking for conformance with the information given and the design concept expressed in the Contract Documents. Produce duplicates and distribute in accordance with the

SUBMITTAL PROCEDURES article and for the record documents purposes described in Section 01 7800.

B. Samples for Selection as Specified in Product Sections:
   1. Submit to the Design Agent for aesthetic, color, or finish selection.
   2. Submit samples of the finishes in the colors selected for the Design Agent's records.
   3. After review, produce duplicates and distribute in accordance with the SUBMITTAL PROCEDURES article and for the record documents purposes described in Section 01 7800.

C. Submit samples to illustrate the functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate the sample submittals for interfacing Work.

F. Include identification on each sample, with the full Project information.

G. Submit at least the number of samples specified in the individual specification Sections; the Design Agent will retain two samples.

H. Reviewed samples, which may be used in the Work, are indicated in the individual specification Sections.

I. Samples will not be used for testing purposes unless they are specifically stated to be in the specification Section.

1.08 TEST REPORTS

A. Submit (1) printed and (1) electronic PDF lab reports in accordance with Section 01 4000.

B. Submit test reports for information for the limited purpose of assessing conformance with the information given and the design concept expressed in the Contract Documents.

1.09 DESIGN DATA

A. Submit (1) printed and (1) electronic PDF data for the Design Agent’s knowledge as contract administrator for the Owner.

B. Submit information for the limited purpose of assessing conformance with the information given and the design concept expressed in the Contract Documents.

1.10 CERTIFICATES

A. When specified in the individual specification Sections, submit (1) printed and (1) electronic PDF certification by the manufacturer, installation/application subcontractor, or the Contractor to the Design Agent in the quantities specified for the Product Data.

B. Indicate that the material or product conforms to or exceeds the specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

A. Certificates may be recent or previous test results on the material or product, but must be acceptable to the Design Agent and its Consultants.

1.10 MANUFACTURER'S INSTRUCTIONS

A. When specified in the individual specification Sections, submit (1) printed and (1) electronic PDF copy of instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to the Design Agent for delivery to the Owner in the quantities specified for Product Data.

B. Indicate the special procedures, and the perimeter conditions requiring special attention, and the special environmental criteria required for application or installation.

1.11 MANUFACTURER'S FIELD REPORTS

A. Submit (1) printed and (1) electronic PDF of reports for the Design Agent's benefit as contract administrator for the Owner.

B. Submit the report within 30 days of observation to the Design Agent for the limited purpose of assessing conformance with the information given and the design concept expressed in the Contract Documents.

1.12 DIGITAL PHOTOGRAPHS

A. Submit minimum 12 digital photographs of construction progress each month on the same CD as the project schedule submittal. Include both jpg. and reduced-size PDF versions for email use.

B. Include an additional minimum of 12 photographs documenting underground utilities when installed in relationship to visible site features.

C. Include photographs of important in-wall or ceiling utilities before close-in at appropriate stages of construction.

D. See Section 01 7800 for close-out copy requirements of these files.

1.13 ERECTION DRAWINGS

A. When specified in the individual Specification sections, the trade contractors shall submit (1) printed and (1) electronic PDF copy of erection drawings for review prior to proceeding with fabrication and/or construction.

B. Erection drawings shall be prepared in accordance with the latest edition of the respective trades' codes of standard practice.

C. All erection drawings shall be fully developed by the trade contractors or by agents of the contractors. CAD files, photocopies, or other reproductions of the contract drawings in whole or in part shall not be used by the trade contractors or their agents for the preparation and development of erections drawings without the expressed written consent of the Design Agent.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

01 3310 SUBMITTAL PROCEDURES - Attachment A

A. Submittal List

1. Product Data
2. Working Plans
3. Electronic Working Plans
4. Hydraulic Calculations
5. Field Test Reports and Certificates (Aboveground)
6. Testing documentation of backflow prevention device
7. Field Test Reports and Certificates (Underground)
8. Statement of Completion
9. Maintenance Data
10. As-Built Drawings
11. Valve Chart
12. Statement of Warranty

END OF ATTACHMENT

01 3320 SUBMITTAL PROCEDURES - Attachment B

A. The following amendments are made to this Section in order to facilitate execution of smaller projects at URI. They apply to the work of this project. All portions of the specification Section not deleted or amended remain in full force and effect for this project.

B. Delete headings 1.01 C, F, L, M, and N. Submittal requirements are reduced for small projects.

C. Replace subparagraph 1.02 A with the following:
"A. Submit all information listed in the Master List provided in Attachment A."

D. Delete paragraphs 1.12 and 1.13.

END OF ATTACHMENT

SECTION 01 4000 – QUALITY REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Quality control and control of installation.

B. Verification of Credentials and Licenses.

C. Tolerances

D. References.

E. Testing and inspection services.

F. Manufacturers' field services.

G. Mock-up Requirements.

1.02 QUALITY CONTROL AND CONTROL OF INSTALLATION

A. Monitor a quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of the specified quality.

B. Comply with all manufacturers' instructions and recommendations, including each step in sequence.

C. When the manufacturers' instructions conflict with the Contract Documents, request a clarification from the Design Agent before proceeding.

D. Comply with the specified standards as a minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform the Work by persons qualified to produce the required and specified quality.

F. Verify that field measurements are as indicated on the Shop Drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.03 VERIFICATION OF CREDENTIALS AND LICENSES

A. The Owner has implemented a project management oversight process and is applying it to current construction projects at URI.

B. An element of this oversight process is the verification that persons employed on the project site have appropriate and current credentials and licenses in their possession, at the project site, for the work they are performing.

C. Be forewarned that state resident inspectors will be checking for verification of credentials and licenses of both union and non-union persons, in their onsite inspections.

D. State resident inspectors will also be reviewing Contractor's Certified Monthly Payroll Records for conformance with RI State Prevailing Wage Rate requirements.

E. Those persons without the appropriate credentials and licenses will be subject to dismissal from the project site.

1.04 TOLERANCES

A. Monitor the fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with the manufacturers' tolerances. When the manufacturers' tolerances conflict with the Contract Documents, request a clarification from the Design Agent before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.05 REFERENCES

A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard by the date of issue current on the date of the Contract Documents, except where a specific date is established by code.

C. Obtain copies of the standards where required by the product specification Sections.

D. When the specified reference standards conflict with the Contract Documents, request a clarification from the Design Agent before proceeding.

E. Neither the contractual relationships, duties, or responsibilities of the parties in the Contract, nor those of the Design Agent, shall be altered from the Contract Documents by mention or inference otherwise in reference documents.

1.06 TESTING AND INSPECTION SERVICES

A. The Contractor will submit the name of an independent firm to the Design Agent for approval by the Owner, to perform the testing and inspection services. The Contractor shall pay for all the services required in the Base Bid as described in Attachment A. Contractor shall coordinate any Owner-authorized testing also described in Attachment A, to be paid for from Testing Allowance.

B. The independent firm will perform the tests, inspections and other services specified in the individual specification Sections and as required by the Design Agent or its Consultants.
   1. Laboratory: Authorized to operate in the location in which the Project is located.
   2. Laboratory Staff: Maintain a full time registered Engineer on staff to review the services.
   3. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either the National Bureau of Standards or to the accepted values of natural physical constants.

C. Testing, inspections and source quality control may occur on or off the project site. Perform off-site testing as required by the Design Agent or the Owner.

D. Reports will be submitted by the independent firm to the Design Agent, the Consultant for that trade, and the Contractor, in duplicate, indicating the observations and results of tests and indicating the compliance or non-compliance with Contract Documents.

E. Cooperate with the independent firm; furnish samples of the materials, design mix, equipment, tools, storage, safe access, and the assistance by incidental labor as requested.
   1. Notify the Design Agent and Engineer and the independent firm 24 hours prior to the expected time for operations requiring services.
   2. Make arrangements with the independent firm and pay for additional samples and tests required for the Contractor's use.

F. Testing and employment of the testing agency or laboratory shall not relieve the Contractor of an obligation to perform the Work in accordance with the requirements of the Contract Documents.

G. Re-testing or re-inspection required because of a non-conformance to the specified requirements shall be performed by the same independent firm on instructions by the Design Agent or its Consultant. Payment for the re-testing or re-inspection will be charged to the Contractor by deducting the testing charges from the Contract Sum.

H. Agency Responsibilities:
   1. Test samples of mixes submitted by the Contractor.
   2. Provide qualified personnel at the site. Cooperate with the Design Agent or its Consultant and the Contractor in performance of services.
   3. Perform specified sampling and testing of the products in accordance with the specified standards.
   4. Ascertain compliance of the materials and mixes with the requirements of the Contract

Documents.

5. Promptly notify the Design Agent, Consultant and the Contractor of observed irregularities or non-conformance of the Work or products.
6. Perform additional tests required by the Design Agent or its Consultants.
7. Attend the preconstruction meetings and the progress meetings.

I. Agency Reports: After each test, promptly submit two copies of the report to the Design Agent, appropriate Consultant, and to the Contractor. When requested by the Design Agent, provide an interpretation of the test results. Include the following:
   1. Date issued.
   2. Project title and number.
   3. Name of inspector.
   4. Date and time of sampling or inspection.
   5. Identification of product and specifications section.
   6. Location in the Project.
   7. Type of inspection or test.
   8. Date of test.
   9. Results of tests.
   10. Conformance with Contract Documents.

J. Limits On Testing Authority:
   1. Agency or laboratory may not release, revoke, alter, or enlarge on the requirements of the Contract Documents.
   2. Agency or laboratory may not approve or accept any portion of the Work.
   4. Agency or laboratory may not assume any duties of the Contractor.
   5. Agency or laboratory has no authority to stop the Work.

1.08 MANUFACTURERS' FIELD SERVICES

A. When specified in the individual specification Sections, require the material or Product suppliers, or manufacturers, to provide qualified staff personnel to observe the site conditions, the conditions of the surfaces and installation, the quality of workmanship, the start-up of equipment, or test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.

B. Submit the qualifications of the observer to the Design Agent 30 days in advance of the required observations. Observer is subject to approval of the Design Agent.

C. Report the observations and the site decisions or instructions given to the applicators or installers that are supplemental or contrary to the manufacturers' written instructions.

D. Refer to Section 01 3300 - SUBMITTAL PROCEDURES, MANUFACTURERS' FIELD REPORTS article.

1.09 MOCK-UP REQUIREMENTS

A. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

B. Accepted mock-ups shall be a comparison standard for the remaining Work.

C. Where mock-up has been accepted by Design Agent and is no longer needed, remove mock-up and clear area when directed to do so.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not used.

END OF SECTION

01 4010 QUALITY REQUIREMENTS - Attachment A

A. Base Bid Testing Requirements List

1. *Hydrant Flow Test*
2. *Hydrostatic Test*
3. *Underground Flush*
4. *Integrity and Functional Testing*
5. *Acceptance Testing*

END OF ATTACHMENT

01 4020 QUALITY REQUIREMENTS - Attachment B

A. The following amendments are made to this Section in order to facilitate execution of smaller projects at URI. They apply to the work of this project. All portions of the specification Section not deleted or amended remain in full force and effect for this project.

B. Delete header 1.01 G. Delete paragraph 1.09. No mock-ups required.

END OF ATTACHMENT

SECTION 01 5000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Temporary Utilities:
   1. Temporary electricity.
   2. Temporary lighting for construction purposes.
   3. Temporary heating.
   4. Temporary cooling.
   5. Temporary ventilation.
   6. Telephone service.
   7. Temporary water service.
   8. Temporary sanitary facilities.

B. Construction Facilities:
   1. Field offices and sheds.
   2. Hoisting.
   3. Parking/Traffic.
   4. Progress cleaning and waste removal.
   5. Project identification.
   6. Traffic regulation.

C. Temporary Controls:
   1. Barriers.
   2. Enclosures and fencing.
   3. Security.
   4. Fire detection.
   5. Water control.
   6. Dust control.
   7. Erosion and sediment control.
   8. Noise control.
   9. Pest control.
   10. Pollution control.
   11. Rodent control.

D. Removal of utilities, facilities, and controls with reseeding and repair of grounds.

E. See Attachment A for any modifications.

1.02 TEMPORARY ELECTRICITY

A. The Owner will pay the cost of energy used. Exercise measures to conserve energy. Utilize the Owner's existing power service.
B. Complement the existing power service capacity and characteristics as required for construction operations.

C. Provide power outlets, with branch wiring and distribution boxes located at each floor or as required for construction operations. Provide flexible power cords as required for portable construction tools and equipment. All flexible power cords shall be suspended with hangers to eliminate trip hazards.

D. Provide main service disconnect and over-current protection at a convenient location, or a feeder switch at the source distribution equipment or meter.

E. Permanent convenience receptacles may not be utilized during construction.

F. Provide distribution equipment, wiring, and outlets to provide single-phase branch circuits for power. Provide 20-ampere duplex outlets, single-phase circuits for power tools.

1.03 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. Provide and maintain incandescent lighting for construction operations to achieve a minimum lighting level of 2 watt/sq ft (21 watt/sq m).

B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

C. Maintain lighting and provide routine repairs.

D. Permanent building lighting may be utilized during construction where not removed.

1.04 TEMPORARY HEATING

A. Existing facilities will be occupied and heated by the University when temperatures require. Take care to avoid leaving doors open in exterior walls that could compromise heating operations. For new construction, the cost of energy will be borne by the Contractor. Provide temporary heating as necessary for construction operations.

B. Supplement with temporary heat devices if needed to maintain the specified conditions for construction operations even in existing buildings.

C. Maintain a minimum ambient temperature of 50 degrees F in the areas where construction is in progress, unless indicated otherwise in the product Sections.

D. In areas of work with mechanical hot-air heating, clean units and replace filters after Substantial Completion.

E. Do not use new equipment for heating after replacement during construction.

1.05 TEMPORARY COOLING

A. Existing cooling facilities are typically not available.

B. Provide and pay for cooling devices and cooling as needed to maintain the specified conditions for construction operations.

C. Maintain a maximum ambient temperature of 80 degrees F in the areas where construction is in progress, unless indicated otherwise in the specifications.

1.06 TEMPORARY VENTILATION

A. Ventilate enclosed areas to achieve a curing of materials, to dissipate humidity, and to prevent the accumulation of dust, fumes, vapors, or gases.

B. If existing ventilation fans are used during construction, clean fans in areas of work after Substantial Completion.

1.07 TELEPHONE SERVICE

A. Provide, maintain, and pay for cell phone service to the field supervisor at the time of project mobilization and until project Final Completion.

1.08 TEMPORARY WATER SERVICE

A. The Owner will pay the cost of temporary water. Exercise measures to conserve energy. Utilize the Owner's existing water system, extend and supplement with temporary devices as needed to maintain the specified conditions for construction operations.

B. Extend branch piping with outlets located so that water is available by hoses with threaded connections. Provide temporary pipe insulation if needed to prevent freezing.

1.09 TEMPORARY SANITARY FACILITIES

A. Contractor shall provide and maintain temporary toilet facilities for use by all construction personnel. Trades people will not be permitted to use existing facilities within the building.

1.10 FIELD OFFICES AND SHEDS

A. Do not use existing facilities for storage. Job meetings will be held on campus at a location to be chosen by the University.

B. Storage Areas and Sheds: Size to the storage requirements for the products of the individual Sections, allowing for access and orderly provision for the maintenance and for the inspection of Products to the requirements of Section 01 6000. Containers will be permitted within the project limit line. Coordinate with URI for storage areas.

C. Preparation: Fill and grade the sites for the temporary structures to provide drainage away from the buildings.

D. Removal: At the completion of the Work remove the buildings, foundations, utility services, and debris. Restore the areas.

1.11 HOISTING

A. Contractor is responsible for all hoisting required to facilitate, serve, stock, clean, and complete the Work. Include all costs for Operating Engineers, fuel, delivery and removal, mobilization, staging, protection of grades and surfaces, and equipment.

1.12 PARKING/TRAFFIC

A. Workers must park in lots assigned by the University with daily permits. See Site Utilization Plan.

B. Use of designated existing on-site streets and driveways for construction traffic is permitted. Tracked vehicles are not allowed on paved areas.

C. Do not allow heavy vehicles or construction equipment in parking areas.

D. Do not allow vehicle parking on existing sidewalks.

E. Provide and maintain access to fire hydrants and control valves free of obstructions.

F. Remove mud from construction vehicle wheels before entering streets. Cleanup dirt, rocks, and debris left on street from construction vehicles.

G. Use designated existing on-site roads for construction traffic.

H. Maintenance:
   1. Maintain the traffic and parking areas in a sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
   2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain the paving and drainage in original, or specified, condition.

I. Removal, Repair:
   1. Remove temporary materials and at Substantial Completion.
   2. Remove underground work and compacted materials to a depth of 2 feet; fill and grade the site as specified.
   3. Repair existing and permanent facilities damaged by use, to the original or specified condition.

1.13 PROGRESS CLEANING AND WASTE REMOVAL

A. Maintain areas free of waste materials, debris, and rubbish. Maintain the site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other remote spaces, prior to enclosing the space.

C. Broom and vacuum clean the interior areas prior to the start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and rubbish from the site daily, as necessary to prevent an on-site accumulation of waste material, debris, and rubbish, and dispose off-site.

E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.14 PROJECT IDENTIFICATION

A. Project Identification Sign: One painted sign, 32 sq ft area, bottom 6 feet above the ground.
   1. Content:
      a. Project title, and name of the Owner as indicated on the Contract Documents.
      b. Names and titles of the authorities.
      c. Names and titles of the Design Agent and Consultants.
      d. Name of the Design Agent Contractor.
   2. Graphic Design, Colors, and Style of Lettering: 3 colors, as designated by the Design Agent during construction.

B. Project Informational Signs:
   1. Painted informational signs of same colors and lettering as the Project Identification sign, or standard products; size lettering to provide legibility at 100-foot distance.
   2. Provide sign at each field office, storage shed, and directional signs to direct traffic into and within site. Relocate as the Work progress requires.
   3. No other signs are allowed without the Owner's permission except those required by law.

C. Design all signs and their structures to withstand a 60-miles/hr-wind velocity.

D. Sign Painter: Experienced as a professional sign painter for a minimum of three years.

E. Finishes, Painting: Adequate to withstand weathering, fading, and chipping for the duration of construction.

F. Show content, layout, lettering, color, foundation, structure, sizes, and grades of members.

G. Installation:
   1. Install the project identification sign within 15 days after the date of receipt of the Purchase Order from State of Rhode Island Department of Administration, Division of Purchases.
   2. Erect at the designated location.
   3. Erect the supports and framing on a secure foundation, rigidly braced and framed to resist wind loadings.
   4. Install the sign surface plumb and level, with butt joints. Anchor securely.
   5. Paint exposed surfaces of the sign, supports, and framing.

H. Maintenance: Maintain the signs and supports clean, repair deterioration and damage.

I. Removal: Remove the signs, framing, supports, and foundations at the completion of the Project and restore the area.

1.15 TRAFFIC REGULATION

A. Signs, Signals, and Devices:
   1. Post Mounted and Wall Mounted Traffic Control and Informational Signs: As approved by local jurisdictions.
   2. Traffic Cones and Drums, Flares and Lights: As approved by local jurisdictions.
   3. Flag person Equipment: As required by local jurisdictions.
   4. Police Details: Provide all police details as required by local jurisdictions, including payment directly to officers.

B. Flag Persons: Provide trained and equipped flag persons to regulate the traffic when construction operations or traffic encroach on the public traffic lanes.

C. Flares and Lights: Use flares and lights during the hours of low visibility to delineate the traffic lanes and to guide traffic.

D. Haul Routes:
   1. Consult with the authority having jurisdiction, establish the public thoroughfares to be used for haul routes and site access.

E. Traffic Signs and Signals:
   1. At approaches to the site and on site, install at crossroads, detours, parking areas, and elsewhere as needed to direct the construction and affected public traffic.
   2. Install and operate automatic traffic control signals to direct and maintain the orderly flow of traffic in areas under the Contractor's control, and areas affected by the Contractor's operations.
   3. Relocate as the Work progresses, to maintain effective traffic control.

F. Removal:
   1. Remove equipment and devices when no longer required.
   2. Repair damage caused by installation.
   3. Remove post settings to a depth of 2 feet .

1.16 BARRIERS

A. Provide barriers to allow for the Owner's use of the site and to protect existing facilities and adjacent properties from damage from the construction operations, or demolition.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way, or for public access to the building.

C. Provide protection for plants designated to remain. Replace damaged plants.

D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.17 ENCLOSURES AND FENCING

A. Construction: Provide 6-ft. high commercial grade chain link fence around on-site equipment or areas of site disturbance for the period required to protect work and the public. Equip with vehicular and pedestrian gates with locks. Provide one set of keys to all gates and door locks to the Owner.

A. Perform adjustment to the proposed layout as may be directed by the Owner.

B. Interior Enclosures:
   1. Provide temporary partitions and ceilings as indicated to separate the work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to the existing materials and equipment.
   2. Construction: Framing and reinforced polyethylene, plywood, or gypsum board sheet materials with closed joints and sealed edges at intersections with existing surfaces, as agreed with the Owner:
      a. Maximum flame spread rating of 75 in accordance with ASTM E84.

1.18 SECURITY

A. Security Program:
   1. Protect the Work, the existing premises, or the Owner's operations from theft, vandalism, and unauthorized entry.
   2. Initiate the program in coordination with the Owner's existing security system at mobilization.
   3. Maintain the program throughout the construction period until Owner occupancy of each designated area.

B. Entry Control: Coordinate the access of the Owner's personnel to the site in coordination with the Owner's security forces.

1.19 FIRE DETECTION

A. Before beginning any construction operation that can potentially trigger the existing fire alarm detection system, notify the Owner through use of the form provided in Section 01 1020.

B. Failure to so notify the Owner will subject the Contractor to a monetary fine for each occurrence, should the fire detection system be activated inadvertently by a construction activity.

C. Comply with FM Global insurance underwriting standards and insurer recommendations for Hot Work, sprinkler impairment, and site maintenance.

1.20 WATER CONTROL

A. Grade the site to drain. Maintain excavations free of water. Provide, operate, and maintain the pumping equipment.

B. Protect the site from puddling or running water. Provide water barriers as required to protect the site from soil erosion.

1.21 DUST CONTROL

A. Execute the Work by methods to minimize raising dust from construction operations.

B. Provide positive means to prevent air-borne dust from dispersing into the atmosphere.

1.22 EROSION AND SEDIMENT CONTROL

A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.

B. Minimize the amount of bare soil exposed at one time.

C. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.

D. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.

E. Periodically inspect the earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

1.23 NOISE CONTROL

A. Provide methods, means, and facilities to minimize noise produced by the construction operations.

1.24 PEST CONTROL

A. Provide methods, means, and facilities to prevent pests and insects from damaging the Work, or entering the facility.

1.25 POLLUTION CONTROL

A. Provide methods, means, and facilities to prevent the contamination of soil, water, and the atmosphere from discharge of noxious, toxic substances, and pollutants produced by the construction operations.

1.26 RODENT CONTROL

A. Provide methods, means, and facilities to prevent rodents from accessing or invading the premises.

1.27 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, and materials, prior to Substantial Completion.

B. Remove the underground installations to a minimum depth of 2 feet. Grade the site as indicated.

C. Clean and repair the damage caused by installation or use of temporary work.

D. Restore the existing and new facilities used during construction to their original condition.

E. Restore any temporary exterior laydown or storage areas to the original condition. After each use, regrade and reseed as required to meet this requirement.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

01 5010 TEMPORARY FACILITIES AND CONTROLS - ATTACHMENT A

A. No variations in this section for this Project.

END OF ATTACHMENT

01 5020 TEMPORARY FACILITIES AND CONTROLS - Attachment B

A. The following amendments are made to this Section in order to facilitate execution of smaller projects at URI. They apply to the work of this project. All portions of the specification Section not deleted or amended remain in full force and effect for this project.

B. Delete all lines 1.01 A.1thru 8 and B.1 thru 6. Delete paragraph 1.01 C.

C. Delete 1.02 B, C, D and E. Delete 1.03 A and B. Power distribution work not required.

D. Delete subparagraphs 1.10 C and D. No field offices temporary utilities anticipated on small projects.

E. Delete paragraph 1.11 Hoisting.

F. Delete subparagraphs 1.12 H and I.

G. Delete paragraphs 1.14, 1.15, 1.16, 1.17, 1.20, 1.21, 1.22, 1.24, 1.26 and subparagraph 1.27 B, assuming that most small projects do not involve enclosure requirements or exterior/ sitework changes.

END OF ATTACHMENT

SECTION 01 6000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Products.

B. Product delivery requirements.

C. Product storage and handling requirements.

D. Product options.

E. Product substitution procedures.

1.02 PRODUCTS

A. Products: Means new material, machinery, components, fixtures, or systems forming the Work; but does not include the machinery or equipment used for the preparation, fabrication, conveying, or erection of the Work. Products may include the existing materials or components required or specified for reuse.

B. Furnish products of qualified manufacturers suitable for the intended use. Furnish products of each type by a single manufacturer unless specified otherwise.

C. Do not use materials and equipment removed from the existing premises, except as specifically permitted by the Contract Documents.

D. Furnish interchangeable components of the same manufacturer for the components being replaced.

1.03 PRODUCT DELIVERY REQUIREMENTS

A. Transport and handle products in accordance with the manufacturer's instructions.

B. Promptly inspect shipments to ensure that the products comply with the requirements, the quantities are correct, and the products are undamaged.

C. Provide equipment and personnel to handle the products by methods to prevent soiling, disfigurement, or damage.

1.04 PRODUCT STORAGE AND HANDLING REQUIREMENTS

A. Store and protect the products in accordance with the manufacturers' instructions.

B. Store with seals and labels intact and legible.

C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to the product.

D. For exterior storage of fabricated products, place on sloped supports above the ground.

E. Provide bonded off-site storage and protection when the site does not permit on-site storage or protection.

F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent the condensation and degradation of products.

G. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

H. Provide equipment and personnel to store the products by methods to prevent soiling, disfigurement, or damage.

I. Arrange storage of the products to permit access for inspection. Periodically inspect to verify that the products are undamaged and are maintained in acceptable condition.

1.05 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Products of one of the manufacturers named and meeting the specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named in accordance with the following article.

1.06 PRODUCT SUBSTITUTION PROCEDURES

A. Instructions to Bidders specify the time restrictions for submitting requests for Substitutions during the bidding period to requirements specified in this section.

B. Substitutions may be considered after the bid only in the following circumstances:
   1. when a product becomes no longer in production following the date of receipt of the Purchase Order for this Contract. Submit certification both that specified product was carried in Bid, and is no longer obtainable. Provide cost change documentation.
   2. there is a significant cost savings offered to the Owner. Provide price comparison of both bid and offered substitution products as well as all collateral costs of the change.

3. Code changes or site conditions require a different item from that bid. Submit as for 2 above.

C. Document each request with complete data substantiating the compliance of a proposed Substitution with the Contract Documents.

D. A request constitutes a representation that the Bidder:
   1. Has investigated the proposed Product and determined that it meets or exceeds the quality level of the specified product.
   2. Will provide the same warranty for the Substitution as for the specified Product.
   3. Will coordinate the installation and make changes to other Work which may be required for the Work to be complete with no additional cost to the Owner, including redesign.
   4. Waives claims for additional costs or time extension which may subsequently become apparent.
   5. Will reimburse the Owner and the Design Agent for review or redesign services, including those associated with re-approval by the authorities having jurisdiction.

E. Substitutions will not be considered when they are indicated or implied on the Shop Drawing or Product Data submittals, without a separate written request, or when acceptance will require revision to the Contract Documents.

F. Substitution Submittal Procedure, If Permitted Following Contract Award:
   1. Submit three copies of a request for Substitution for consideration, no later than 20 working days following date of receipt of the Purchase Order for this Contract. Limit each request to one proposed Substitution.
   2. Submit the Shop Drawings, Product Data, and the certified test results attesting to the proposed product equivalence. The burden of proof is on the proposer.
   3. The Design Agent will notify the Contractor in writing of a decision to accept or reject the request. Costs for review time on unsuccessful requests will be included in the next change order.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

01 6010 PRODUCT REQUIREMENTS - Attachment A

A. No variations in this section for this Project.

END OF ATTACHMENT

01 6020 PRODUCT REQUIREMENTS - Attachment B

A. The following amendments are made to this Section in order to facilitate execution of smaller projects at URI. They apply to the work of this project. All portions of the specification Section not deleted or amended remain in full force and effect for this project.

B. No amendments are necessary in the Section due to project size. See Attachment A for project specific amendments.

END OF ATTACHMENT

SECTION 01 7000 - EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Examination.

B. Preparation.

C. Field Engineering.

D. Protection of adjacent construction.

E. Cutting and patching.

F. Special procedures.

G. Starting and adjusting of systems.

H. Demonstration and Instructions.

I. Testing, adjusting and balancing.

J. Protecting Installed Construction.

1.02 EXAMINATION

A. Acceptance of Conditions:
   1. Verify that existing applicable site conditions, substrates, or substrate surfaces are acceptable or meet specific requirements of individual specifications Sections, for subsequent Work to proceed.
   2. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
   3. Examine and verify specific conditions described in individual specifications Sections.
   4. Verify that utility services are available, of correct characteristics, and in correct locations.
   5. Beginning of new Work, that relies upon the quality and proper execution of Work of a preceding trade, means acceptance of that preceding Work as appropriate for the proper execution of subsequent Work.
   6. Acceptance of preceding Work that can be shown later to have adversely affected proper performance of new Work may result in removal and repeat performance of all Work involved at no cost to the Owner.

1.03 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply substrate primer, sealer, or conditioner, required or recommended by manufacturer, prior to applying any new material or substance in contact or bond.

D. Prior to the application, installation, or erection of any products and product components, perform any other preparatory operations, or surface or substrate modifications, as may be specified or directed by product manufacturers.

1.04 FIELD ENGINEERING

A. Employ a Land Surveyor registered in the State of Rhode Island and acceptable to Design Agent and the Owner if required by subgrade work.

B. Locate and protect survey control and reference points. Promptly notify Design Agent of any discrepancies discovered.

C. Control Datum for survey is to be agreed to with the Design Agent.

D. Verify setbacks and easements, if any; confirm drawing dimensions and elevations.

E. Provide field-engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.

F. Submit a copy of site drawings and certificate signed by the Land Surveyor that the elevations and locations of the Work are in conformance with the Contract Documents.

G. Maintain a complete and accurate log of control and survey work as it progresses.

H. If required by the Owner, on completion of foundation walls and major site improvements, prepare a certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.

I. Protect survey control points prior to starting site work; preserve permanent reference point during construction.

J. Promptly report to Design Agent the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

K. Replace dislocated survey control point based on original survey control. Make no changes without prior written notice to Design Agent.

1.05 PROTECTION OF ADJACENT CONSTRUCTION

A. Protect existing adjacent properties and provide special protection where specified in individual Specification Sections.

B. Provide protective coverings at wall, projections, jambs, sills, and soffits of existing openings.

C. Protect existing finished floors, stairs, and other existing surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

D. Cover and protect furnishings, materials and equipment within the spaces receiving new work. Move items as necessary to install new work and return them to original locations at the close of construction in that area.

E. Repair adjacent properties damaged by construction operations to original condition to the satisfaction of the Owner.

F. Prohibit unnecessary traffic from existing landscaped areas.

G. Restore grassed landscaped areas damaged by construction operations to full healthy growth, by installing loam and sod to the requirements, and under the supervision of, the University's Associate Director of Lands and Grounds.

1.06 CUTTING AND PATCHING

A. Employ skilled and experienced installers to perform cutting and patching.

B. Submit written request in advance of cutting or altering elements which affect:
   1. Structural integrity of element.
   2. Integrity of weather-exposed or moisture-resistant elements.
   3. Efficiency, maintenance, or safety of element.
   4. Visual qualities of sight-exposed elements.
   5. Existing construction, or Work of separate contractor.

C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
   1. Fit the several parts together, to integrate with other Work.
   2. Uncover Work to install or correct ill-timed Work.
   3. Remove and replace defective and non-conforming Work.
   4. Remove samples of installed Work for testing.
   5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

D. Execute Work by methods that will avoid damage to other Work, and provide proper surfaces to receive patching and finishing.

E. Cut masonry, concrete, and other rigid materials using masonry saw or core drill.

F. Remove ceiling tiles as necessary to access areas of work. Store and replace carefully to avoid damage. Replace all ceiling tiles damaged during the work with new tiles to match. Repair ACT grid damaged during the work in accordance with this section.

G. Restore Work with new Products in accordance with requirements of Contract Documents.

H. Fit Work tight to pipes, sleeves, ducts, conduits, and other penetrations through surfaces.

I. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

J. At penetration of fire rated partitions, ceiling, or floor construction, completely seal voids with fire rated or fire resistant material in accordance with Specifications, to full thickness of the penetrated element.

K. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

L. Identify any hazardous substance or conditions exposed during the Work to the Owner and Design Agent for decision or remedy.

M. See General Conditions for additional requirements.

1.07 SPECIAL PROCEDURES

A. Materials: As specified in product Sections; match existing with new products, or salvaged products as appropriate, for patching and extending work.

B. Employ skilled and experienced installer to perform alteration work.

C. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.

D. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

E. Remove debris and abandoned items from area and from concealed spaces.

F. Prepare surface and remove surface finishes to provide installation of new Work and finishes.

G. Close openings in exterior surfaces to protect existing Work from weather and extremes of temperature and humidity.

H. Remove, cut, and patch Work in a manner to minimize damage and to provide means of restoring products and finishes to original or specified condition.

I. Refinish existing visible surfaces to remain in renovated rooms and spaces to specified condition for each material, with a neat transition to adjacent finishes.

J. Where new Work abuts or aligns with existing, provide a smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.

K. When finished surfaces are cut so that a smooth transition with new Work is not possible, terminate existing surface along a straight line at a natural line of division and submit recommendation to Design Agent for review.

L. Where a change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition to Design Agent for review.

M. Trim existing doors as necessary to clear new floor finish. Refinish trim as required.

N. Patch or replace portions of existing surfaces which are damaged, or showing other imperfections.

O. Finish surfaces as specified in individual product Sections, or as indicated on the Drawings.

1.08 STARTING AND ADJUSTING OF SYSTEMS

A. Coordinate schedule for starting and adjusting of various equipment and systems.

B. Notify Design Agent and Owner seven days prior to starting and adjusting of each item.

C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or other conditions which may cause damage.

D. Verify that tests, meter readings and specified electrical characteristics agree with those required by the equipment or system manufacturer.

E. Verify wiring and support components for equipment are complete and tested.

F. Execute starting and adjusting under supervision of responsible Contractor's personnel or manufacturer's representative, in accordance with manufacturer's instructions.

G. Adjust operating Products and equipment to ensure smooth and unhindered operation.

H. When specified in individual specifications Section, require manufacturer to provide authorized representative to be present at the site to inspect, check, and approve equipment or system installation prior to starting, and to supervise placing of equipment or system in operation.

I. Submit a written report in accordance with Section 01400 that equipment or system has been properly installed and is functioning correctly.

1.09 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of Products to Owner's personnel two weeks prior to date of Substantial Completion.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Utilize operation and maintenance manuals as basis for instruction. Review contents of manuals with Owner's personnel in detail to explain all aspects of operation and maintenance.

D. Demonstrate start-up, operation, control, adjustment, trouble shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled or agreed upon times, at equipment or system location.

E. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

1.10 TESTING, ADJUSTING, AND BALANCING

A. Submit, for the Owner's approval, the name of an independent firm to perform testing of fire systems. The independent firm's services will be paid for by the Contractor.

B. The independent firm will perform services specified in individual specifications Sections.

C. Reports will be submitted by the independent firm to the Design Agent and the Owner indicating observations and test results, indicating compliance or non-compliance with specified requirements and with the requirements of the Contract Documents.

1.11 PROTECTING INSTALLED CONSTRUCTION

A. Protect installed Work and provide special protection where specified in individual specification sections.

B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

E. Repair or replace installed Work damaged by construction operations, as directed by the Design Agent.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

01 7010 EXECUTION REQUIREMENTS - Attachment A

A. Daily Attendance Form

1. Maintain Daily Attendance Form acceptable to the Department of Labor and Training for all projects with a contract value over $1Million. Submit as requested.

END OF ATTACHMENT

01 7020 EXECUTION REQUIREMENTS - Attachment B
Small Project Changes

A. The following amendments are made to this Section in order to facilitate execution of smaller projects at URI. They apply to the work of this project. All portions of the specification Section not deleted or amended remain in full force and effect for this project.

B. Delete heading 1.01C, Field Engineering and entire subsection 1.04 FIELD ENGINEERING.

END OF ATTACHMENT

SECTION 01 7320

WASTE MANAGEMENT

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Required Recycling, Salvage, and Reuse: The following may not be disposed of in landfills or by incineration:
   1. Aluminum and plastic beverage containers.
   2. Corrugated cardboard.
   3. Wood pallets.
   4. Clean dimensional wood: May be used as blocking or furring.
   5. Land clearing debris, including brush, branches, logs, and stumps.
   6. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
   7. Glass.
   8. Gypsum drywall and plaster.
   9. Plastic buckets.
   10. Paper, including wrapping, newsprint, and office.

E. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, incineration, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports. Submit in accordance with Section 01 3300.

F. Contractor shall develop and follow a Waste Management Plan designed to implement these requirements.

G. Methods of trash/waste disposal that are not acceptable are:
   1. Burning on the project site.
   2. Burying on the project site.
   3. Dumping or burying on other property, public or private.
   4. Other illegal dumping or burying.

H. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. Section 01 5000 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.

C. Section 01 6000 - Product Requirements: Waste prevention requirements related to delivery, storage, and handling.

D. Section 01 7000 - Execution Requirements: Trash/waste prevention procedures related to

demolition, cutting and patching, installation, protection, and cleaning.

1.03 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.04 SUBMITTALS

A. See Section 01 3300 for submittal procedures.

B. Waste Management Plan: Include the following information:
   1. Analysis of the trash and waste projected to be generated during the entire project construction cycle, including types and quantities.
   2. Landfill Options: The name, address, and telephone number of the landfill(s) where trash/waste will be disposed of, the applicable landfill tipping fee(s), and the projected cost of disposing of all project trash/waste in the landfill(s).
   3. Landfill Alternatives: List all waste materials that will be diverted from landfills by reuse, salvage, or recycling.
   4. Meetings: Describe regular meetings to be held to address waste prevention, reduction, recycling, salvage, reuse, and disposal.

5. Materials Handling Procedures: Describe the means by which materials to be diverted from landfills will be protected from contamination and prepared for acceptance by designated facilities; include separation procedures for recyclables, storage, and packaging.
6. Transportation: Identify the destination and means of transportation of materials to be recycled; i.e. whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler.

C. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.
1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
2. Submit Report on a form acceptable to Owner.
3. Landfill Disposal: Include the following information:
   a. Identification of material.
   b. Amount, in tons or cubic yards, of trash/waste material from the project disposed of in landfills.
   c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
   d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
4. Incinerator Disposal: Include the following information:
   a. Identification of material.
   b. Amount, in tons or cubic yards, of trash/waste material from the project delivered to incinerators.
   c. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.
   d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
5. Recycled and Salvaged Materials: Include the following information for each:
   a. Identification of material, including those retrieved by installer for use on other projects.
   b. Amount, in tons or cubic yards, date removed from the project site, and receiving party.
   c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
   d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.
6. Material Reused on Project: Include the following information for each:
   a. Identification of material and how it was used in the project.
   b. Amount, in tons or cubic yards.
   c. Include weight tickets as evidence of quantity.
7. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION

3.01 WASTE MANAGEMENT PROCEDURES

A. See Section 01 1000 for list of items to be salvaged from the existing building for relocation in project or for Owner.

B. See Section 01 3000 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

C. See Section 01 5000 for additional requirements related to trash/waste collection and removal facilities and services.

D. See Section 01 6000 for waste prevention requirements related to delivery, storage, and handling.

E. See Section 01 7000 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, Owner's Recycling and Solid Waste Coordinator, and Design Agent.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings.
   1. Pre-bid meeting.
   2. Pre-construction meeting.
   3. Regular job-site meetings.

E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
   1. Provide containers as required.
   2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
   3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

01 7330 WASTE MANAGEMENT - Attachment A

A. No variations in this section for this Project.

END OF ATTACHMENT

01 7331 WASTE MANAGEMENT - Attachment B
Small Project Changes

A. The following amendments are made to this Section in order to facilitate execution of smaller projects at URI. They apply to the work of this project. All portions of the specification Section not deleted or amended remain in full force and effect for this project.

B. Delete paragraphs 1.01 F and 1.04 B. Change heading at 3.02 to be "WASTE MANAGEMENT PROCEDURES. Delete paragraphs 3.02 A, B and D. No Waste Management Plan will be required.

C. Delete lines 1.04 C.4c, .4d, .5c, .5d and .6c. Required back-up is reduced.

END OF ATTACHMENT

SECTION 01 7800 - CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Closeout procedures.

B. Quality assurance.

C. Maintenance service.

D. Operations and maintenance manuals.

E. Materials and finishes manuals.

F. Equipment and systems manuals.

G. Spare parts and maintenance materials.

H. Product warranties and product bonds.

I. Project Record documents.

1.02 CLOSEOUT PROCEDURES

A. Submit a written certification that the Contract Documents have been reviewed, the Work has been inspected, and that the Work is complete in accordance with the Contract Documents and is ready for the Owner's review.

B. Provide submittals to Design Agent that are required by governing or other authorities, including
abatement invoices correctly prepared as proscribed in the abatement plan. Failure to include correctly prepared abatement invoices will delay issuing of final payment.

C. Provide submittals to Design Agent that are required by the governing or other authorities, including
the following closeout documents:
1. AIA Document G706 - Contractor's Affidavit of Payment of Debts and Claims
2. AIA Document G706A - Contractor's Affidavit of Release of Liens
3. AIA Document G707 - Consent of Surety to Final payment

D. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

E. The Owner will occupy all portions of the building after Substantial Completion as specified in Section 01 1000.

1.03 QUALITY ASSURANCE

A. Employ personnel assembling submittals experienced in the maintenance and the operation of the described products and systems.

1.04 MAINTENANCE SERVICE

A. Submit a contract for furnishing service and maintenance of the components indicated in the specification Sections for one year from date of Substantial Completion, or during the warranty period, whichever period of time is the longest.

B. Provide for an examination of the system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

C. Include a systematic cleaning, examination, adjustment, and lubrication of the components. Repair or replace the parts whenever required. Use the parts produced by the manufacturer of the original component.

D. Do not assign or transfer the maintenance service to an agent or Subcontractor without the prior written consent of the Owner.

1.05 OWNER'S MANUALS

A. Submit the data for Operations and Maintenance, Materials and Finishes, and Equipment and Systems Manuals bound in 8-1/2 x 11 inch text pages, in minimum 2 inch size three D side ring commercial quality binders with durable cleanable plastic covers.

B. Prepare binder covers with the printed title of the manual, title of the project, and the subject matter of binder. Label each spine with the following: Building, project or facility name, OCP project number, submission date.

C. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.

D. Drawings: Provide with reinforced punched binder tab. Bind in with the text; fold the larger drawings to the size of the text pages.

E. Submit two copies of a preliminary draft of the proposed formats and outline of the contents before the start of work. The Design Agent and its consultants will review drafts and return one copy with comments.

F. Submit one copy of the completed volumes 15 days prior to final inspection for final review. This copy will be reviewed and returned after final inspection, with the Design Agent's comments. Revise the content of the document sets as required prior to final submission.

G. Submit three sets of revised final volumes plus electronic copy in final form within ten days after final inspection.

1.06 OPERATIONS AND MAINTENANCE MANUALS

A. Contents: Prepare the Table of Contents for each volume, with each product or system description identified, in three parts as follows:
   1. **Part 1:** Directory, listing the names, addresses, and telephone numbers of the Design Agent, its Consultants, Contractor, Subcontractors, and major equipment suppliers.
   2. **Part 2:** Operation and maintenance instructions, arranged by system and subdivided by the specification Section. For each category, identify the names, addresses, and telephone numbers of the Subcontractors and suppliers. Identify the following:
      a. Significant design criteria.
      b. List of equipment.
      c. Parts list for each component.
      d. Operating instructions.
      e. Maintenance instructions for equipment and systems.
      f. Maintenance instructions for [special] finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
   3. **Part 3:** Project documents and certificates, including the following:
      a. Shop drawings and product data.
      b. Air and water balance reports.
      c. Certificates.
      d. Originals of warranties and bonds.
   4. **Part 4:** Scan entire manual and provide 3 copies on disc in electronic PDF format.

1.07 MATERIALS AND FINISHES MANUALS

A. Building Products, Applied Materials, and Finishes: Include product data, with the catalog number, size, composition, and the color and texture designations. Include information for re-ordering custom manufactured products.

B. Instruction for Care and Maintenance: include manufacturer's instructions for cleaning agents and methods, precautions against detrimental agents and methods, and a recommended schedule for cleaning and maintenance.

C. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Include recommendations for inspections, maintenance, and repair.

D. Additional Requirements: As specified in the individual product specification Sections.

E. Include a listing in the Table of Contents for design data, with a tabbed flysheet and a space for the insertion of data.

1.08 EQUIPMENT AND SYSTEMS MANUALS

A. For equipment, or component parts of equipment put into service during construction and operated by the Owner, submit documents within 10 days after acceptance.

B. Each Item of Equipment and Each System: Include a description of the unit or system, and the component parts. Identify the function, normal operating characteristics, and limiting conditions. Include performance curves, with priming data and tests, and complete nomenclature and model number of replaceable parts.

C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

D. Include color-coded wiring diagrams as installed.

E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and special operating instructions.

F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

G. Include a servicing and lubricating schedule, and a list of lubricants required.

H. Include the manufacturer's printed operation and maintenance instructions.

I. Include sequence of operation by the controls manufacturer.

J. Include the original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

K. Include control diagrams by the controls manufacturer as installed.

L. Include the Contractor's coordination drawings, with color-coded piping diagrams as installed.

M. Include charts of valve tag numbers, with the location and function of each valve, keyed to the flow and control diagrams.

N. Include a list of the original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

O. Include test and balancing reports as specified in Section 01400.

P. Additional Requirements: As specified in the individual product specification Sections.

1.09 SPARE PARTS AND MAINTENANCE PRODUCTS

A. Furnish spare parts, maintenance, and extra products (attic stock) in the quantities specified in the individual specification Sections.

B. Deliver to the Project site and place in a location as directed by the Owner; obtain a receipt prior to final payment.

1.10 PRODUCT WARRANTIES AND PRODUCT BONDS

A. Obtain warranties and bonds executed in duplicate by the responsible subcontractors, suppliers, and manufacturers, within 10 days after the completion of the applicable item of work.

B. Execute and assemble the transferable warranty documents and bonds from the subcontractors, suppliers, and manufacturers.

C. Verify that the documents are in the proper form, contain full information, and are notarized.

D. Co-execute the submittals when required.

E. Include in the Operations and Maintenance Manuals within the appropriate material specification section.

F. Submit prior to the final Application for Payment. For items of Work for which acceptance is delayed beyond the Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty or bond period.

1.11 PROJECT RECORD DOCUMENTS

A. Maintain on the site one set of the following record documents; record actual revisions of the Work for all trades:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other modifications to the Contract.
   5. Reviewed Shop Drawings, Product Data, and Samples.
   6. Manufacturer's instructions for assembly, installation, and adjusting.

B. Ensure the entries are complete and accurate, enabling future reference by the Owner.

C. Store the record documents separate from the documents used for construction.

D. Record information concurrent with the construction progress, not less than weekly.

E. Specifications: Legibly mark and record at each product Section description of the actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record the actual construction including:
   1. Measured horizontal and vertical locations of the underground utilities and appurtenances, referenced to permanent surface improvements. Include the locations and description of any existing utility lines and other existing installations of any kind or description encountered during construction. Note all changes in size, material, location, and elevation of all new or abandoned underground utility lines and pertinent work, including site grading. Document topography and drainage changes. Show the location of all valves, manholes, etc. and include dimensions to permanent features such as building corners. Note direction of each new valve opening. Show clearances between new utilities and existing crossed lines. Locate all bends, thrust blocks, and other restraints.
   2. The placement, size, and type of any fire extinguishers.
   3. Measured locations of internal utilities and appurtenances concealed in the construction.
   4. Field changes of dimension and detail.
   5. Details not on the original Contract drawings.

G. Legibly marked Specifications, and legibly marked Record Drawings and Shop Drawings shall constitute the Project Record Documents in paper form.

H. At completion of the Work of the Contract, the Contractor shall retain competent drafting personnel to transfer the information from the Project Record Documents in paper form to editable electronic formats to create "As-Built" Documents on base files provided by the Design Agent. The record construction drawings shall be produced in both AutoCAD format plus a record PDF copy of each drawing. AutoCAD files shall include all XREF, font, image, shape, and plot files. PDF files shall be saved full sheet size. The record Project Manual shall be in Microsoft Word form plus a record PDF of the entire manual. The electronic media containing this information will constitute the Project Record Documents in digital form, sometimes referred to as the "As-Built" Documents. Acceptable media are write-protected CD-R format discs or flash drives. Submit one full size printed set of drawings and specifications on 20 lb. white bond made from the As-Built files in addition to the electronic media.

I. Associated materials including but not limited to the following are also required to be submitted at project close-out: shop drawings and cut sheets, RFIs, correspondence and meeting minutes, LEED scorecards, construction progress photographs, DEM permits including generator permits, certificates including Final Certificate of Occupancy, boiler and elevator certificates, easement rights, National Grid Rebate Applications, test and inspection documentation including fire pump test data, asbestos abatement plans and manifests. These materials may be

submitted in either paper or PDF digital format, organized by specification number, and clearly labeled. If paper copies are submitted, each box must be clearly labeled as to specific contents.

J. If the project required geotechnical, archeological, or other miscellaneous studies or other reports, these shall also be submitted as Record Document in either paper or digital format.

K. Labeling: In all cases, paper or digital submissions must contain the following information: Building, project or facility name, OCP Project number, submission date, and specific content index.

L. No review or receipt of Project Record Documents by the Design Agent or the Owner shall be interpreted as a waiver of any deviation from the Contract Documents or Shop Drawings, or in any way relieve the Contractor from responsibility to perform the Work in accordance with the Contract Documents and the Shop Drawings.

M. Update the on-site Project Record Documents on a regular basis. Monthly payments will not be processed if Project Record Documents are not maintained up to date.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

01 7810 CLOSEOUT REQUIREMENTS - Attachment A

A. No variations in this section for this Project.

END OF ATTACHMENT

01 7820 CLOSEOUT REQUIREMENTS - Attachment B
Small Project Changes

A. The following amendments are made to this Section in order to facilitate execution of smaller projects at URI. They apply to the work of this project. All portions of the specification Section not deleted or amended remain in full force and effect for this project.

B. Delete subparagraph 1.02 A. Additional certification is not required.

C. Delete lines1.02 C.1 and 3. Only the final release of liens remains as a requirement from this paragraph.

D. Delete paragraph 1.03. General knowledge of construction is sufficient.

E. Delete subparagraph 1.05 E. No preliminary submittal is required.

F. In subparagraph 1.11 F, end the first sentence after "construction", and delete the lines 1 thru 5. Record changes to the work as clearly as possible to facilitate future work.

END OF ATTACHMENT

SECTION 02 4113 - SELECTIVE SITE DEMOLITION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General apply to this Section.

B. The Owner believes that information on the Drawings and contained in these specifications represents conditions prior to demolition insofar as shown; however, the Owner does not guarantee or represent that existing construction, utilities or conditions conform to the Bid Documents. Contractor shall visit the site and satisfy him or herself as to the existing conditions prior to submitting a Bid on Demolition Work under this Contract. No claim of extra cost will be allowed because of the Contractor's unfamiliarity with existing site and/or building conditions.

C. Immediately report discrepancies found between the Contract Documents and existing conditions.

1.02 SUMMARY

A. This Section includes the following:
   1. Demolition and removal of structures.
   2. Demolition and removal of site features and improvements.
   3. Utilities may be abandoned in-place. Utilities that interfere with construction shall be removed to the limits of excavation and from beneath pile caps, footings or slabs.
   4. Protection of existing utilities to remain on site and adjacent to site.

1.03 DEFINITIONS

A. Remove or R&D (Remove and Dispose): Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the Owner's property. The Contractor is responsible for compliance with all local, state and federal regulations.

B. Remove and Salvage: Items indicated to be removed and salvaged remain the Owner's property. Remove, clean, and pack or crate items to protect against damage. Identify contents of containers and deliver to Owner's designated storage area.

C. Existing to Remain: Protect existing facilities and structures to remain against damage during demolition.

1.04 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, salvaged, or otherwise indicated to remain the University's property, demolished materials shall become the Contractor's property and shall be removed from the site with further disposition in conformance with the Contract.

1.05 SUBMITTALS

A. Submit survey of all existing utilities to remain active and on site to verify

locations, size and elevation. Also show all utilities which will be relocated.

B. General: Submit each item in this Article according to the Conditions of the Contract, for information only, unless otherwise indicated.

C. Proposed dust-control measures including measures to be employed to prohibit run-off from leaving the site.

D. Proposed noise-control measures. Erosion and sediment control measures.

E. Schedule of demolition activities indicating the following:
   1. Detailed sequence of demolition and removal work, with starting and ending dates for each activity.
   2. Dates for shutoff, capping, and continuation of utility services.

F. Waste Management Plan: Within 10 days of the Notice to Proceed, submit a waste management plan for work to be completed under this project. Indicate recycling of non-regulated and/or non-hazardous Construction and Demolition (C&D) Waste. Indicate the types of waste material the Project will produce and provide estimated quantities of each type. Provide detailed information of on-site waste storage and separation of recyclable rubbish and debris in separate categories. Provide information on the destination of each type of waste material and the means to be used to dispose of all waste material. Submit record receipts (chain of custody) for off-site termination of C&D waste streams including regulated material Identify variations in actual disposal of C&D waste from the proposed disposal approved in the Waste Management Plan.
   1. Minimum waste categories include:
      a. Roadwork Material: Mostly asphalt, concrete pavers, concrete (with/without reinforcing bar), and earth fill (dirt).
      b. Excavated Material: Mostly earth (dirt), sand, stones (sometimes contaminated with site clearance wood waste and buried pipes).
      c. Site Clearance Material: Mostly brick and concrete pavers, granite curbing and the potential for mixed concrete, rubble, sand and steel.

G. Chain of custody letters and receipts for all materials disposed of offsite.

H. Record drawings at Project closeout.
   1. Identify and accurately locate capped utilities and other subsurface structural, electrical, or mechanical conditions.
   2. Water distribution system CAD or GIS drawn as-builts must be supplied on every project where modifications have been made to the URI water system. Drawings shall be prepared under the direction of a registered professional engineer to professional land surveyor in the State of Rhode Island and so stamped and signed.

1.06 QUALITY ASSURANCE

A. Demolition Firm Qualifications: The Demolition Firm shall be an experienced firm that has successfully completed demolition Work similar to that indicated for this Project.

B. Regulatory Requirements: Comply with governing EPA notification regulations before starting demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Pre-demolition Conference: Attend a conference at Project site as directed by the University Resident Inspector.

1.07 PROJECT CONDITIONS

A. Storage or sale of removed items or materials on-site will not be permitted.

B. Apply for all permits and pay all fees for permits as required to complete the work under this Contract

PART 2 – PRODUCTS

2.01 MATERIALS

A. Concrete, masonry, valves, shut offs, plugs, and all incidentals required for disconnecting and capping utility services and repair of streets and sidewalks shall comply with local codes, ordinances and requirements of authorities, companies and utility agencies having jurisdiction

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that utilities have been disconnected and capped.

B. Survey existing conditions and correlate with requirements indicated to determine extent of demolition required. Confirm waste material classifications for work under this section and adjust Waste Management Plan as required.

C. Inventory and record the condition of items to be removed and salvaged. Items indicated to be salvaged shall be carefully removed crated and delivered to the Owner's designated storage area.

D. Perform survey as the Work progresses to detect hazards resulting from demolition activities.

3.02 UTILITY SERVICES

A. Utility Requirements: Locate, identify, disconnect, and seal or cap off utility services serving structures to be demolished.
   1. Arrange to shut off utilities with URI Utilities Department. Comply with all University requirements for shutting off, disconnecting, removing, and sealing or capping utility services. Do not start demolition work until utility disconnecting and sealing have been completed and verified in writing.
   2. Perform no work on any utility or utility service, public or private, without approval of utility agency or company. Comply with dig safe requirements for utility work.
   3. Contractor is required to perform test pits as necessary to survey and record location, depth and sizes of all utilities to be relocated or to remain in-place which

may be encountered during excavation.

3.03 PREPARATION

A. Conduct demolition operations and remove debris to ensure minimum interference with roads, streets, walks, -and other adjacent occupied and used facilities.
   1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from the University and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

B. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around demolition area.
   1. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where directed.
   2. Protect existing site improvements, appurtenances, and landscaping to remain.

C. Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of adjacent structures.
   1. Strengthen or add new supports when required during progress of demolition.

3.04 EXPLOSIVES

A. Use of explosives will not be permitted.

3.05 POLLUTION CONTROLS

A. Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations.
   1. Do not create hazardous or objectionable conditions, such as ice, flooding, and pollution, when using water.
   2. Surface water runoff from misting operations shall be prohibited from leaving the site. It shall be collected, tested for contaminants and disposed of in accordance with all local, state and federal regulating authorities.

B. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

C. Clean adjacent buildings and improvements of dust, dirt, and debris ca used by demolition operations. Return adjacent areas to conditions existing before start of demolition.

3.06 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of

them as required.

D. Prior to submission of a periodic invoice for payment of work including materials disposed of offsite from work under this section, submit chain of custody letters and disposal receipts. Such receipts shall bear the printed name of the facility operator and shall specify the date of delivery, the quantity and type of material delivered, and shall be signed by an on-site representative of the facility operator. No payments will be made for the disposal of materials for which there are no chain of custody letters or signed receipts.

3.07 DEMOLITION SCHEDULE

A. To be determined by Contractor and submitted to the University for approval.

END OF SECTION

SECTION 07 8400 – FIRESTOPPING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes firestopping for the following:
   1. Penetrations through all floor construction including both empty openings and openings containing cables, conduits and other penetrating items.
   2. Penetrations through fire rated walls including both empty openings and openings containing cables, conduits, and other penetrating items.
   3. Penetrations through smoke barriers and construction enclosing compartmentalized areas involving both empty openings and openings containing penetrating items.
   4. Sealant joints in fire-resistance-rated construction.

1.03 PERFORMANCE REQUIREMENTS

A. General: Provide firestopping systems that are produced and installed to resist the spread of fire and the passage of smoke and other gases, per requirements of new construction if located as currently exists within the Ryan Center.

B. F-Rated Through-Penetration Firestop Systems: Provide through-penetration firestop systems with F ratings as determined per ASTM E 814, but not less than that equaling or exceeding the fire-resistance rating of the constructions penetrated.

C. T-Rated Through-Penetration Firestop Systems: Provide through-penetration firestop systems with T ratings, in addition to F ratings, as determined per ASTM E 814, where systems protect penetrating items exposed to contact with adjacent materials in occupiable floor areas. T-rated assemblies are required where the following conditions exist:
   1. Where firestop systems protect penetrations located outside of wall cavities.
   2. Where firestop systems protect penetrations located outside fire-resistive shaft enclosures.
   3. Where firestop systems protect penetrations located in construction containing doors required to have a temperature-rise rating.
   4. Where firestop systems protect penetrating items larger than a four-inch (4”) diameter nominal pipe or 16 sq. in. in overall cross-sectional area.

D. Fire-Resistive Joint Sealants: Provide joint sealants with fire-resistance ratings as determined per ASTM E 119, but not less than that equaling or exceeding the equivalent fire-resistance rating of the construction in which the joint occurs.

E. For firestopping exposed to view, traffic, moisture, and physical damage, provide products that do not deteriorate when exposed to these conditions.
   1. For piping penetrations for plumbing and wet-pipe sprinkler systems, provide moisture-resistant through-penetration firestop systems.
   2. For floor penetrations with annular spaces exceeding four inches (4”) or more in width and exposed to possible loading and traffic, provide firestop systems capable of supporting the floor loads involved either by installing floor plates or by other means.
   3. For penetrations involving insulated piping, provide through-penetration firestop systems not requiring removal of insulation.

F. For firestopping exposed to view, provide products with flame-spread values of less than 25 and smoke-developed values of less than 450, as determined per ASTM E 84.

1.04 SUBMITTALS

A. General: Submit products by a single manufacturer for all applications throughout the project. Submit the following per Conditions of Contract and Division 1 Specification Sections.

B. Product data for each type of product specified.
   1. Certification by firestopping manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs) and are nontoxic to building occupants.

C. Shop drawings detailing materials, installation methods, and relationships to adjoining construction for each through-penetration firestop system, and each kind of construction condition penetrated and kind of penetrating item. Include firestop design designation of qualified testing and inspecting agency evidencing compliance with requirements for each condition indicated.
   1. Submit documentation, including illustrations, from a qualified testing and inspecting agency that is applicable to each through-penetration firestop configuration for construction and penetrating items.
   2. Where Project conditions require modification of qualified testing and inspecting agency's illustration to suit a particular through-penetration firestop condition, submit illustration approved by firestopping manufacturer's fire protection engineer with modifications marked.

D. Product certificates signed by manufacturers of firestopping products certifying that their products comply with specified requirements.

E. Product test reports from, and based on tests performed by, a qualified testing and inspecting agency evidencing compliance of firestopping with requirements based on comprehensive testing of current products.

F. Qualification data for firms and persons specified in "Quality Assurance" article to demonstrate their capabilities and experience. Include list of completed projects with

project names, addresses, names of Architects and Owners, and other information specified.

1.05 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: Provide firestopping that complies with the following requirements and those specified under the "System Performance Requirements" article:
   1. Firestopping tests are performed by a qualified testing and inspecting agency. A qualified testing and inspecting agency is UL, Warnock Hersey, or another agency performing testing and follow-up inspection services for firestop systems that is acceptable to authorities having jurisdiction.
   2. Through-penetration firestop systems are identical to those tested per ASTM E 814 under conditions where positive furnace pressure differential of at least 0.01 inch of water is maintained at a distance of 0.78 inch below the fill materials surrounding the penetrating items in the test assembly. Provide rated systems complying with the following requirements:
      a. Through-penetration firestop system products bear classification marking of qualified testing and inspecting agency.
      b. Through-penetration firestop systems correspond to those indicated by reference to through-penetration firestop system designations listed by UL in their "Fire Resistance Directory," by Warnock Hersey, or by another qualified testing and inspecting agency.
   3. Fire-resistive joint sealant systems are identical to those tested for fire-response characteristics per ASTM E 119 under conditions where the positive furnace pressure differential is at least 0.01 inch of water, as measured 0.78 inch from the face exposed to furnace fire. Provide systems complying with the following requirements:
      a. Fire-Resistance Ratings of Joint Sealants: As indicated by reference to design designations listed by UL in their "Fire Resistance Directory" or by another qualified testing and inspecting agency.
      b. Joint sealants, including backing materials, bear classification marking of qualified testing and inspection agency.

B. Information on drawings referring to specific design designations of through-penetration firestop systems is intended to establish requirements for performance based on conditions that are expected to exist during installation. Any changes in conditions and designated systems require the Architect's prior approval. Submit documentation showing that the performance of proposed substitutions equals or exceeds that of the systems they would replace and are acceptable to authorities having jurisdiction.

C. Installer Qualifications: Engage an experienced Installer who has completed firestopping that is similar in material, design, and extent to that indicated for Project and that has performed successfully.

D. Installer Qualifications: Engage an experienced Installer who is certified, licensed, FM

approved contractor, member of the Firestop International Contractors Association, certified by the firestopping manufacturer as having the necessary experience, staff, and training to install manufacturer's products per specified requirements. The individuals who will install the firestopping shall be themselves trained and certified. A manufacturer's willingness to sell its firestopping products to the Contractor or to an Installer engaged by the Contractor does not in itself confer qualification on the buyer.

E. Single-Source Responsibility: Obtain through-penetration firestop systems for each kind of penetration and construction condition indicated from a single manufacturer.

F. Field-Constructed Mockup: Prior to installing firestopping, erect mockups for each different through-penetration firestop system indicated to verify selections made and to demonstrate qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for final installations.
   1. Locate mockups on site in locations indicated or, if not indicated, as directed by Engineer.
   2. Notify Engineer 1 week in advance of the dates and times when mockups will be erected.
   3. Obtain Engineer's acceptance of mockups before start of final unit of Work.
   4. Retain and maintain mockups during construction in an undisturbed condition as a standard for judging completed unit of Work.
      a. When directed, demolish and remove mockups from Project site.
      b. Accepted mockups in an undisturbed condition at time of Substantial Completion may become part of completed unit of Work.

G. Provide firestopping products containing no detectable asbestos as determined by the method specified in 40 CFR Part 763, Subpart F, Appendix A, Section 1, "Polarized Light Microscopy."

H. Coordinating Work: Coordinate construction of openings and penetrating items to ensure that designated through-penetration firestop systems are installed per specified requirements.

I. Pre-installation Conference: Conduct conference at Project site to comply with requirements of Division 1 Section "Project Meetings."

J. Owner may employ and pay a qualified inspection agency to check installed firestopping systems for compliance with requirements.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver firestopping products to Project site in original, unopened containers or packages with intact and legible manufacturers' labels identifying product and manufacturer; date of manufacture; lot number; shelf life, if applicable; qualified testing and inspecting agency's classification marking applicable to Project; curing time; and mixing instructions for multi-component materials.

B. Store and handle firestopping materials to prevent their deterioration or damage due to

moisture, temperature changes, contaminants, or other causes.

1.07 PROJECT CONDITIONS

A. Environmental Conditions: Do not install firestopping when ambient or substrate temperatures are outside limits permitted by firestopping manufacturers or when substrates are wet due to rain, frost, condensation, or other causes.

B. Ventilation: Ventilate firestopping per firestopping manufacturers' instructions by natural means or, where this is inadequate, forced air circulation.

1.08 SEQUENCING AND SCHEDULING

A. Notify Owner's inspection agency at least one (1) week in advance of firestopping installations; confirm dates and times on days preceding each series of installations.

B. Do not cover up those firestopping installations that will become concealed behind other construction until Owner's inspection agency and authorities having jurisdiction, if required, have examined each installation.

PART 2 - PRODUCTS

2.01 FIRESTOPPING, GENERAL

A. Compatibility: Provide firestopping composed of components that are compatible with each other, the substrates forming openings, and the items, if any, penetrating the firestopping under conditions of service and application, as demonstrated by firestopping manufacturer based on testing and field experience.

B. Accessories: Provide components for each firestopping system that are needed to install fill materials and to comply with "System Performance Requirements" article in Part 1. Use only components specified by the firestopping manufacturer and approved by the qualified testing and inspecting agency for the designated fire-resistance-rated systems. Accessories include but are not limited to the following items:
   1. Permanent forming/damming/backing materials including the following:
      a. Semi-refractory fiber (mineral wool) insulation.
      b. Ceramic fiber.
      c. Sealants used in combination with other forming/damming materials to prevent leakage of fill materials in liquid state.
      d. Fire-rated formboard.
      e. Joint fillers for joint sealants.
   2. Temporary forming materials.
   3. Substrate primers.
   4. Collars.
   5. Steel sleeves.

C. Applications: Provide firestopping systems composed of materials specified in this Section that comply with system performance and other requirements.

2.02 FILL MATERIALS FOR THROUGH-PENETRATION FIRESTOP SYSTEMS

A. Ceramic-Fiber and Mastic Coating: Ceramic fibers in bulk form formulated for use with mastic coating, and ceramic fiber manufacturer's mastic coating.

B. Ceramic-Fiber Sealant: Single-component formulation of ceramic fibers and inorganic binders.

C. Endothermic, Latex Compound Sealant: Single-component, endothermic, latex formulation.

D. Intumescent, Latex Sealant: Single-component, intumescent, latex formulation.

E. Intumescent Putty: Nonhardening, dielectric, water-resistant putty containing no solvents, inorganic fibers, or silicone compounds.

F. Intumescent Wrap Strips: Single-component, elastomeric sheet with aluminum foil on one side.

G. Job-Mixed Vinyl Compound: Prepackaged vinyl-based powder product for mixing with water at Project site to produce a paintable compound, passing ASTM E 136, with flame-spread and smoke-developed ratings of zero per ASTM E 84.

H. Mortar: Prepackaged dry mix composed of a blend of inorganic binders, fillers, and lightweight aggregate formulated for mixing with water at Project site to form a nonshrinking, homogenous mortar.

I. Pillows/Bags: Re-usable, heat-expanding pillows/bags composed of glass-fiber cloth cases filled with a combination of mineral-fiber, water-insoluble expansion agents and fire-retardant additives.

J. Silicone Foam: Two-component, silicone-based liquid elastomer that, when mixed, expands and cures in place to produce a flexible, nonshrinking foam.

K. Silicone Sealant: Moisture-curing, single-component, silicone-based, neutral-curing elastomeric sealant of grade indicated below:
   1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces and non-sag formulation for openings in vertical and other surfaces requiring a non-slumping/ gunnable sealant, unless indicated firestop system limits use to non-sag grade for both opening conditions.
   2. Grade for Horizontal Surfaces: Pourable (self-leveling) grade for openings in floors and other horizontal surfaces.
   3. Grade for Vertical Surfaces: Non-sag grade for openings in vertical and other surfaces.

L. Solvent-Release-Curing Intumescent Sealant: Solvent-release-curing, single-component, synthetic-polymer-based sealant of grade indicated below:
   1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces and non-sag formulation for openings in vertical and other

surfaces requiring a non-slumping/ gunnable sealant, unless indicated firestop system limits use to non-sag grade for both opening conditions.

2. Grade for Horizontal Surfaces: Pourable (self-leveling) grade for openings in floors and other horizontal surfaces.
3. Grade for Vertical Surfaces: Non-sag grade for openings in vertical and other surfaces.

M. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following (Note: UL assembly numbers must be submitted with all supplied products):
1. Ceramic-Fiber and Mastic Coating:
   a. FireMaster Bulk and FireMaster Mastic, Thermal Ceramics.
2. Ceramic-Fiber Sealant:
   a. Metacaulk 525, The RectorSeal Corporation.
3. Endothermic, Latex Sealant:
   a. Fyre-Shield, Tremco Inc.
4. Endothermic, Latex Compounds:
   a. Flame-Safe FS500/600 Series, International Protective Coatings Corp.
   b. Flame-Safe FS900/FST900 Series, International Protective Coatings Corp.
5. Intumescent Latex Sealant:
   a. Metacaulk 950, The RectorSeal Corporation.
   b. Fire Barrier CP 25WB Caulk, 3M Fire Protection Products.
6. Intumescent Putty:
   a. Pensil 500 Intumescent Putty, General Electric Co.
   b. Flame-Safe FSP1000 Putty, International Protective Coatings Corp.
   c. Fire Barrier Moldable Putty, 3M Fire Protection Products.
7. Intumescent Wrap Strips:
   a. Dow Corning Fire Stop Intumescent Wrap Strip 2002, Dow Corning Corp.
   b. CS2420 Intumescent Wrap, Hilti Construction Chemicals, Inc.
   c. Fire Barrier FS-195 Wrap/Strip, 3M Fire Protection Products.
8. Job-Mixed Vinyl Compound:
   a. USG Firecode Compound, United States Gypsum Co.
9. Mortar:
   a. K-2 Firestop Mortar, Bio Fireshield, Inc.
   b. Novasit K-10 Firestop Mortar, Bio Fireshield, Inc.
   c. KBS-Mortar Seal, International Protective Coatings Corp.
10. Pillows/Bags:
   a. Firestop Pillows, Bio Fireshield, Inc.
   b. KBS Sealbags, International Protective Coatings Corp.
11. Silicone Foams:
   a. Dow Corning Fire Stop Foam 2001, Dow Corning Corp.
   b. Pensil 200 Foam, General Electric Co.
12. Silicone Sealants:
   a. Dow Corning Firestop Sealant 2000, Dow Corning Corp.

b. Dow Corning Firestop Sealant SL 2003, Dow Corning Corp.
c. Pensil 100 Firestop Sealant, General Electric Co.
d. CS240 Firestop Sealant, Hilti Construction Chemicals, Inc.
e. Metacaulk 835, The RectorSeal Corporation.
f. Metacaulk 880, The RectorSeal Corporation.
g. Fyre-Sil, Tremco Inc.
h. Fyre-Sil S/L, Tremco Inc.

13. Solvent-Release-Curing Intumescent Sealants:
    a. Biostop 500 Intumescent Firestop Caulk, Bio Fireshield, Inc.
    b. Fire Barrier CP 25N/S Caulk, 3M Fire Protection Products.
    c. Fire Barrier CP 25S/L Caulk, 3M Fire Protection Products.

2.03 FIRE-RESISTIVE ELASTOMERIC JOINT SEALANTS

A. Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealants of base polymer indicated that complies with ASTM C 920 requirements, including those referenced for Type, Grade, Class, and Uses, and requirements specified in this Section applicable to fire-resistive joint sealants.

B. Sealant Colors: Provide color of exposed joint sealants to comply with the following:
   1. Provide custom colors to match Engineer's samples.
   2. Match colors indicated by reference to manufacturer's standard designations.
   3. Provide selections made by Engineer from manufacturer's full range of standard colors for products of type indicated.

C. Single-Component, Neutral-Curing Silicone Sealant: Type S; Grade NS; Class 25; exposure-related Use NT, and joint-substrate-related Uses M, G, A, and (as applicable to joint substrates indicated) O.
   1. Additional Movement Capability: Provide sealant with the capability to withstand the following percentage changes in joint width existing at time of installation, when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719, and remain in compliance with other requirements of ASTM C 920 for uses indicated:
      a. Fifty percent (50%) movement in both extension and compression for a total of 100 percent movement.
      b. One hundred percent (100%) movement in extension and fifty percent (50%) movement in compression for a total of one hundred and fifty percent (150%) movement.

D. Multicomponent, Non-sag, Urethane Sealant: Type M; Grade NS; Class 25; exposure-related Use NT, and joint-substrate-related Uses M, A, and (as applicable to joint substrates indicated) O.
   1. Additional Movement Capability: Provide sealant with the capability to withstand the following percentage change in joint width existing at time of installation, when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719, and remain in compliance with other requirements of ASTM C 920 for uses

indicated:
a. Forty percent (40%) movement in extension and twenty-five percent (25%) in compression for a total of sixty-five percent(65%) movement.
b. Fifty percent (50%) movement in both extension and compression for a total of one hundred percent (100%) movement.

E. Single-Component, Non-sag, Urethane Sealant: Type S; Grade NS; Class 25; andUses NT, M, A, and (as applicable to joint substrates indicated) O.

F. Available Products: Subject to compliance with requirements, products that may be incorporated in the Work include, but are not limited to, the following:

G. Products: Subject to compliance with requirements, provide one of the following:
1. Single-Component, Neutral-Curing, Silicone Sealant:
   a. Dow Corning 790, Dow Corning Corp.
   b. Dow Corning 795, Dow Corning Corp.
   c. Silpruf, General Electric Co.
2. Multicomponent, Non-sag, Urethane Sealant:
   a. Vulkem 922, Mameco International Inc.
   b. Dynflex, Pecora Corp.
   c. Dynatrol II, Pecora Corp.
   d. Sikaflex 2cn NS, Sika Corp.
3. Single-Component, Non-sag, Urethane Sealant:
   a. Isoflex 880 GB, Harry S. Peterson Co., Inc.
   b. Isoflex 881, Harry S. Peterson Co., Inc.
   c. Vulkem 921, Mameco International Inc.
   d. Sikaflex--15LM, Sika Corp.

2.04 MIXING

A. For those products requiring mixing prior to application, comply with firestopping manufacturer's directions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other procedures needed to produce firestopping products of uniform quality with optimum performance characteristics for application indicated.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of firestopping. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Surface Cleaning: Clean out openings and joints immediately prior to installing firestopping to comply with recommendations of firestopping manufacturer and the following requirements:
   1. Remove all foreign materials from surfaces of opening and joint substrates and from penetrating items that could interfere with adhesion of firestopping.
   2. Clean opening and joint substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with firestopping. Remove loose particles remaining from cleaning operation.
   3. Remove laitance and form release agents from concrete.

B. Priming: Prime substrates where recommended by firestopping manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

C. Masking Tape: Use masking tape to prevent firestopping from contacting adjoining surfaces that will remain exposed upon completion of Work and that would otherwise be permanently stained or damaged by such contact or by cleaning methods used to remove smears from firestopping materials. Remove tape as soon as it is possible to do so without disturbing firestopping's seal with substrates.

3.03 INSTALLING THROUGH-PENETRATION FIRESTOPS

A. General: Comply with the "System Performance Requirements" article in Part 1 and the through-penetration firestop manufacturer's installation instructions and drawings pertaining to products and applications indicated.

B. Install forming/damming materials and other accessories of types required to support fill materials during their application and in the position needed to produce the cross-sectional shapes and depths required to achieve fire ratings of designated through-penetration firestop systems. After installing fill materials, remove combustible forming materials and other accessories not indicated as permanent components of firestop systems.

C. Install fill materials for through-penetration firestop systems by proven techniques to produce the following results:
   1. Completely fill voids and cavities formed by openings, forming materials, accessories, and penetrating items.
   2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
   3. For fill materials that will remain exposed after completing Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.04 INSTALLING FIRE-RESISTIVE JOINT SEALANTS

A. General: Comply with the "System Performance Requirements" article in Part 1, with ASTM C 1193, and with the sealant manufacturer's installation instructions and drawings pertaining to products and applications indicated.

B. Install joint fillers to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability and develop fire-resistance rating required.

C. Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint width that optimum sealant movement capability. Install sealants at the same time joint fillers are installed.

D. Tool non-sag sealants immediately after sealant application and prior to the time skinning or curing begins. Form smooth, uniform beads of configuration indicated or required to produce fire-resistance rating, as well as to eliminate air pockets, and to ensure contact and adhesion of sealants with sides of joint. Remove excess sealant from surfaces adjacent to joint. Do not use tooling agents that discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.

3.05 FIELD QUALITY CONTROL

A. Inspecting agency employed and paid by Owner will examine completed firestopping to determine, in general, if it is being installed in compliance with requirements.

B. Inspecting agency will report observations promptly and in writing to Contractor and Architect.

C. Do not proceed to enclose firestopping with other construction until reports of examinations are issued.

D. Where deficiencies are found, repair or replace firestopping so that it complies with requirements.

3.06 CLEANING

A. Clean off excess fill materials and sealants adjacent to openings and joints as work progresses by methods and with cleaning materials approved by manufacturers of firestopping products and of products in which opening and joints occur.

B. Protect firestopping during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated firestopping immediately and install new materials to produce firestopping complying with specified requirements.

END OF SECTION

SECTION 09 9000 – PAINTS AND COATINGS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints, stains, varnishes, and other coatings.

C. Scope: Finish all newly installed surfaces exposed to view, unless fully factory-finished and unless otherwise indicated. Carry finish to a break in the surface plane. Match all existing colors. Include the following:
   1. Fire Sprinkler and Fire Alarm:
      a. In finished areas, paint all insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
      b. In finished areas, paint shop-primed items.

D. Do Not Paint or Finish the Following Items:
   1. Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
   5. Stainless steel, anodized aluminum, bronze, terne, and lead items.
   6. Floors, unless specifically so indicated.
   7. Ceramic and other tiles.
   8. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

A. Section 21 1000 – Automatic Fire Sprinkler System: Exposed piping in finished areas (offices)

B. Section 28 3100 – Automatic Fire Alarm System: Exposed conduit in finished areas (offices)

1.03 DEFINITIONS

A. Conform to ASTM D 16 for interpretation of terms used in this section.

1.04 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. ASTM D 16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2008.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on all finishing products, including VOC content.

C. Samples:
   1. Submit two painted samples, illustrating selected colors and textures for each color and system selected with specified coats cascaded. Submit on tempered hardboard, 12x12 inch in size.
   2. Submit two distressed, stained wood samples, illustrating finish for wood.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.07 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.

B. Provide all paint and coating products from the same manufacturer to the greatest extent possible.

C. Paints:
   1. ICI Paints: www.icipaintsinna.com.
   2. Benjamin Moore & Co: www.benjaminmoore.com.
   3. PPG Architectural Finishes, Inc: www.ppgaf.com.

4. Pratt & Lambert Paints: www.prattandlambert.com.

D. Substitutions: See Section 01 6000 - Product Requirements.

2.02 PAINTS AND COATINGS - GENERAL

A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
   1. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
   2. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
   3. Supply each coating material in quantity required to complete entire project's work from a single production run.
   4. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.

B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.

C. Volatile Organic Compound (VOC) Content:
   1. Provide coatings that comply with the most stringent requirements specified in the following:
      a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
   2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

D. Colors: To be selected from manufacturer's full range of available colors.
   1. Selection to be made by Architect after award of contract.
   2. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.

2.03 PAINT SYSTEMS - EXTERIOR

A. Galvanized Metals, Alkyd, 3 Coat:
   1. One coat galvanize primer.
   2. Semi-gloss: Two coats of alkyd enamel.

2.04 PAINT SYSTEMS - INTERIOR

A. Wood and Panel products, Transparent, Stain:
   1. One coat of stain.
   2. One coat sealer.
   3. Satin: Architect to select from manufacturers standard color selection.

B. Concrete/Masonry, Opaque, Latex, 3 Coat:
   1. One coat of block filler.
   2. Semi-gloss: Two coats of latex enamel.

C. Ferrous Metals, Unprimed, Latex, 3 Coat:
   1. One coat of latex primer.
   2. Semi-gloss: Two coats of latex enamel.

D. Ferrous Metals, Primed, Latex, 2 Coat:
   1. Touch-up with latex primer.
   2. Semi-gloss: Two coats of latex enamel.

E. Galvanized Metals, Latex, 3 Coat:
   1. One coat galvanize primer.
   2. Semi-gloss: Two coats of latex enamel.

F. Gypsum Board/Plaster, Latex, 3 Coat:
   1. One coat of alkyd primer sealer.
   2. Semi-gloss: Two coats of latex enamel.

G. Gypsum Board/Plaster, Latex-Acrylic, 2 Coat:
   1. One coat of latex primer sealer.
   2. Flat: One coat of latex-acrylic ceiling enamel.

2.05 ACCESSORY MATERIALS

A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

C. Test shop-applied primer for compatibility with subsequent cover materials.

D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
   1. Gypsum Wallboard: 12 percent.
   2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to coating application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

F. Concrete and Unit Masonry Surfaces to be Painted: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

G. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.

H. Galvanized Surfaces to be Painted: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

I. Corroded Steel and Iron Surfaces to be Painted: Prepare using at least SSPC-PC 2 (hand tool cleaning) or SSPC-SP 3 (power tool cleaning) followed by SSPC-SP 1 (solvent cleaning).

J. Uncorroded Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand or power tool wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.

K. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.

3.03 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's instructions.

C. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

D. Apply each coat to uniform appearance.

E. Sand wood and metal surfaces lightly between coats to achieve required finish.

F. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

G. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

END OF SECTION

SECTION 21 1000 – AUTOMATIC FIRE SPRINKLER SYSTEM

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings, Hydraulic Calculations and general provisions of the Contract and Agreement apply to this Section.

B. Fire Sprinkler System

C. Utilities

D. Finishes

1.02 SUMMARY

A. Drawings supplied with this specification shall be used as a reference for the requirement and location of system components. Work includes visiting the site to observe the existing conditions, and confirmation of the required quantities of devices and specific options for locations of the same. The contractor shall not use the drawings only to infer quantities of sprinklers for price quotation.

B. At the time of bid, all exceptions taken to these Specifications, variances from these Specifications and all substitutions of equipment specified shall be listed in writing and forwarded to Jensen Hughes (Engineer) and University of Rhode Island (Owner). Any such exceptions, variances, or substitutions, which were not listed at the time of bid shall not be approved or considered.

C. The Work includes all labor, materials, tools, transportation, and temporary construction necessary to design, fabricate, install, test, and flush, to provide fully operational and code compliant automatic Wet-pipe and Dry pipe fire sprinkler systems. The sprinkler contractor shall be responsible for all new above ground and underground piping.

D. The Work includes furnishing and installing sprinklers including piping, hangers and other associated components in areas of the building discovered during survey or installation that are not necessarily represented on the design drawings that are required to be provided with sprinkler protection at no additional cost to the owner.

E. The Work includes connection of water flow, pressure, and valve supervisory switches to the fire alarm system in the building. The Contractor shall be responsible to coordinate these wiring connections with a licensed fire alarm technician/electrician.

F. The Work includes installation of a double-check valve backflow prevention device in the men's locker room as shown on the drawings. New piping upstream of the backflow preventer shall be class 52 DICL. Mechanical joints are not permitted within the interior of the building.

G. The Work includes all cutting, drilling, core drilling, etc. to install the fire sprinkler system through existing walls.

H. The Work includes installing a 5” Storz fire department connection on the east side of the building exterior.

I. The Work includes a complete and operational Nitrogen Generation System, ECS PGEN-3 model, or equivalent, with an ECS PSV-D/d Smart Vent, or equivalent, air maintenance devices and associated wiring. The Nitrogen Generation System is in lieu of the required air compressors for the dry pipe sprinkler system.

J. The Work includes one dry pipe valve and associated trim.

K. The Work includes installing sprinklers in the center of acoustic ceiling tiles.

L. The Work includes floor control valve assemblies as indicated on the drawings.

M. The Work includes firestopping, patching and painting of all penetrations that were made for installation of new sprinkler piping through existing interior and exterior building walls. The firestopping shall be conducted by a manufacturer’s trained personnel acceptable to the Owner.

N. The Work includes all fees and activities required to secure approvals for necessary State and Local permits.

O. The Work includes submitting detailed Working Plans, Hydraulic Calculations and Product Data to the Engineer for review prior to submitting same to state officials for permit. Contractor shall not fabricate piping, assemble components or begin installation until Jensen Hughes has approved the submittal documents.

P. The Work includes developing as-built sprinkler plans of the sprinkler installation. The plans shall show a minimum of pipe routing; pipe diameter; sprinkler location; sprinkler orientation; and sprinkler make, model, K-factor, temperature rating and response type.

Q. The Work includes performing field quality control and commissioning activities.

R. The Work includes documenting and submitting the results of integrity and functional testing.

S. The Work includes submitting As-built Plans and closeout documentation to Jensen Hughes for review prior to scheduling Owner demonstration training.

T. The Work includes signs at each control, drain and test valve.

U. The Work includes providing a rigid plastic sign indicating the location of all valves. The area protected by each control valve shall be identified. The sign shall be located at the main riser.

V. The Work includes providing a cabinet with spare sprinklers and a list of spare sprinklers per NFPA 13.

W. The Work includes training Owner's personnel on the operation of the system, required maintenance tasks and frequencies, and the locations of all spare tools and equipment, valves, flow switches, risers and equipment necessary to maintain and operate the sprinkler system.

1.03 PERFORMANCE REQUIREMENTS

A. Dry-pipe and/or Wet-pipe hydraulically calculated automatic fire sprinkler systems shall be installed throughout the building.

B. Water Flow Test Data
   1. A hydrant flow test has been conducted by the Joe Casali Engineering, Inc. in November 2020. The Sprinkler Contractor shall conduct a new test with no additional cost to the Owner prior to developing shop drawings.

C. Pipe sizes for piping downstream and including floor control assemblies shall be determined by hydraulic calculations in accordance with NFPA 13. Verify that field modifications to the system, which require the addition of fittings and pipe do not affect the hydraulic demand of the automatic fire sprinkler system.
   1. If, given the available water supply as indicated on the drawings, the automatic fire sprinkler system cannot be designed in compliance with this specification and the applicable codes and standards, provide a report to the Owner documenting the design options that have been investigated. Additionally, copies of the hydraulic calculations, which demonstrate the inability of the water distribution system to supply the necessary water for the sprinkler system demand, shall be submitted for each option.

D. Sprinkler system shall be designed according to the following:
   1. A minimum 5 psi margin of safety shall be provided between the residual water supply pressure and the required sprinkler system demand pressure at the calculated system design flow, including all hose allowances.
   2. Examples of Sprinkler Occupancy Hazard Classifications shall be as follows:
      a. Light Hazard
         1) Offices,
         2) Common corridors,
         3) Concealed spaces above ceilings,
         4) Assembly spaces.
      b. Ordinary Hazard, Group 1
         1) Storage areas other than listed under High Piled Storage,
         2) Mechanical equipment rooms other than listed under Ordinary Hazard Group 2,
         3) Electrical equipment rooms,
   3. Minimum Density for Automatic-Sprinkler System Piping Design:
      a. Light-Hazard Occupancy: 0.10-gpm over 1500- sq. ft. area.
      b. Ordinary-Hazard, Group 1 Occupancy: 0.15-gpm over 1500- sq. ft. area.
      c. Design areas shall be modified as necessary to comply with the requirements

for specific building or system features identified in NFPA 13, such as non-sprinklered concealed combustible spaces that do not conform to the exceptions outlined in NFPA 13 under special conditions, sloped ceilings/roofs, or the installation of a dry pipe sprinkler system. Area reduction for quick-response sprinklers in accordance with NFPA 13 §11.2.3.2.3. is allowed.

4. Maximum Protection Area per Sprinkler:
   a. Light Hazard Areas: 225-sq. ft. (20.9-sq. m) unless otherwise indicated on drawings.
   b. Ordinary Hazard Areas: 130-sq. ft. (12.1-sq. m).
   c. All obstruction rules shall be strictly adhered to. Additional sprinklers shall be added, where required for compliance with NFPA 13, at no additional cost to the owner.
5. Calculate pressure loss due to elevation and friction loss through all fittings, pipes, valves and backflow prevention devices in accordance with NFPA 13.
6. Hose Allowance:
   a. Light Hazard Areas: 100-gpm outside hose allowance.
   b. Ordinary Hazard Areas: 250-gpm outside hose allowance.

E. Components shall be capable of producing piping systems with 175-psig (1200-kPa) minimum working-pressure rating, unless otherwise indicated. Scope of demolition and removal work is shown on drawings and/or as specified herein.

1.04 ORDER OF PRECEDENCE

A. Should conflicts arise out of discrepancies between documents referenced in this specification, the most stringent requirement shall apply; however, should a level of stringency be indeterminable, the discrepancies shall be resolved as follows:
   1. State and local codes shall take precedence over this specification.
   2. The National Fire Protection Association Standards shall take precedence over this specification.
   3. The University of Rhode Island Standards shall take precedence over this specification.
   4. This specification shall take precedence over the drawings.

1.05 SUBMITTALS

A. In the event that the any of the following submittal packages is required to be revised and re-submitted due to nonconformance with this specification, illegibility of the submittal, incomplete submittals, noncompliance with the referenced local, state and national Codes, Standards and Regulations or nonconformance with pertinent documentation relative to the project, the Contractor, in advance, shall pay a $1,500.00 fee associated with the additional submittal review. Payment of the fee shall be solely the Contractor's responsibility.

B. Pre-Installation Documentation: Absolutely no work or material fabrication shall be

conducted prior to submittal and approval by the Engineer.

1. Product Data: For each product specified in Part 2. Submittal shall indicate listing and approvals, selected options, finishes, etc. and electrical characteristics.
2. Working Plans: Minimum 1/8" = 1'-0" scale inclusive of information required by NFPA 13 requirements.
3. Electronic Working Plans: Minimum 1/8"=1'-0" scale inclusive of information required by NFPA 13 requirements. The electronic versions of the hard-copy plans shall be submitted on compact disks in PDF format
4. Hydraulic Calculations: Prepared in accordance with NFPA 13 requirements. Minimum one (1) calculation for each hazard on each level.

C. Acceptance Documentation:

1. Field Test Reports and Certificates (Aboveground): Completed "Contractor's Material and Test Certificate for Aboveground Piping" including dates of successful hydrostatic tests, functional waterflow tests, and other fire alarm supervisory tests. Tests and documents shall be witnessed and countersigned by the Owner's designee. Annotate portions of the Certificate form that do not apply to the project as "not applicable". Make submittal after commissioning and prior to acceptance testing.
2. Testing documentation of the backflow prevention device.
3. Field Test Reports and Certificates (Underground): indicate and interpret test results for compliance with performance requirements in NFPA 24. Include "Contractor's Material and Test Certificate for Underground Piping." Make submittal after commissioning and prior to acceptance testing.
4. Statement of Completion: Upon completion of the installation of the automatic sprinkler system, a signed written statement, substantially in the form as follows:

   "The undersigned, having been engaged as the Sprinkler Contractor for the automatic sprinkler systems for the 44 Lower College Road building located on the University of Rhode Island Kingston Campus, Kingston, Rhode Island, confirms that all automatic fire sprinkler system equipment was installed in accordance with the diagrams, instructions, directions, and technical specifications provided to us by the Manufacturer and the University of Rhode Island."

D. Closeout Documentation:

1. Maintenance Data: The maintenance manual shall describe in detail the purpose and function of all sprinkler system devices and valves. The manual shall also include all necessary inspection, testing and maintenance forms. Include one (1) original, soft-bound copy of NFPA 25, Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems, in addition to the maintenance manual.
2. As-Built Drawings: Showing all field changes from original Working Plans. Submit at least one (1) full-size hard copy and electronic AutoCAD files on compact disk. Coordinate AutoCAD version with Owner at time of submittal. One (1) hard copy of as-built drawings to be provided for as-built cabinet mounted

adjacent to the FACU.

3. Valve Chart: Provide a drawing on 11-inch x 17-inch paper identifying the location of the control valves for the fire sprinkler system shown on the floor plan of the building. This valve chart shall be framed and permanently installed adjacent to the fire alarm control unit.
4. Statement of Warranty.

1.06 QUALITY ASSURANCE

A. Equipment and devices shall be labeled and listed for the intended use in the Underwriters Laboratories, Inc. (UL), UL FPED- Fire Protection Equipment Directory, (most recent).

B. Electrical components, devices, and accessories shall be Listed and labeled as de-fined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.

C. All materials and equipment shall be new and unused.

D. All equipment shall be first quality and capable of complying with all requirements of this specification and shall have been in continuous production and in service in commercial applications for at least one year. Obsolete equipment shall not be used.

E. Installer Qualifications:
   1. Licensed in the State of Rhode Island and experienced in the installation of automatic fire sprinkler systems in buildings similar to the Work described herein and has obtained design and inspection approvals for similar projects from authorities having jurisdiction.
   2. Foreman: Provide proof of competence of both their company and the individual foreman that will be assigned to this project, in the area of installing automatic fire sprinkler systems for at least five (5) years and acceptable to Owner. Once assigned, the foreman shall not be changed without the approval of the Owner.
   3. Service Organization: Capable of providing a service technician on-site within 4 hours of a request for on-site service.

F. The automatic fire sprinkler systems shall comply with all applicable state and local codes, including the Rhode Island Fire Safety Code (RIFSC).

G. Products, installation and testing shall be in accordance with the applicable provisions of the following as referenced by the RIFSC:
   1. National Fire Protection Association (NFPA) 13-2016, Standard for the Installation of Sprinkler Systems.
   2. NFPA 24-2016, Standard for the Installation of Private Fire Service Mains and Their Appurtenances.
   3. NFPA 25-2017, Standard for Inspection, Testing and Maintenance of Water-Based Fire Protection Systems.
   4. NFPA 70-2017, National Electrical Code.

5. NFPA 72-2019, National Fire Alarm Code.
6. American Water Works Association (AWWA): AWWA Publications apply as referenced by NFPA 24-2016.

1.07 COORDINATION

A. Coordinate sprinkler location and installation with existing conditions and other portions of the Work to ensure sprinkler locations are at the highest possible elevations and generally located to minimize the risk of mechanical damage.

B. Coordinate sprinkler installation with existing conditions and other portions of the Work to comply with NFPA 13 requirements for obstruction to sprinkler discharge.

C. Coordinate pipe installation with existing conditions and other portions of the Work to facilitate suspended ceiling installation, proper pitch and accessibility for components installed.

D. Coordinate with the Fire Alarm portion of the Work for the connection and testing of waterflow, pressure and valve supervisory switches.

1.08 NITROGEN SYSTEM COMPLIANCES

A. The nitrogen generation corrosion inhibiting system shall be designed, installed, tested, inspected and maintained to comply with all codes and standards relevant to the following specifications:
   1. NFPA 13, Standard for Installation of Sprinkler Systems.
   2. NFPA 25, Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems.

1.09 EXTRA MATERIALS

A. Furnish extra materials described below that match the products installed and that are packaged with protective covering for storage and identified with labels describing the contents.
   1. Sprinkler Cabinet: Finished, wall-mounting steel cabinet and hinged cover, with space for a minimum of six (6) spare sprinklers for each type, model and temperature rating, plus a sprinkler wrench for each model.

1.10 WARRANTY

A. Guarantee equipment installed to be free from defects in workmanship and inherent mechanical defects for a period of one (1) year from the date of substantial completion of the project. See Part 1 “Submittals”.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Subject to compliance with the requirements of this section, product selection shall be limited to those offered by manufacturers included in the "Available Manufacturer" lists in each Part 2 article. Substitution of the products listed requires approval by the Owner in writing prior to installation.

B. Where lists are not indicated, products, subject to compliance with the requirements of this section, may be obtained from an approved domestic manufacturer.

2.02 PIPE AND TUBE

A. Standard-Weight Steel Pipe: Schedule 40 ASTM A53, ASTM A135, or ASTM A795, carbon steel, threaded and cut grooved ends.

B. Standard-Weight Steel Pipe: Schedule 10 ASTM A53, ASTM A135, or ASTM A795, carbon steel, grooved ends.

C. CLDI Class 52, mechanical joints belowground, flanged ends aboveground.

2.03 PIPE AND TUBE FITTINGS

A. Cast-Iron Threaded Fittings: ASME B16.4; Class 125 or Class 250 pattern as re-quired by application.

B. Malleable-Iron Threaded Fittings: ASME B16.3; ASME B16.4; Class 125 or Class 250 pattern as required by application.

C. Steel Threaded Couplings: ASTM A865; ASME B16.4; Class 125 or Class 250 pattern as required by application.

D. Steel Welding Fittings: ASTM A234/A 234M, ASME B16.9, or ASME B16.11; 300-psi pressure rating.

E. Cast-Iron Threaded Flanges: ASME B16.1; ASME B16.4; Class 125 plain face or Class 250 raised face pattern as required by application.

F. Steel Flanges and Flanged Fittings: ASME B16.5; ASME B16.4; Class 125 plain-face or Class 250 raised face pattern as required by application.

G. Flange Gaskets and Bolts
   1. Plain-face Flanges: ASME B18.2.2 heavy-series hex-nuts and ASME B18.22.1 plain washers with ASME B16.21 1/8" full-face rubber gasket.
   2. Raised-face Flanges: ASME B18.2.2 heavy-series hex-nuts and ASME B18.22.1 plain washers with ASME B16.20 1/8" spiral wound gasket.

H. Mechanical Grooved-End Fittings:
   1. Assembly Pressure Rating: 300-psi

2. Fittings and Couplings: UL 213; ASTM A536 ductile iron body.
3. Couplings: UL 213; ASTM A536 ductile iron rigid or flexible pattern as required by application.
4. Gaskets and Bolts: Pre-lubricated EPDM gaskets with ASTM A183 zinc-plated nuts and bolts.
5. Flush seal gaskets shall be installed on all dry system piping.
6. Available Manufacturers
   a. Tyco Fire and Building Products.
   b. Victaulic Corporation of America.

2.04 VALVES

A. General: Minimum 175-psig (1200-kPa) non-shock working-pressure rating unless higher pressure rating is required by application or otherwise indicated. Valves for grooved-end pipe may be furnished with grooved ends instead of flanged ends.

B. Floor Control Check Valve: 175-psig (1200-kPa) working pressure, designed for vertical or horizontal installation (UL 312), with mechanical inlet and outlet, bronze grooved seat O-ring seals, and single-hinge pin and lath design. Include gauges and drain trim piped to exterior.

C. Dry Pipe Valves: 175-psig (1200-kPa) working pressure, designed for vertical installation (UL 312), with mechanical inlet and outlet, bronze grooved seat O-ring seals, and single-hinge pin and lath design. Include gauges and 2-inch drain trim piped to exterior.

E. Gate Valves; NPS 2 (DN50) and Smaller: UL 262; cast-bronze, threaded ends; solid wedge; OS&Y; and pre-grooved rising stem. NPS 2-1/2 (DN65) and Larger: UL 262, iron body, bronze mounted, tapered wedge, OS&Y, and pre-grooved rising stem. Include replaceable, bronze, wedge facing rings and flanged ends.
   1. Available Manufacturers
      a. McWane, Inc; Kennedy Valve Div.
      b. Mueller Co.
      c. NIBCO Inc.

F. Swing Check Valves; NPS 2 (DN50) and Smaller: UL 312; cast-bronze, threaded ends. NPS 2-1/2 (DN65) and Larger: UL 312, cast-iron body and bolted cap, with bronze disc or cast-iron disc with bronze-disc ring and flanged ends.
   1. Available Manufacturers
      a. Grinnell Corp.
      b. McWane, Inc; Kennedy Valve Div.
      c. Mueller Co.
      d. NIBCO Inc.
      e. Victaulic Co.
      f. Viking Corp.

G. Indicating Valves; NPS 2 (DN65) and Smaller: UL 1091; butterfly or ball-type, bronze

body with threaded ends; and integral indicating device and pre-wired supervisory switch. NPS 2-1/2 (DN65) and Larger: UL 1091; butterfly-type, ductile-iron body with grooved ends; and integral indicating device and pre-wired supervisory switch.

1. Available Manufacturers
   a. Tyco Co.
   b. Milwaukee Valve Co.
   c. Reliable Sprinkler Co.
   d. Victaulic Co.
   e. Viking Corp.

H. Ball Drip Valves: UL 1726, automatic drain valve, NPS 3/4 (DN20), ball check de-vice with threaded ends.

I. Supervisory Air Pressure Switch Test Valve: Potter ½" Air Bleeder Valve. Model BVL or equal.

J. Hose Valves: 2.5" cast brass. Potter Roemer Model 4065 or equal.

2.05 BACKFLOW PREVENTION DEVICES

A. Double Check Valve Assembly (DCVA) type with epoxy-coated cast iron or stain-less steel body, test cocks and grooved end UL 1091 indicating butterfly valves or, if required by the local Water Authority, UL 262 gate valves.
   1. DCVA shall be approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California (USC).

B. Available Manufacturer and Model
   1. Ames Co.
   2. Febco.
   3. Watts.

2.06 FIRE DEPARTMENT CONNECTION

A. The Fire Department Connection shall be a 5" Storz connection with a 30-degree down angle mounted 24"-30" above finish grade or as approved by the URI Coordinator of Alarms and local fire department.

B. The fire department connection shall be located per AHJ requirements, but in no case more than 100 feet from nearest fire hydrant. The location of fire hydrant shall be indicated on drawings.

2.07 SPRINKLERS

A. General: UL 199 nominal 1/2-inch (12.7-mm) orifice standard-spray pattern sprinklers with "Ordinary" temperature classification rating, unless otherwise indicated or required by application.

B. Pressure Rating: 175-psi (1200kPa) minimum unless otherwise indicated or re-quired by application.

C. Operating Element: Quick Response (QR) as indicated or required by application, eutectic metal type thermal operating mechanism or frangible glass bulb.

D. Sprinkler Types and Features; include but are not limited to the following:
   1. Upright.
   2. Pendent with and without escutcheon plate
   3. Recessed pendent.
   4. Concealed pendent.
   5. Sidewall

E. Sprinkler Finishes; include the following:
   1. Rough-brass (bronze)
   2. Chrome-plated.
   3. White.

F. Sprinkler Guards: Wire-cage type with red finish, including fastening device for attaching to sprinkler.

G. Available Manufacturers
   1. Tyco Fire and Building Products.
   2. Reliable Sprinkler Co.
   3. Victaulic Co.
   4. Viking Corp.

2.08 FIRE ALARM MONITORING DEVICES

A. General: NEMA enclosure suitable for intended application; include tamper resistant cover with switch that transmits signal upon removal of cover; 250-psi (1752-kPa) pressure rating; two sets, single-pole double-throw form ‘C contacts.

B. Water-Flow Indicators: UL 346 vane-type with field adjustable 0-90 second retard feature.

C. Pressure Switches: UL 753 field adjustable and configured to allow for function as either a waterflow indicator upon pressure increase or as a low-pressure indicator up-on pressure decrease.

D. Valve Supervisory Switches: UL 753 with normally closed contacts and compatible with valve stem to be monitored.

E. Available Manufacturers
   1. Pittway Corp.; System Sensor Div.
   2. Potter Electric Signal Co.

2.09 PIPE SLEEVES

A. General: Provide pipe sleeves where piping passes entirely through walls, floors and partitions. Secure sleeves in position during construction. Provide sleeves of sufficient length to pass through entire thickness of walls, floors and roofs. Provide 1-inch

minimum clearance between exterior of piping and interior of sleeve or core-drilled hole. Firmly pack space with mineral wool insulation. Seal space at both ends of the sleeve or core-drilled hole with plastic waterproof cement, which will dry to a firm but pliable mass, or provide a mechanically adjustable segmented elastomeric material. Penetrations of fire-rated barriers, wall and floor assemblies shall be sealed with a listed through penetration firestop-ping assembly

1. Sleeves in Masonry and Concrete Walls, Floors, and Roofs: Provide hot-dip galvanized steel, ductile-iron, or cast-iron sleeves. Core-drilling of masonry and concrete may be provided in lieu of pipe sleeves when cavities in the core-drilled hole are completely grouted smooth.
2. Sleeves in Other Than Masonry and Concrete Walls, Floors, and Roofs: Provide 26 gauge galvanized steel sheet

2.10 PRESSURE GAGES

A. Water Pressure Gages: UL 393, 3-1/2- to 4-1/2-inch- (90- to 115-mm-) diameter dial with dial range of 0 to 250 psig (0 to 1725 kPa).

2.11 CORROSION MANAGEMENT PRODUCTS

A. Nitrogen Generator:
   1. The nitrogen generator shall be sized to provide the dry fire sprinkler system with supervisory nitrogen gas. Sizing shall be based on the total volume of the fire sprinkler system being served by the nitrogen generator as determined by hydraulic calculations for each system. Documentation of the calculations and nitrogen generator sizing must be provided with the submittals.
   2. The nitrogen generator shall be FM 1035 Approved.
   3. The nitrogen generator shall be electronically controlled with the capability to adjust system operating pressure settings without the requirement of any additional equipment.
   4. The nitrogen generator shall be supplied with compressed air sized per the manufacturer's requirements.
   5. The nitrogen generator shall be designed to achieve a nitrogen concentration of 98% or greater within fourteen (14) days of start-up and maintain that concentration within the fire protection system continuously.
   6. The nitrogen generator shall not require a nitrogen storage tank or refrigerated dryer.
   7. The nitrogen generator shall have an hour meter, cycle counter, air bypass alarm, leak alarm and flow meter.
   8. The nitrogen generator shall provide the following monitoring output points, nitrogen generator running mode, bypass mode, nitrogen generator on (presence of power), leak monitor, nitrogen line pressure (analog).
   9. The nitrogen generator shall have a connection to attach and sample the purity of nitrogen within the FPS. Purity sampling device can be portable or fixed.
   10. The nitrogen generator shall be equipped with a filtration system to remove residual

water and hydrocarbons (if needed) from the compressed air stream.

11. The nitrogen generator shall be powered by a 120VAC power supply. Coordinate power requirements and location with electrical contractor. The nitrogen generator power supply shall be per NFPA 70 and all local requirements.
12. The nitrogen generator shall be equipped with an external bypass with bypass alarm to prevent long term oxygen exposure in fire sprinkler system.

B. Dry SMART Vent:

1. The fire sprinkler contractor shall furnish and install an electric inerting vent for each fire sprinkler system that will close automatically once the desired nitrogen concentration has been reached.
2. The electric inerting vent shall be installed on the fire sprinkler riser at the locations shown on the drawings. Installation of the electric inerting vent outside of the fire sprinkler valve room is not permitted.
3. The electric inerting vent shall be equipped with a solenoid valve and separate electric control box. The electric inerting vent shall be powered by a 120VAC power supply. Coordinate power requirements and location with electrical contractor.
4. The electric control box shall be wall-mounted and installed adjacent to the inerting vent on the fire sprinkler riser. Coordinate solenoid connection requirements and location with electrical contractor.
5. The solenoid valve shall be wired to the electric control box per NFPA 70 and all local requirements.
6. The inerting vent shall have an adjustable pressure regulator to prevent accidental depressurization of the fire sprinkler system should a disruption occur to the air/nitrogen supply.
7. The electric inerting vent shall have a connection to attach and sample the purity of nitrogen within the FPS. Purity sampling device can be portable or fixed.
8. The piping between FPS and electric inerting vent must not create a water trap; the connecting piping must drain when FPS is drained or the electric automatic inerting vent will not function properly.
9. A 1/2 in. outlet is required to attach the vent assembly to the FPS.
10. The isolation ball valve of the electric automatic inerting vent shall be closed during hydrostatic and/or air pressure testing of the FPS and then placed in the open position for the commissioning and operation of the nitrogen generator

2.12 AIR MAINTENANCE DEVICE

A. The fire sprinkler contractor shall furnish and install an approved air maintenance device for each dry or preaction fire sprinkler system.

B. The air maintenance device shall be equipped with a field adjustable pressure regulator for use in setting the maximum system pressure.

Approved air maintenance devices are:

1. Victaulic Series 757
2. Tyco Model AMD-1
3. Reliable Model A-2
4. Or approved equal

C. Air maintenance device shall be installed per the manufacturer's instructions.

PART 3 - 3.0 EXECUTION

3.01 EXAMINATION

A. Coordinate examinations with the Owner.

B. Examine and verify actual locations of risers, mains and branch line piping prior to preparing pre-installation submittal.

C. Examine and verify points of connection to existing system components.

D. Examine walls and partitions for suitable thickness, fire- and smoke-rated construction, framing and other conditions where pipes, risers and cross-mains are to be in-stalled prior to preparing pre-installation submittal.

E. Promptly report conflicts with proposed solutions.

3.02 PREPARATION

A. Prepare and submit a minimum of six (6) complete three ring bound "Pre-Installation Documentation" submittal packages to the Engineer for review prior to submitting same to local officials for approval and permit. Resubmit portions or entire-ty of submittal to address Engineer comments prior to submitting package to local officials for approval and permit. See Part 1 "Submittals" for submittal content.

B. Obtain authority approval and permits with reviewed "Pre-Installation Documentation" submittal package.

3.03 PIPING APPLICATIONS

A. Use the following:
   1. NPS 6 (DN150) to NPS 2.5 (DN65): Schedule 10 or 40 steel pipe with roll grooved ends; steel, grooved-end fittings with rubber gaskets; and grooved joint couplings.
   2. NPS 2 (DN50) and Smaller: Standard-weight steel pipe with threaded ends, cast- or malleable-iron threaded fittings, and threaded joints.
   3. NPS 6 (DN150): DICL Class 52 with mechanical joints belowground, flanged ends aboveground.

Branch Line Connections to Cross Mains shall be shop welded or cast- or malleable-iron threaded fittings, and threaded joints.

B. Dry system piping shall be schedule 40 galvanized in the attic otherwise schedule 40

black piping shall be installed. All dry system piping shall have threaded or cut groove ends.

3.04 PIPING INSTALLATION

A. Refer to manufacturer's specifications and NFPA 13 for basic piping installation.

B. Where shown to install exposed piping in normally occupied areas as tight to ceiling as possible. Rise with elbows in series as necessary to adjust final height of piping. Cut hanger rods to length that allows nuts to be tightened flush with ceiling with band hangers at the highest elevation possible.

C. Use approved fittings to make changes in direction, branch takeoffs from mains, and reductions in pipe sizes.

D. Install unions adjacent to each valve in pipes NPS 2 (DN50) and smaller. Unions are not required on flanged devices or in piping installations using grooved joints.

E. Install flanges or flange adapters on valves, apparatus, and equipment having NPS 2-1/2 (DN65) and larger connections.

F. Install sprinkler piping with drains for complete system drainage. All drain piping shall be routed to a location approved by the Owner.

G. Pressurize and check dry sprinkler system piping, air-pressure maintenance devices and air compressors.

H. Install "Inspector's Test Connections" in sprinkler piping, complete with shutoff valve, sized and located according to NFPA 13. The outlet shall discharge to the exterior of the building.

I. Install alarm devices in piping systems.

J. Hangers and Supports: Install according to NFPA 13 for sprinkler piping.

K. Seismic Bracing/Restraint: N.A.

L. Install piping with grooved joints according to manufacturer's written instructions. Construct rigid piping joints, unless otherwise required by NFPA 13 for protection against Earthquake damage through masonry penetrations. Provide flexible couplings on piping penetrating rigid walls (i.e. masonry walls), within 1-foot on each side of the penetration.

M. Install pressure gages on riser or feed main, at each sprinkler test connection and on both sides of every check valve. Include pressure gages with connection not less than NPS 1/4 (DN8) and with soft metal seated 3-way valve, plugged at one end and arranged for draining pipe between gage and valve. Install gages to permit removal and install where they will not be subject to freezing.

N. Welded joints shall not be used with galvanized steel pipe.

O. Flanges, unions, and transition and special fittings with pressure ratings the same as or higher than the systems pressure rating may be used in aboveground applications, unless otherwise indicated.

P. Dry system piping shall be pitched to drain. All branch lines shall be pitched at least ½ in. per ten (10) feet. All mains shall be pitched at least ¼ in. per ten (10) feet.

3.05 JOINT CONSTRUCTION

A. Refer to manufacturer's specifications for basic piping joint construction.

B. Steel-Piping, Grooved Joints: Use Schedule 40 steel pipe with threaded ends or Schedule 10 steel pipe with roll-grooved ends; steel, grooved-end fittings; and grooved couplings. Assemble joints with couplings, gaskets, lubricant, and bolts according to manufacturer's written instructions. Exception: all dry system piping shall have threaded or cut groove ends.

C. Dissimilar-Piping-Material Joints: Construct joints using adapters or couplings compatible with both piping materials. Use dielectric fittings if both piping materials are metal.

D. Refer to Manufacturer's specifications for grooved pipe fittings, pipe-flange gasket materials and welding filler metals.

E. Joint compound or tape shall be applied to male pipe threads only for all threaded joints.

F. Transition Couplings: AWWA C219, sleeve type, or other manufactured fitting the same size as, with pressure rating at least equal to, and with ends compatible with piping to be joined.

3.06 VALVE APPLICATIONS

A. Drawings indicate valve types to be used.

3.07 VALVE INSTALLATION

A. Install valves in accessible locations with indicators clearly visible from floor level.

3.08 SPRINKLER APPLICATIONS

A. Drawings indicate sprinkler types to be used.

3.09 SPRINKLER INSTALLATION

A. Install sprinklers in accordance with NFPA 13 and in the patterns indicated on the working drawings.

B. Install upright sprinklers where ceiling is exposed to structure at the highest elevation possible while observing the NFPA 13 requirements for obstructions to sprinkler discharge. Do not lower the elevation of sprinklers to locate deflector below solid-continuous obstructions in lieu of providing adequate horizontal clearance in accordance with NFPA 13 §8.6.5.1.

C. Install sprinklers in the center of suspended ceiling tiles where such ceilings exist or are planned.

D. Use sprinkler guards listed for use with sprinkler where indicated on drawings and where sprinkler is subject to mechanical damage. At a minimum, provide caged up-right or pendent sprinklers beneath stair landings, storage areas and mechanical areas. Use sprinkler guards where sprinklers are installed at an elevation of 7 ft. or less above the finished floor.

E. Do not install sprinklers, mains or branch lines in locations where likely to be inadvertently damaged, such as in front of access hatches, doors, cabinets, etc.

F. Install only sprinkler piping dedicated for required protection of electrical equipment rooms within such rooms. Do not run piping over electric panels.

3.10 FIRE ALARM MONITORING DEVICE INSTALLATION

A. Install water flow, pressure and valve supervisory switches to be connected by the Fire Alarm portion of the Work.

B. Adjust retard feature of “zone” waterflow indicating switches to 30 seconds.

C. Adjust retard feature of “main” waterflow indicating switches to 45 seconds.

D. Adjust air supervisory switches to comply with NFPA 72.

3.11 EXTERIOR WALL PENETRATIONS

A. Install flexible watertight sealant or “link seal” with flexible fitting listed for under-ground service at foundation.

3.12 LABELING AND IDENTIFICATION

A. Install labeling, signs and pipe markers on valves, equipment and piping in accordance with NFPA 13.

B. Signs and label styles and locations shall be coordinated with and approved by the Owner and the authorities having jurisdiction prior to installation.

C. Install hydraulic design information sign on the “main system riser”.

3.13 FIELD QUALITY CONTROL

A. Perform hydrostatic test of entire sprinkler system and inspect sprinkler piping according to NFPA 13, "System Acceptance". Coordinate hydrostatic test date(s) and time(s) with the Owner’s designee.
   1. Replace piping system components that do not pass test procedures and retest to demonstrate compliance. Repeat procedure until satisfactory results are obtained.
   2. Use the NFPA 13 "Contractor's Material and Test Certificate for Above-ground Piping" to document the hydrostatic test results. Prepare a separate form for each sprinkler zone. Obtain dated signature from Owner’s designee for each test. Tests

that are not witnessed must be repeated.

3. Use the NFPA 24 "Contractor's Material and Test Certificate for Under-ground Piping." Tests and documents shall be witnessed and countersigned by the Owner's designee. Tests that are not witnessed must be repeated.

3.14 COMMISSIONING

A. Verify that specialty valves, trim, fittings, controls, and accessories are installed and operate correctly.

B. Verify that specified tests of piping are complete.

C. Verify that damaged sprinklers and sprinklers with paint or coating not specified, are replaced with new, correct type.

D. Verify that sprinklers are correct types, have correct finishes and temperature ratings, and have guards as required for each application.

E. Verify that potable-water supplies have correct types of backflow prevention devices and have been tested, including a forward flow test in accordance with NFPA 13 and NFPA 25.

F. Verify that spare sprinkler cabinet is installed with correct number of wrenches and spare sprinklers.

G. Verify that labeling, identification and signage is installed.

H. Energize circuits to electrical equipment and devices.

I. Coordinate with fire alarm pre-acceptance tests. Operate as required.
   1. Use the NFPA 13 "Contractor's Material and Test Certificate for Above-ground Piping" to document the waterflow switch activation times and other functional test results. Obtain dated signature from Owner's designee for each test. Tests that are not witnessed must be repeated. Use common form for each zone that indicates results of previous hydrostatic testing and fire alarm functional tests.
   2. Use the NFPA 24 "Contractor's Material and Test Certificate for Under-ground Piping." Tests and documents shall be witnessed and countersigned by the Owner's designee. Tests that are not witnessed must be repeated.

3.15 CLEANING AND PROTECTION

A. Clean dirt and debris from sprinklers.

B. Remove and replace sprinklers having paint other than factory applied finish.

C. Wipe all excess pipe joint compound from threaded pipe joints.

D. Wipe all excess oil from the exterior surface of sprinkler mains and branch lines.

E. Protect sprinklers from damage until substantial completion by other trades.

3.16 AUTHORITY HAVING JURISDICTION FINAL SYSTEM ACCEPTANCE

A. Prepare and submit a minimum of six (6) complete three ring bound "Approval Documentation" submittal packages to the Owner's representative for review prior to submitting same to local officials for final system approval. Resubmit portions or entirety of submittal to address Owner's representative comments prior to submitting package to local officials. See Part 1 "Submittals" for submittal content.

B. Submit reviewed "Approval Documentation" submittal package to authority and co-ordinate scheduling of common fire sprinkler and fire alarm system acceptance testing.

C. Coordinate with fire alarm portion of final acceptance tests. Operate as required. Demonstrate system components to authority having jurisdiction as necessary.

3.17 PROJECT CLOSEOUT PROCEDURES

A. Prepare and submit a minimum of six (6) three ring bound closeout documentation packages to the Owner's representative for review prior to scheduling Owner demonstration and training. Resubmit portions or entirety of submittal to address Owner's representative comments prior to scheduling demonstration and training. See Part 1 "Submittals" for submittal content.

B. Schedule Owner demonstration and training with the Owner. Provide at least five (5) working days' notice. Training shall be recorded for future use.

C. Demonstrate equipment, specialties, and accessories with the Owner. Review operating and maintenance information with the Owner.

END OF SECTION

SECTION 22 0523 - VALVES AND APPURTENANCES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 WORK INCLUDED

A. This section of the Specifications consists of the furnishing of all plant labor, materials, equipment and appliances and in performing all operations in connection with providing buried service, gate and butterfly valves (including valve boxes), tapping sleeves and valves, with all accessories, miscellaneous and appurtenant work, as indicated or as directed, complete in place and accepted, in accordance with the specifications and drawings.

1.03 RELATED WORK

A. Section 22 1113 - Installation of Water Piping Systems

B. Section 31 0000 - Earthwork

C. Section 33 1413 - Ductile Iron Pipe

1.04 QUALITY ASSURANCE

A. The Contractor shall furnish to the Owner manufacturer's notarized certificates of conformance stating that all materials to be furnished under this section of the specifications conform with all specification requirements, and each shipment of gate valves and accessories meet all requirements of the specifications.

1.05 SUBMITTALS

A. Shop drawings shall be submitted for approval. They shall conform to the requirements of AWWA Specification C500 and C509, latest revision, as applicable, and shall include complete dimensional fabrication and erection details, net weights, material lists, maintenance data and all other additional information required by the Owner. Materials shall not be manufactured prior to shop drawing approval.

1.06 PRODUCT INSPECTION, RECEIVING, HANDLING AND STORAGE

A. The inspection, receiving, handling, and storage of all materials shall conform in all respects to the requirements of AWWA Specifications C600, latest revision, Section 2.

PART 2 – PRODUCTS

2.01 MATERIALS

A. GATE VALVES:
   1. All gate valves shall be resilient-seated gate valves and shall meet or exceed current AWWA C509 Resilient-Seated Gate Valves specifications or AWWA C515 Reduced-Wall Resilient-Seated Gate Valves specifications. Valves shall

open in a counterclockwise direction.

2. All distribution valves 2-inch diameter through 10-inch shall be resilient- seated gate valves.
3. All valve boxes shall be installed to finish grade.
4. All tapping valves regardless of size must be resilient-seated gate valves. In addition, all gate valves shall meet or exceed the following URI specifications:
   a. The valve body interior shall have epoxy coating.
   b. All operating nuts shall be 2-inch square nuts as specified in current AWWA C509 specifications or AWWA C515 specifications.
   c. All valves shall **open in a counterclockwise** direction.
   d. The stem seals shall be O rings as specified in current AWWA C509 specifications or AWWA.

B. TAPPING SLEEVES AND VALVES:

1. A visual inspection and air test of the assembled tapping valve and sleeve shall occur prior to cutting into the pipe. A final inspection of the assembled valve shall occur prior to backfill. An authorized representative of the URI Utilities Department shall witness all tests.
2. Tapping sleeves shall be utilized in all cases where the main cannot be shut down for installation of a standard "T" connection.
3. All size on size tapping sleeves shall be full size cast iron or ductile iron, mechanical joint with stainless steel fasteners made in the North America, as approved by the URI Utilities Department.
4. Sleeve couplings and accessories shall be pressure rated to at least equal that of the pipe. Couplings shall be ductile iron. The interior of the coupling shall be epoxy-coated in accordance with American Water Works Association ASTM & ANSI standards. Coating shall be thermosetting epoxy with a minimum dry film thickness of 10 mils and a maximum of 20 mils. Fabricated sleeves will be allowed only on ductile iron mains, cast iron mains or PVC mains with prior approval by the URI Utilities Department.
5. All sleeves shall be installed in strict compliance with the manufacturer's recommendations; copies of the installation guidance shall be available on-site during installation.
6. Water main on branch side of tapping sleeve shall be restrained in accordance with pertinent sections of the rules and regulations.

PART 3 – EXECUTION

3.01 INSPECTION

A. All valves, tapping sleeves and accessories shall be carefully inspected by the Contractor for defects before installation and all defective, unsound or damaged materials shall be rejected. The Owner will make such additional inspection he deems necessary and the Contractor shall furnish all necessary assistance for such inspection.

B. Operation parts shall be operated several times to demonstrate proper operation and adjustment.

3.02 PREPARATION

A. Proper implements, tools and facilities, satisfactory to the Owner shall be provided by the Contractor for the proper and satisfactory execution of the work.

B. The interior of all valves and accessories shall be thoroughly cleaned of foreign matter before installation and shall be kept clean during laying operations.

C. Valves and accessories shall be handled, stored, installed, jointed and protected by the Contractor in strict accordance with the printed recommendations of the manufacturer.

D. The existing main shall be thoroughly cleaned of all dirt, rust, scale or other materials, down to clean metal just prior to the installation of the tapping sleeve.

3.03 INSTALLATION

A. The Contractor shall furnish to the Owner for his use, copies of the printed recommendations of the gate and butterfly valve manufacturer for the handling, storing, protection and installation of gate valves and accessories.

B. All buried service valves and valve boxes shall be installed in conformance with AWWA Specification C 600, latest revision, Section 22 1113, "Installation of Water Piping Systems" of the Specifications and the additional requirements contained herein.

C. The valve installations shall not be made when trench or weather conditions are unsuitable for the work. All excavations and valve structures shall be kept free of water during installation of the valves and jointing operations and for such additional lengths of time as may be required to insure the satisfactory installation of the valve assemblies and appurtenant work.

D. Valve boxes shall be provided for all valves and they shall be set plumb. Valve boxes shall be centered on the valve operating nut. Care shall be taken that no part of the riser section, and its pad shall bear on any part of the valve. Provision shall be made to keep any stones, mud or debris from entering the Riser section during and after backfilling. Any blockage of the box shall be remedied by the Contractor at his own expense. Valves and riser section shall be centered on valves and the cover shall be set flush with the finished surface. The bottom of the cover shall have a minimum clearance of three (3) inches from the top of the riser pipe.

E. Gravel bedding shall be provided in accordance with Section 31 0000 - Earthwork.

F. Wet Tap Connections to Existing Water Mains:
   1. The Contractor shall furnish the necessary services of factory-trained personnel and special factory equipment for making wet tap connections, at no additional expense to the Owner.
   2. Existing water mains where wet tap connections are made shall be kept in service at all times.
   3. Machine sleeves shall be installed in such a manner as to bring the tapping connections exactly at right angles to the center line of the pipe to be tapped.

4. The wet tap connections shall be made in accordance with additional requirements of the manufacturer of the tapping sleeves and valves.
5. Valves and valve boxes shall be installed as per Article 3.3 A. and 3.3 B., respectively.

G. All materials found to be defective during the process of the work will be rejected by the Owner and the Contractor shall promptly remove such defective material from the job site. All defective material shall be replaced by the Contractor with new sound material at no additional expense to the Owner. The Contractor shall be responsible for the safe storage of all material.

H. Disinfection: Refer to Section 22 1113 "Installation of Water Piping Systems."

END OF SECTION

SECTION 22 1113 - INSTALLATION OF WATER PIPING SYSTEMS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 WORK INCLUDED

A. This section covers the furnishing, installation, testing and disinfection of the buried water service pipeline system, including all pipe, fittings, valves, hydrants, wet taps, thrust blocks, and all appurtenant work, complete in-place and accepted.

1.03 RELATED WORK

A. Section 22 0523 - Valves and Appurtenances

B. Section 31 0000 - Earthworks

C. Section 31 1300 - Tree Protection and Trimming

D. Section 31 2319 - Dewatering, Control and Diversion of Water

E. Section 33 1413 - Ductile Iron Pipe

1.04 QUALITY ASSURANCE

A. Reference Standards: Except as modified or supplemented herein, the installation of the pipeline system shall meet the requirements of the following standard specifications.
   1. Installation of all water conveyance, mains, pipes or lines shall be in accordance with the Ductile Iron Pipe Research Association's installation manual and ANSI/AWWA C600. NFPA 24 for fire service mains, NSF 61 for domestic water service, and State regulations and as governed by the RIDOH.

B. Submittals:
   1. Submit name and evidence of qualification of firm contracted to perform pressure testing and disinfection for approval prior to commencement of the work.
   2. Submit name of testing laboratory and evidence of qualification to perform the required bacteriological testing. The approved qualified independent testing laboratory will furnish certified reports of the required bacteriologic tests. Submit three (3) copies of the reports.

1.05 JOB CONDITIONS

A. Protection:
   1. Each length of pipe and or fitting shall be inspected for cracks, defects in coating on lining, cleanliness or any other evidence of unsuitability.
   2. Pipe shall be installed in *dry* excavations. If water is present in the trench after installation, then the plug shall be left in place until the trench has been pumped

dry.

3. Only authorized URI Utilities Department or approved contractors shall be allowed to make water service repairs, connections or disconnections of service from the URI water main.
4. Approved contractors shall consult with URI Utilities Department and receive written permission, prior to beginning work.
5. Only URI employees or designated personnel are authorized to operate URI Water System valves. URI's valves are defined as all water system valves upstream or before the point of delivery to a building to the backflow ow preventer.
6. Filling of tank trucks for any purpose shall only be done at designated locations with approved backflow prevention devices under the direction/supervision of URI Water System personnel.
7. No connection/modification shall be permitted to the URI Water System unless reviewed and approved by the Utilities Department.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

A. The Contractor shall examine all materials upon delivery so as to ensure an accurate assessment of any broken, damaged or otherwise defective materials requiring replacement.

B. All pipe, fittings, valves, and appurtenances shall be carefully handled, stored and protected in such a manner as to prevent damage to materials and protective coatings and linings. Under no circumstances shall such materials be dropped or dumped into the trench. Any material broken or damaged by the Contractor through negligence or by accident shall be replaced by the Contractor at no additional expense to the Owner. Remove any broken or damaged materials from the construction site and do not use in any portion of the construction. Any broken, damaged, or otherwise defective materials which are included in the construction shall be removed and replaced at no additional expense to the Owner.

PART 2 – PRODUCTS

2.01 MATERIALS

A. All materials to be used shall be furnished as specified and in accordance with the applicable sections of these Contract Specifications.

2.02 PIPE RESTRAINT AND THRUST BLOCKS

A. Restraining devices shall be utilized on all mains under the following conditions:
   1. Pipeline direction changes (tees, bends), vertical and horizontal
   2. Dead end lines (caps or plugs)
   3. Transition pieces (reducers)
   4. Valves on dead end lines
   5. Hydrants
   6. Tapping sleeves

B. Thrust blocks shall be designed to withstand the force imparted by the hydraulic influence encountered within the main. Minimum 1-1/2 times the anticipated working

pressure of the main, but not less than 150 PSI. Maximum lateral bearing capacity shall be 1500lb/sf.

C. All thrust blocks shall be constructed from concrete 3000 PSI. at 28 days, sized according to the size of pipeline, type of fitting, water pressure and the characteristics of the soil. Bearing surface shall be against undisturbed solid earth for the required bearing area. The concrete shall be properly formed as to slope for the given application and bearing width. The concrete shall be in contact only with the fitting, not with the pipe itself, fasteners or the joint. Curing time shall be a minimum of 7 days.

D. Stone, timber, concrete block or any materials that deteriorate are strictly forbidden to use as a permanent thrust block or restraint.

E. Optional thrust restraint shall be via restrained joint, ductile iron pipe meeting ANSI/AWWA C151/A21.51 and ANSI/AWWA C11/A21.11 and approved by the Utilities Department. Restrained joint pipe lengths (restrained length) shall be sufficient to restrain thrust imparted by 1-1/2 times the anticipated working pressure, but not less than 150 psi with a 1.5 factor of safety.

F. The use of tie rods may be allowed by written permission of the Utilities Department. This type of restraint configuration will only be considered in situations where approved types of restraint systems cannot be used. If allowed, they shall be of sufficient strength to withstand forces imparted to them. A factor of safety shall be 2.0 for all rod thickness calculations. All rods shall be stainless steel or protected from corrosion with two coats of epoxy paint.

G. Approved thrust restraint shall be by an approved restraining gland system utilizing in combination with mechanical joint pipe and fittings. All calculations must be provided and shall be in conformance with the manufacturing requirements for length, fitting and type of restraint.

H. Blocking under the pipe shall not be permitted except where a concrete cradle is proposed.

PART 3 - EXECUTION

3.01 PREPARATION

A. Excavation:
   1. Perform excavation in accordance with the requirements of Section 02300 - Earthwork.

B. Cleaning and Inspection:
   1. The interior of all pipe, fittings, valves and appurtenances shall be thoroughly cleaned of all foreign material and inspected for cracks, flaws or other defects before installation and shall be kept clean until the work is accepted. All joint contact surfaces shall be kept clean until the joint is completed. Mark all defective, damaged or unsound materials with bright marking crayon or paint and remove from job site.

C. Excavation of Existing Facilities:
   1. When connections are to be made to existing pipelines or appurtenances, the actual

elevation of which cannot be determined without excavation, the Contractor shall excavate for and expose the existing facility before laying any pipe or conduit. The University Resident Inspector will inspect the existing facility and will make any necessary adjustments in the line or grade of the proposed pipeline to accomplish the connection.

3.02 INSTALLATION OF PIPELINE

A. General:
   1. As each length of pipe is placed in the trench, the joint shall be completed as specified herein and pipe shall be brought to the correct line and grade. No spalls, shims or lumps shall be used to raise the pipe to grade, Secure the pipe in place with the specified bedding materials tamped under and around the pipe except at the joints. Bell holes shall be excavated so that after placement only the barrel of the pipe receives bearing pressure from the trench bottom. No joints shall be covered in any way until the joints have been inspected. Do not walk on small diameter pipe or otherwise disturb any conduit after jointing has been completed.
   2. Whenever pipe requires cutting to fit the line, the work shall be done only by experienced (State of Rhode Island, licensed contractor) or plumber, and in such a manner as to leave a smooth end at right angles to the axis of the pipe and on pipe that is center rounded designed specifically for field cutting. The cut ends shall be beveled to conform to the manufactured spigot end. Particular care shall be exercised to prevent damaging the lining when cutting cement- lined cast or ductile iron pipe. Jointing of pipe or fittings shall be made only by persons thoroughly skilled in this work. For pipe diameters 16” and larger, pipe cutting shall be done by machine.
   3. In addition to the requirements specified herein, the pipe fittings, valves and appurtenances shall be installed in strict accordance with the printed recommendations of the respective material manufacturer and as approved.

B. Pipe Laying:
   1. Water main and services shall be installed with a minimum cover of 5 feet to the crown of the pipe in an American Water Works Association "Type 5 Trench". Where unsuitable material is found at or below the grade of the placement of the pipe or fitting, the undesirable material shall be removed to the required width and depth and replaced with thoroughly compacted bank run gravel above the crown of the pipe.
   2. Deflections from a straight line or grade, as required by vertical curves, horizontal curves or offsets shall be made using fittings or specials as indicated on the drawings or as otherwise designated by the University Resident Inspector to accommodate field conditions.
   3. Pipe may be deflected in order to make MINOR adjustments in the alignment. All deflections shall be a maximum of 75% of the manufacturer’s safe allowable deflection per pipe length as indicated in the following tables. It is required that bends in the pipe be accompanied by fittings whenever possible.

Allowable Deflection For

18-foot Length Pipe

SIZE OF PIPE(In.)	PUSH-ON JOINT(In.)	MECH. JOINT (In.)
4	14	23
6	14	20
8-12	14	15
14-16	8	10
18-20	8	8
24-30	8	7

Allowable Deflection For

20-foot Length Pipe

SIZE OF PIPE(In.)	PUSH-ON JOINT(In.)	MECH. JOINT (In.)
4	16	26
6	16	23
8-12	16	17
14-16	9	11
18-20	9	9
24-30	9	8

4. Install all valves and tapping sleeves at the locations indicated on the drawings or as otherwise designated by the URI Utilities Department to accommodate field conditions.
5. Valves shall be adequately supported with crushed stone or other suitable means so that the pipe will not be required to support the weight of the valve.
6. Valves shall be installed in the closed position.
7. Valve boxes shall be installed on all buried valves. Install boxes such that no stress is transmitted to the valve. Set boxes plumb and directly over the valve with the top of the box placed flush with the finished grade. Backfill and thoroughly compact around each box. Care shall be exercised to prevent stones, mud or debris from entering the boxes during and after backfilling.
8. Water distribution system CAD or GIS drawn as-builts must be supplied on every project where modifications have been made to the URI water system. Drawings shall be prepared under the direction of a registered professional engineer or professional land surveyor in the State of Rhode Island and so stamped and signed.

C. Jointing the Pipe:
   1. Push-on joints
      a. Thoroughly clean the groove and bell socket and insert the gasket making sure that it faces the proper direction and that it is correctly seated.
      b. After cleaning dirt or foreign material from the plain end, apply lubricant in accordance with the pipe manufacturer's recommendations. The lubricant is supplied in sterile cans and every effort should be made to keep it sterile.
      c. Be sure that the plain end is beveled. When pipe is cut in the field, bevel the plain end with a heavy file or grinder to remove all sharp edges. Push the plain end into the bell of the pipe, taking care to prevent contact of the jointing surfaces with the ground. Keep the joint straight while pushing. Make deflection after the joint is assembled. Pipe that is not furnished with a depth mark shall be marked before assembly to assure the spigot end is fully inserted into the bell end.
   2. Mechanical Joints:
      a. Wipe clean the socket and the plain end. The plain end, socket, and gasket shall be washed with a soap solution to improve gasket seating. Place the gland on the plain end with the lip extension toward the plain end, followed by the gasket with the narrow edge of the gasket toward the plain end.
      b. Insert the pipe into the socket and press the gasket firmly and evenly into the gasket recess, taking care to prevent contact of the jointing surfaces with the ground. Keep the joint straight during assembly. Make deflection after joint assembly, but before tightening bolts.
      c. Push the gland toward the socket and center it around the pipe with the gland lip against the gasket. Insert bolts and hand tighten nuts.
      d. Tighten the bolts with a torque limiting wrench to the normal range of bolt torque as indicated in Table 3 of AWWA C600. Overtightening to compensate for poor installation practice will not be permitted. Nuts spaced 180 degrees apart shall be tightened alternately to produce equal pressure on all parts of the gland.
   3. Push-on Restrained Joints:
      a. Thoroughly clean the bell socket of all dirt, sand, gravel or foreign matter and insert the gasket, making sure that it faces the proper direction and that it is correctly seated.
      b. Apply lubricant onto the exposed surface of the gasket and pipe spigot end to retainer weldment. Make conventional push-on joint assembly ensuring that pipe is fully inserted, in alignment, with first assembly stripe in the socket. Insert right-hand locking segment into slot and slide segment down around pipe. Insert left-hand locking segment into slot and slide segment up around pipe. Wedge rubber retainer between locking segments. (For pipe diameters of 12 inches and larger, multiple locking segments and rubber retainers are used. Repeat locking segment and retainer installation steps accordingly.) After completion of joint assembly, set any desired deflection in the joint in accordance with the manufacturer's maximum deflection limits.

c. When restrained joint pipe is cut in the field, gripper rings shall be used to provide joint restraint. Cut pipe square using gasoline-powered abrasive saw. Bevel the field cut end with a disk grinder. Make an assembly mark on the pipe barrel as a guide to assure that the pipe is inserted the proper depth into the socket. Follow same procedure as above for inserting gasket. Insert the beveled end of the pipe into the socket to the guide mark. Position the gripper ring segments into the bell locking segment cavity so that the locking segment handles protrude beyond the bell face, Install the bolts into the locking segment handles. Tighten the first pair of handles to approximately 35-foot pounds torque, then tighten second pair of handles to approximately 35-foot pounds torque. Do not deflect the joint prior to tightening. (For pipe diameters 24 inches and larger, four gripper ring segments with a jack screw between two segments are used. In this case, tighten three pairs of handles together, and then the last pair.)

4. Mechanical Couplings
   a. The ends of the pipes shall be prepared, and the couplings installed in strict accordance with the coupling manufacturer's printed recommendations.

D. Wet Taps:
1. Wet taps shall be made at a time and in a manner authorized by the University Resident Inspector.
2. The work of installing tapping sleeves and valves and for making the wet taps under full main pressure shall be done only by workmen who are thoroughly experienced in this type of work.
3. The Contractor shall furnish the services of factory-trained personnel and special factory equipment, as necessary, for making wet tap connections, at no additional expense to the Owner.
4. The Contractor shall take all precautions necessary to prevent contamination of the existing potable water system when making the wet tap. Before the tapping sleeve is installed, the exterior of the main to be tapped shall be thoroughly cleaned and the interior surface of the sleeve shall be lightly dusted with calcium hypochlorite powder.
5. The tapping sleeve, valve, adaptor and tapping machine assembly shall be pressure tested in-place before making the tap.
6. The wet tap connections shall be made in accordance with the printed recommendations of the tapping machine manufacturer and as directed.

E. Reaction Anchorage and Blocking:
1. Provide thrust blocks, anchors, joint harness or other approved means for preventing pipe movement at all push-on or mechanical joint plugs, tees, crosses; bends deflecting 11-1/4 degrees or more; reducers and valves.
2. Construct thrust blocks in accordance with details shown on the drawings, sized to accommodate the specified test pressure of the pipeline. Thrust blocks shall extend from the fitting to solid undisturbed earth and shall be constructed so the joints are accessible for repair. If adequate support against undisturbed earth cannot be obtained, provide joint harnesses.

3. Provide joint harness or other supports for fittings installed in fills or other unstable soil, above grade, or exposed within structures as required by the drawings, as specified in other sections of the Specifications or as necessary to prevent movement.

F. Protection of Metal Surfaces:
1. Protect all ferrous metal rods, clamps, bolts, and other accessories subject to submergence or contact with earth or fill material and not encased in concrete with two coats of coal tar paint. Apply first coat to clean, dry metal surfaces and allow to dry before applying the second coat.

3.03 PRESSURE AND LEAKAGE TESTING

A. General:
1. URI personnel shall be present during the test.
2. All water mains and services shall be pressure tested and pass a pressure test in accordance with current ANSI/AWWA C600 Hydrostatic Testing prior to acceptance and being placed into service.
3. New mains and services shall be kept isolated from the system and protected with reduced pressure zone valves during filling, pressure testing and disinfection.
4. Prior to pressure testing, all appurtenances to the water system shall be in place, including concrete thrust blocks.
5. The duration of the hydrostatic test shall be for a minimum of 2 hours with allowable loss as determined by the Utilities Department.
6. All tests shall be performed or observed by the Utilities Department or its authorized representative.
7. Provide a written report of test results to URI Utilities Department.

3.04 DISINFECTION

A. General:
1. URI personnel shall be present during the disinfection process.
2. Disinfection of all areas affected by construction is mandatory.
3. All water main replacements, extensions, fire lines and services shall be disinfected pursuant to AWWA Specification C651 Disinfection of Water Mains, prior to being placed into service. URI will accept the Continuous Feed Method of chlorination for all water mains as specified by AWWA C651. These include but are not limited to:
   a. Mains
   b. Service Piping
   c. Buildings served
4. New mains and services shall be kept isolated from the system and protected with reduced pressure zone valves during flushing, disinfection and purging of chlorinated water.
5. Mains less than 16 inches in diameter shall be flushed to clear debris. Velocities of 2.5 ft/sec should be reached.
6. The initial free chlorine concentration shall be at least 25 ppm and not more than 100 ppm. The free chlorine concentration after 24 hours must be at least 10 ppm.
7. After proper disinfection, chlorine shall be purged to background levels.
8. Super-chlorinated water shall be neutralized prior to release to the environment.

Disposal of all water used in the disinfection process shall be the responsibility of the contractor performing the disinfection procedure. Approval for discharge into the sanitary sewer system must be obtained from the South Kingstown Wastewater Authority.

3.05 BACTERIALOGICAL TESTING

A. General:
   1. It is required that an authorized representative of URI be present during the chlorination process and once complete, witness the sampling procedure for bacteriological testing.
   2. Coliform samples must be collected from locations determined by the Water System Manager. Samples will be collected after the water/fire main has been flushed to chlorine levels similar to other parts of the distribution system. A second set of samples must be collected 24 hours after the first set.
   3. URI will not accept a new water main, service or fire protection connection until a certified bacteriological test indicating the absence of coliform organisms is received.
   4. When construction work being performed is an emergency repair, the isolated portion of the main shall be disinfected and flushed per AWWA C651 "Disinfection Procedures When Cutting into or Repairing Existing Mains". This procedure will be done as thoroughly as possible prior to the main being put back into service. Authorized URI personnel must be present for inspection of the procedures prior to any reconnection to the water system.
   5. Any deviations from the above information shall only be allowed upon prior approval from the URI Utilities Department. If material is not noted above then all items not referenced in the above paragraphs will need prior approval of the URI Utilities Department before use/installation.

END OF SECTION

SECTION 28 3100 – AUTOMATIC FIRE ALARM SYSTEM

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract and Agreement apply to this section.

B. Project Manual

1.02 SUMMARY

A. Drawings supplied with this specification shall be used as a reference for the requirement and location of system components. Work includes visiting the sites to observe the existing conditions, and confirmation of the required quantities of devices and specific options for locations of the same.

B. At the time of bid, all exceptions taken to these Specifications, variances from these Specifications and all substitutions of equipment specified shall be listed in writing and forwarded to Jensen Hughes (Engineer) and the University of Rhode Island (Owner). Any such exceptions, variances, or substitutions, which were not listed at the time of bid shall not be approved or considered.

C. The Work includes all labor, materials, services, software, programming, tools, transportation, and temporary construction necessary to fabricate, install, program and test a fully operational and code compliant UL Listed and FM approved analog-addressable fire alarm system throughout 44 Lower College Road.

D. The Work includes all labor, materials, services, tools, transportation, and temporary construction necessary to remove the existing building fire alarm system equipment in the manner and to the extent indicated herein and on the Drawings upon final acceptance of the new fire alarm systems.

E. All existing fire alarm equipment, including, but not limited to, control panels, initiating devices and notification appliances shall be removed and returned to the owner in good condition unless specifically noted as “existing to remain”.

F. The Work includes patching and painting of all holes created by the removal of existing equipment to match the existing wall, ceiling, etc. Cover plates on existing backboxes are not acceptable.

G. All existing wiring and exposed raceway shall be removed and disposed of off-site.

H. The Work includes all fees and activities required to secure approvals for necessary State and Local permits.

I. The Work includes submitting detailed Shop Drawing Plans, Wiring Diagrams, Calculations and Product Data to the Engineer and URI for review prior to submitting

same to local officials (as required) for approval and permit as outlined in Section 1.05.

J. The Work includes performing field quality control activities.

K. The Work includes documenting and submitting the results of integrity and functional testing.

L. The Work includes performing overall system, full-day "Pre-Acceptance" test(s) for the Engineer's approval with the Electrician and Programmer.

M. The Work includes performing overall system, full-day "Final Acceptance" test(s) for Authority approval with the Electrician and Programmer.

N. The Work includes submitting As-built Plans and closeout documentation to the Engineer for review prior to scheduling Owner demonstration training as outlined in Section 1.05.

O. The Work includes training Owner's personnel on the operation of the system, required maintenance tasks and frequencies, and the locations of all equipment necessary to maintain and operate the fire alarm system as outlined in Section 1.05.

1.03 PERFORMANCE REQUIREMENTS

A. 24 VDC closed-circuit, electrically supervised, addressable, analog, and automatic fire alarm system. The system shall include, but not be limited to:
   1. Fire alarm control unit (FACU), including supervised power supplies.
   2. Addressable manual fire alarm boxes at all exits and/or constantly attended locations, as shown on the drawings.
   3. Photoelectric, addressable analog automatic smoke detection system (in those environments suitable for proper smoke detector operation), as indicated in this section and where shown on the drawings.
      a. Common Corridors and Stairwells: System type, analog, addressable, photoelectric smoke detectors with standard base located in common corridors and each stairwell landing in the stairs.
      b. Where an area is environmentally unstable such that a smoke detector could experience high levels of dust or temperature variations above 100 °F or below 32 °F and the area in question is protected by an automatic sprinkler system, smoke detectors shall be omitted. If an automatic sprinkler does not protect the area, an addressable heat detector shall be installed.
   4. Audible and visible notification appliance circuits consisting of a minimum of three (3) circuits, as shown on the drawings.
   5. Audible and visible notification appliances (horn / strobe notification appliances) in common (public) spaces and public bathrooms, as shown on the drawings.
   6. Addressable monitor modules and addressable control relay modules, as shown on the drawings and described in this specification.
   7. Local energy masterbox, as shown on the drawings.
   8. Graphic map depicting the building floors and rooms and as-built plans cabinet

mounted adjacent to the FACU. Graphic map shall show initiating device addresses and locations. Graphic map shall indicate all device addresses.

1.04 ORDER OF PRECEDENCE

A. Should conflicts arise out of discrepancies between documents referenced in this specification, the most stringent requirement shall apply; however, should a level of stringency be in-determinable, the discrepancies shall be resolved as follows:
   1. State and local codes shall take precedence over this specification.
   2. The National Fire Protection Association Standards shall take precedence over this specification.
   3. University of Rhode Island Standards shall take precedence over this specification.
   4. This specification shall take precedence over the drawings.

1.05 SUBMITTALS

A. In the event that the any of the following submittal packages is required to be revised and resubmitted due to nonconformance with this specification, illegibility of the submittal, incomplete submittals, noncompliance with the referenced local, state and national Codes, Standards and Regulations or nonconformance with pertinent documentation relative to the project, the Contractor, in advance, shall pay a $1,500.00 fee associated with the additional submittal review. Payment of the fee shall be solely the Contractor's responsibility.

B. Pre-Installation Documentation: Absolutely no work or material fabrication shall be conduct-ed prior to submittal and approval by the Engineer.
   1. Product Data: For each product specified in Part 2. Submittal shall indicate listing and approvals, selected options and electrical characteristics.
   2. Equipment List: Identify type, quantity, make and model number of each piece of equipment (including spare components) included in submittal. Types and quantities of equipment indicated shall coincide with the types and quantities of equipment used in the battery calculations and those shown on the shop drawings.
   3. Shop Drawing Plans: Minimum 1/8"=1'-0" scale floor plans and corresponding riser diagram inclusive of information required by NFPA 72 requirements. Shop drawings must be prepared on the contractor's own title block.
   4. Wiring Diagrams: Point-to-point fire alarm control equipment installation diagrams inclusive of information required by NFPA 72 requirements; typical wiring diagrams are not acceptable.
   5. Battery Calculations: Prepared in accordance with NFPA 72 requirements and showing total standby power and total alarm power required to meet the specified system requirements. Include a complete list of current requirements during normal, supervisory, trouble, and alarm conditions for each component of the system.
   6. Voltage-drop Calculations: Prepared in accordance with NFPA 72 requirements to demonstrate that the system will operate per the prescribed backup time periods and

under all voltage conditions per UL and NFPA standards.

7. Sequence of Operation: A sequence of operation that describes how the system responds during an alarm, supervisory and trouble condition. The description shall include fire alarm control unit LEDs, audible and visible indications; initiating devices, notification appliances, and auxiliary functions. The description shall provide sufficient information so that the exact function of each installed device and appliance is known.
8. Statement of Equipment Lifecycle: A written statement, signed by a representative of the equipment manufacturer stating that the equipment to be supplied is not at or near the end of its life cycle and that replacement components for all control equipment shall be available from the manufacturer for a minimum of fifteen (15) years from the date of installation.

C. Pre-Programming Documentation:
   1. Device Address List: Indicating proposed label verbiage for each address.

D. Pre-Acceptance Documentation:
   1. As-Built Drawings: Showing all field changes from original Shop Drawing Plan submittal. Drawings shall include:
      a. The exact locations and installation details of all equipment installed including the FACU, all initiating devices, monitor modules, control modules and fault isolator modules with the address of each addressed device and all notification appliances.
      b. The installed wiring and color-coding and wire tag notifications for the exact locations of all installed junction boxes and terminal cabinets.
      c. Specific point-to-point interconnections between all equipment and internal wiring of the equipment. Typical point-to-point wiring diagrams are not acceptable.
   2. Testing Plan: Include a step-by-step description of all tests and indicate type and location of test apparatus to be employed.
   3. Preliminary Record of Completion: Prepared in accordance with NFPA 72 §4.5.2.1(a).
   4. Statement of Completion; to indicate that system installation, field quality control and commissioning is complete, a signed written statement, substantially in the form as follows:

E. "The undersigned, having been engaged as the Fire Alarm Contractor for the University of Rhode Island 44 Lower College Road confirms that the fire alarm system equipment has been in-stalled in accordance with the system manufacturer's wiring diagrams, installation instructions and technical specifications provided to us by the manufacturer and the University of Rhode Island. Field quality control procedures are complete, system indicators are normal, and the system is suitable for demonstration testing."

F. Final Acceptance Documentation:
   1. As-Built Drawings: With final revisions per Engineer's comments.

2. Final Record of Completion: Prepared in accordance with NFPA 72.
3. Test Reports: From Pre-Acceptance testing; substantially in the format and inclusive of information required by NFPA 72 Figure 10.6.2.3.

G. Closeout Documentation:
1. Maintenance Data: Operating and Maintenance Manual to include the following:
   a. Final Equipment List identifying the quantities and types of equipment listed by manufacturer's part number.
   b. Detailed narrative description of the system inputs, evacuation signaling, ancillary functions, annunciation, sequence of operations, expansion capability, application considerations, and limitations.
   c. Product datasheet (or specification sheet) for each piece of fire alarm system equipment installed.
   d. Operator instructions for basic system operations, including alarm acknowledgement, system reset, interpretation of system output, operation of manual evacuation signaling and ancillary function controls.
   e. Standby power calculations and voltage drop calculations that coincide with the equipment that has been installed in the building in accordance with the laws of the State of Rhode Island.
   f. Point ID list referencing the signaling line circuit loops or initiating device circuit loops and the devices on those loops.
   g. Sensitivity report for all smoke detectors at the time of acceptance.
   h. Testing results of all wiring free from faults, as specified in this specification.
   i. Detailed description of routine maintenance and testing as required and recommended and as would be provided under a maintenance contract, including testing and maintenance instructions for each type of device installed.
      1. This information shall include manuals that outline inspection, testing and cleaning procedures for all detectors and control equipment, as well as any other special maintenance procedures for any other pieces of fire alarm system equipment in-stalled in the buildings.
   j. Detailed troubleshooting instructions for each trouble condition generated from the monitored field wiring, including opens, grounds, and loop failures.
      1. These instructions shall include a list of all trouble signals annunciated by the system, a description of the condition(s) that causes such trouble signals, and step-by-step instructions describing how to isolate such problems and correct them (or how to call for service, as appropriate).
   k. A service directory, including a list of names and telephone numbers of those who provide service for the system.
2. Documentation of programming with the disks containing the programming information. Include necessary non-disclosure agreement or licensing agreement.
3. Electronic As-Built Drawings: Submit electronic AutoCAD files on compact. Coordinate AutoCAD version with Owner at time of submittal. Submit at least one (1) hard copy of plans to owner for the alarm division.

4. Statement of Warranty.

1.06 Coordination

A. Coordinate the installation of the fire alarm system and testing of associated equipment and circuits with all related trades, contractors, equipment maintenance and testing representatives, the Engineer, the Owner and the authorities having jurisdiction.

1.07 Quality Assurance

A. Each component of the fire alarm system shall be listed as a product of a single fire alarm system manufacturer under the appropriate category for the intended use in Underwriters Laboratories, Inc. (UL), UL FPED Fire Protection Equipment Directory. All control equipment shall be listed under UL category UOJZ Control Units System as a single unit. Partial listings, or multiple listings for various major sections of the control equipment, shall not be acceptable.

B. All equipment must be listed by FM Global (FM) in the 2010 FM Global Approval Guide.

C. Electrical components, devices, and accessories shall be Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.

D. All control equipment shall have transient protection devices that comply with the requirements outlined in UL 864 9th Edition, Standard for Control Units for Fire-Protective Signaling Systems.

E. All materials and equipment (initiating devices, notification appliances, etc.) shall be new and unused.

F. All equipment supplied shall be first quality and the manufacturer's best type and latest model capable of complying with all requirements of this specification and shall have been in continuous production and in continuous service in commercial applications for at least one year. Obsolete equipment shall not be used.

G. Installer Qualifications:
   1. Licensed in the State of Rhode Island and be experienced in the installation of fire alarm systems in buildings similar to the Work described herein and has obtained design and inspection approvals for similar projects from authorities having jurisdiction.
   2. Foreman: Provide proof of competence of both their company and the individual foreman that will be assigned to this project, in the area of installing fire detection, alarm, and control systems for at least five (5) years and acceptable to the Owner. Once as-signed, the Contractor's foreman shall not be changed without the approval of the Owner.
   3. Service Organization shall be capable of providing a minimum NICET Level III certified service technician on-site within 4 hours of a request for on-site service.

H. The fire alarm system shall comply with all applicable state and local codes including

the Rhode Island Fire Safety Code.

I. Buildings accessible to the disabled or impaired shall comply with the provisions of the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

J. Products, installation and testing shall be in accordance with the applicable provisions of the following as referenced by the Rhode Island Fire Safety Code:
   1. NFPA 1, Fire Code, 2018 Edition, as amended by the State of Rhode Island.
   2. NFPA 13, Standard for the Installation of Sprinkler Systems, 2016 Edition.
   3. NFPA 70, National Electrical Code, 2017 Edition.
   4. NFPA 72, National Fire Alarm Code, 2019 Edition.

K. The requirements and recommendations of the latest published edition of the equipment manufacturers' product datasheets, technical specifications, installation instructions and wiring guidelines shall be followed.

1.08 Scheduling

A. The Contractor's Foreman shall act as primary point of contact and responsible-in-charge for coordinating the Pre-Acceptance Test with the other portions of the Work, Owner and the Engineer.

B. The Contractor's Foreman shall act as primary point of contact and responsible-in-charge for coordinating the Final-Acceptance Test with the other portions of the Work, Owner, Engineer and Authorities.

1.09 Extra Materials

A. The manufacturer shall provide a suggested spare parts list with firm unit prices maintained for the duration of the manufacturer's warranty period as specified herein, for items such as power supplies, central processor units, fault isolator modules, monitor addressable modules, addressable control relay output modules and other modules that may be long lead re-placement items. Firm costs for programming changes shall also be included. Firm prices shall be maintained for one year beyond the duration of the manufacturer's warranty period as specified herein.

B. Furnish an additional 5% of each type of smoke detector installed in the building as spares.

C. Furnish an additional 5% of the manual fire alarm boxes as spares.

D. Furnish an additional 5% of the addressable monitor modules as spares.

E. Furnish an additional 5% of the addressable control modules as spares.

F. Furnish an additional 5% of the fault isolation modules as spares.

G. Furnish an additional 5% of each type of notification appliances (horn/strobes and strobes of various candela ratings) installed in the building as spares.

H. Spare parts shall be neatly and protectively packed in one or more cartons. The quantity,

manufacturer, and model of each unit in the carton shall be identified on the outside of the carton. The name, address, and telephone number of the Contractor and the manufacturer's local representative, plus the date of delivery, shall be neatly identified on the cover of each carton.

1.10 WARRANTY

A. The Contractor shall guarantee all new equipment installed and new raceways, new wiring and connections to existing wiring from defects in workmanship and inherent mechanical and electrical defects for a period of one (1) year from the date of substantial completion of the project. See Part 1 "Submittals".

B. The Manufacturer or the authorized representative shall guarantee all new system equipment for a period of two (2) years from the date of substantial completion of the project. See Part 1 "Submittals".

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Fire alarm system control equipment shall be manufactured by:
   1. Gamewell – Fire Control Instruments
   2. Simplex
   3. Or Engineering Equivalent

B. Distributors of acceptable manufacturer's equipment shall provide documentation indicating that they are authorized by the manufacturer to distribute and service the equipment and that the manufacturer has stated that they have satisfactorily completed all training courses offered by the manufacturer in relation to the equipment provided.

2.02 FUNCTIONAL DESCRIPTION OF THE SYSTEMS

A. The systems shall include the new fire alarm control equipment which is UL Listed to operate with the submitted manual fire alarm boxes, heat detectors, and smoke detectors, and shall transmit an alarm to the to the Kingston Fire Department, alert building occupants using audible and visible notification appliances, supervise each system for conditions which would impair proper system operation, annunciate such abnormal conditions, and where applicable, control related equipment as indicated on contract documents.

B. Alarm Condition
   1. The system operation shall be such that the alarm operation of any alarm initiating device shall not prevent the subsequent alarm operation of any other initiating device due to wiring or power limitations.
   2. The system alarm operation subsequent to the alarm activation of any manual fire alarm box, any common area system-type automatic detection device (smoke or heat detector), shall automatically perform the functions contained in this section and operate as follows:

a. All audible (horns) notification appliances in the building, as designated on the drawings, shall sound a general alarm. The general alarm shall consist of the temporal code 3 National Evacuation Signal. All strobe notification appliances shall operate in synchronization (all strobe notification appliance circuits shall be synchronized building-wide from the fire alarm control unit).
b. The general alarm shall immediately be transmitted to the Kingston Fire Department via local energy Masterbox.

3. Fire Alarm Control Unit Indication
   a. Alarm conditions shall be immediately displayed on the control unit alphanumeric display, indicating all information associated with the fire alarm condition including type of device, its location and the time and date of activation. The red "ALARM" LED shall flash on the control unit until the alarm has been acknowledged. Once acknowledged, this same LED shall latch on. A subsequent alarm received from another initiating de-vice after acknowledgment shall flash the alarm LED on the control unit and the display shall show the new alarm information.
   b. During an alarm condition, a pulsing alarm tone shall sound within the control unit until the alarm is acknowledged.
   c. If the audible alarm signals are silenced for any reason, they shall automatically re-sound if another initiating device is actuated.
   d. When the alarm signals are silenced by pressing the "ACKNOWLEDGE" pushbutton on the control module, the control unit LED's shall continue to flash until the alarm is reset at the control unit.
   e. The alarm sequence shall be recorded with the time and date of all occurrences in the fire alarm system History Log.
4. Auxiliary Functions
   a. Where applicable, all auxiliary functions shall be connected to and operated by the control unit.

1. The control unit shall have a "SYSTEM SUPERVISORY" LED and a supervisory signal "ACKNOWLEDGE" switch.
2. When a supervisory condition is detected, the following functions shall immediately occur:
   a. The "SYSTEM SUPERVISORY" LED shall flash.
   b. A pulsing alarm tone in the control unit shall sound.
   c. The display shall indicate all information associated with the supervisory condition, including device, its location within the protected premises, and the time and date of that activation.
   d. If more supervisory signals are in the system, the operator shall be able to scroll the display to view new signals.
   e. All system output programs assigned via control-by-event equations to be activated by the particular point monitored shall be executed, and the associated system outputs (Supervisory Notification Appliances and/or relays) shall be activated.

3. Unacknowledged alarm messages shall have priority over supervisory messages, and if an Alarm occurs during a supervisory sequence, the Alarm condition shall have display priority.
4. Activating the supervisory "ACKNOWLEDGE" switch shall silence the audible signal while maintaining an LED on, indicating the supervisory condition is still in the off-normal state.
5. Restoring the valve or supervisory contact to the normal position shall cause the supervisory service audible signal to pulse thus indicating restoration to normal position. Activating the "ACKNOWLEDGE" switch shall silence the audible signal and restore the system to normal.

D. Trouble Condition
1. When a trouble condition is detected, the following functions shall immediately occur:
   a. An amber "SYSTEM TROUBLE" LED shall light, and the system audible signal shall steadily sound when any trouble is detected in the system. Failure of normal power opens or short circuits on the signaling line circuits or the notification appliance circuits, disarrangements in system wiring, failure of the microprocessor or any identification module, or system ground faults shall activate this trouble circuit.
   b. A trouble signal may be acknowledged by actuating the "ACKNOWLEDGE" switch. This shall silence the control unit trouble buzzer. If additional trouble conditions occur, the trouble circuitry shall resound.
   c. During an "alarm" condition, all "trouble" signals shall be suppressed with the exception of lighting the amber "COMMON TROUBLE" LED steadily.
   d. The display shall indicate all information associated with the trouble condition, including type of trouble point, its location within the protected premises, and the time and date of that activation.
   e. All system output programs assigned via control-by-event equations to be activated by the particular point in trouble shall be executed, and the associated System Outputs (Trouble Notification Appliances and/or relays) shall be activated.
2. Unacknowledged alarm messages shall have priority over trouble messages, and if such an Alarm occurs during a Trouble sequence, the Alarm condition shall have display priori-ty.

E. System Supervision
1. All wiring extending from the FACU enclosure to fire alarm system components shall be supervised for opens, shorts and grounds. Systems containing unsupervised wiring of any type shall not be acceptable.
2. The occurrence of any fault shall activate the system trouble circuitry but shall not interfere with the proper operation of any circuit that does not have a fault condition.
3. Incoming 120 VAC line power shall be supervised so that any power failure shall

be audibly and visually indicated at the control unit.

4. Batteries shall be supervised so that a low battery condition or disconnection of the battery shall be audibly and visually indicated at the control unit.
5. The fire alarm system shall be protected by a DTK-120SRD surge suppressor to be located next to the main fire alarm panel or at the electrical panel where the A/C voltage supply originates. The surge suppressor shall be monitored by the fire alarm.

F. System Reset
1. A "SYSTEM RESET" button shall be used to return the system to its normal state after an alarm condition has been remedied. Printed messages shall provide operator assurance of the sequential steps (i.e.: "IN PROGRESS", "RESET COMPLETED") as they occur, should all alarm conditions be cleared.
2. Should an alarm condition continue to exist, the system shall remain in an abnormal state. System control relays shall not reset. The control unit "ALARM" LED shall remain on. These points shall not require acknowledgment if they were previously acknowledged.

2.03 MINIMUM COMPONENTS

A. The automatic fire detection and alarm system shall consist of, but not be limited to:
1. Addressable Fire Alarm Control Unit, containing a Central Processing Unit (CPU), power, LED indicators, control switches and relays.
2. Addressable, analog photoelectric smoke detectors, with standard bases.
3. Addressable manual fire alarm boxes.
4. Addressable monitor modules and control relay output modules.
5. Fault Isolator Modules.
6. Annunciation at the FACU, as shown on the drawings.
7. Remote annunciation, as shown on the drawings.
8. A permanent record of the alarm signal, time, and date.
9. Audible and visible notification appliances.
10. Battery backup supervision.
11. Automatic supervision of alarm initiating circuits, signal line circuits and notification appliance circuits.
12. Transmission of signals via local energy Masterbox.

2.04 FIRE ALARM CONTROL UNIT (FACU)

A. The FACU shall provide power, English display status, supervision, control, and programming capability for the fire detection and alarm system.

B. The control unit shall be located by the Owner and the Engineer, as shown on the drawings.

C. The control unit shall store a record of alarm and trouble events in a nonvolatile history file. This file shall contain, at least, the most recent 500 events, with time and date of each event. It shall be possible to select the number of events to be viewed in the

history file so that the entire file does not have to be downloaded. The history file shall remain intact in the event of a loss of AC and battery power.

D. The control unit shall be modular in construction and receive supervised plug-in component boards to provide system functions as hereinafter specified and/or to accommodate future system expansions.

E. The control unit shall be capable of being expanded in the future to support a minimum of 500 addressable points (inputs or outputs). The control unit shall be capable of being expanded and field reprogrammed at any time up to the predetermined maximum capacity of the system, without the requirement to return the operating system to the factory for program changes. All field programming shall be done by an authorized manufacturer's representative.

F. The control unit shall contain a minimum of two (2) signaling line circuits. Each signaling line circuit shall support a minimum of 100 addressable input devices or addressable monitor modules and a minimum of 10 output devices. All addressable input and output devices shall be capable of being intermixed on the same signaling line circuit.

G. The control unit shall accommodate all addressable input devices in alarm simultaneously and shall be capable of operating all output relays while all inputs are in alarm.

H. A minimum of two (2) signaling line circuits shall be used, with devices equally distributed on each circuit. Each signaling line circuit shall be loaded to no more than 75% of its manufacturer specified capacity. Additional SLCs shall be furnished and installed as necessary to comply with this requirement.

I. The control unit shall supply power and communication protocol signals to the addressable input devices over a single pair of wires per signaling line circuit from the control unit. Signaling line circuits shall be field programmable for Class A operation.

J. A minimum of three fault isolator modules shall be used on each signaling line circuit. One fault isolator module shall be installed at the point the SLC leaves the FACU and at the point where new installed Class A SLCs return to the FACU. Fault isolator modules shall be placed in order to minimize loss of addressable devices. Fault isolator modules shall be placed at each floor, where the SLC spans multiple floors. No more than 25 devices shall be installed on a circuit between fault isolators. Fault isolator modules shall be installed in accordance with the manufacturer’s instructions.

K. The control unit shall contain a minimum of two (2) visible (strobe) notification appliance circuits (NAC) to provide an evenly distributed number of notification appliances per floor and circuit. Visible (strobe) notification appliance circuits shall be independent from the audible notification appliance circuits. Each circuit's power load shall not exceed 75% of the individual circuit power available from the FACU and new installed circuits shall be Class A circuits. Additional NACs shall be furnished and

installed as necessary to comply with this requirement.

L. Power for all notification appliances shall come from integral power supplies in the control unit. Remote power supplies, if needed, shall be of the same manufacturer as the FACU. All locations containing remote control equipment (such as a power supply extender) shall be protected with a smoke detector, in accordance with NFPA 72.

M. At a minimum, the FACU shall contain the following:
   1. Display. A minimum 80 character, highly readable, display. Upon input activation, the display shall provide the following indication:
      a. A device address display.
      b. A field programmed English label indicating the location of the device.
      c. An English description of the type of device activated, such as smoke detector, manual fire alarm box, water flow switch, etc.
      d. The status of the input: alarm, supervisory or trouble.
      e. Multiple alarm conditions shall be sequentially displayed automatically at not more than a five (5) second interval until manually acknowledged by priority.
   2. Annunciation. Annunciation shall be an integral part of the control system and shall indicate alarm, supervisory and trouble conditions and the corresponding address. The following initiating devices shall be annunciated individually:
      a. Smoke detectors;
      c. Manual fire alarm boxes; and
      d. Other approved types of automatic fire detection devices or suppression systems.
   3. Battery voltage and ammeter readouts shall be available from the LCD display.
   4. Once acknowledged, individual alarms shall be viewed by operating a "next-alarm" switch.
   5. Communication Ports. Two supervised RS232C communication ports shall be provided to support a printer or MODEM. Each RS232C port output shall be programmable for printer or display output and shall be programmable to provide access to the control unit's EEPROM operating system to perform the following functions:
      a. Listing and indicating status of all field devices.
      b. Capability of performing alarm tests on any or all addressable smoke detectors and contact input devices.
      c. Monitoring of the system from remote locations via printer, terminal, or computer.
   6. The control unit shall be provided with a “silent” walk test feature. This feature shall allow for testing of the fire alarm system without activating the notification appliances.
   7. Clock. A 24-hour clock shall be provided to continually provide the time of day and day of the week information. During normal standby conditions, the control unit shall display time and date.
   8. Any operation of an alarm silence, supervisory silence, trouble silence,

acknowledge, lamp test, relay switches, or system reset switch shall cause a display indication of operation with time and date. These operations shall also be recorded in the system's his-tory file.

N. The functional operation of the control unit shall be established by programmable software.
   1. The operating program shall be contained in nonvolatile EEPROM memory and shall be configurable in any of the following ways:
      a. At the factory;
      b. At the job site via modem; or
      c. At the job site via standard terminal or standard laptop computer.

O. Access and control of the operating program shall be restricted to proper personnel designated by the Owner
   1. The control unit shall have a minimum of three (3) security levels, and they shall be designated: "ELECTRICIAN", "ALARM SYSTEM SERVICE TECHNICIAN", and "MANUFACTURER." Each level shall have individual passwords. Illegal access attempts shall be rejected by the system and shall be displayed and recorded in the history file with time and date.
   2. The "ELECTRICIAN" security level shall be the lowest security level and shall only allow access to the system status levels and lists and shall not impair system operation.
   3. The "MANUFACTURER" and "ALARM SYSTEM SERVICE TECHNICIAN" security levels shall allow access to the operating system.
   4. Accessing a programming function that disables normal system operation shall initiate a trouble sequence.

P. Failure of the CPU(s) in the control unit module or a channel shall light the CPU Error LED and sound the control unit trouble buzzer. Alarms received while the control unit is in this state shall bypass the software and sound the general alarm signals and light the alarm LED.

Q. The channel modules shall be field programmable to report wire-to-wire short conditions as either an alarm or trouble condition.

R. The control unit shall be capable of locating input circuit openings by the associated address and initiate the proper display and trouble sequence.

S. The system response to alarms shall be 2.5 seconds maximum for the first alarm.

T. The control unit shall contain an integral standby battery to provide continuous power in the event of AC power failure.
   1. The batteries shall be capable of providing 60 hours of backup power for the system and enough remaining power to operate all notification appliances for 15 minutes at the end of the 60-hour period.
   2. The calculations for battery standby shall include a "safety factor" (reserve power estimate) of a minimum 20%.

3. Transfer from AC to battery power shall be instantaneous when AC voltage drops below 85 percent input. Transfer to battery standby shall be indicated by display and recorded in the history file with time and date. The indication shall be "AC OFF".
4. Loss of building power for the system shall automatically and immediately cause transfer of the system to battery power and cause all audible trouble signals to sound. Upon return of building power, the system shall automatically retransfer thereto, and the batteries shall automatically recharge.
5. During battery operation, the control unit shall process all inputs. However, the display shall provide five (5) seconds of indication for each new input condition, then turn off to conserve battery power.
6. The control unit shall have a dual rate battery charger that shall maintain the batteries in a fully charged condition and shall provide recharge of the batteries to full capacity in for-ty-eight (48) hours.

U. The control unit shall provide a nonprogrammable DPDT common alarm relay and common trouble relay both with contacts rated 2 AMP at 24 VDC.

V. Output Function Modules. The control unit shall utilize output function modules to control output functions. The modules shall plug into the control unit motherboard. The functions and presence of each module shall be supervised, and “UNIVERSITY ELECTRICIAN” password shall enable the user to request a list that locates the module by panel and slot within system. All modules shall be individually programmable by circuit as hereinafter specified.
   1. Addressable control relays shall be provided for each of the auxiliary functions; field verify quantities and locations.

2.05 WIRING

A. Wiring for the initiating devices, notification appliances and remote 80 character LCD display shall be solid copper and shall comply with the appropriate sections of the National Electrical Code. All system wiring size shall be as determined suitable by the manufacturer and in compliance with the National Electrical Code, yet they shall not be any smaller than as specified herein.

B. Conductors shall be minimum #16 gauge solid copper, type thhn, thwn or tfn. All wiring shall be run continuously from device to device. Wiring size shall be increased as required to limit voltage drop to manufacturer’s recommended operating voltage.

C. Shielded wire shall be used as directed by the FACU manufacturer.

D. All wiring shall be installed in metal raceway. Raceways shall include rigid steel threaded conduit, electrical metal conduit (EMT) and surface metal raceway (e.g., wiremold). MC Cable is not permitted.

2.06 SYSTEM FIELD DEVICES - GENERAL

A. Addressable devices shall operate under the following ranges of environmental

conditions:

1. Ambient Temperature: 32-100 degrees Fahrenheit.
2. Relative humidity: 0-93 percent, non-condensing.
3. Air velocity: 300 feet per minute.

B. Each addressable device shall include a means to assign a unique address code to the device in the field. This address code shall serve as the means by which the system program recognizes the device.

C. Failure of any single device shall not hinder the operation of any other devices connected to the signaling line circuit.

D. Failure of the control unit to properly communicate with any addressable device shall initiate the proper trouble sequence. While in this trouble condition, the control unit shall cause actual alarm input from devices to override trouble alarm.

2.07 AUTOMATIC DETECTORS – GENERAL

A. All automatic smoke detectors shall be of the addressable, analog photoelectric type and shall be interchangeably mounted into a common twist-lock base.

B. The control unit shall recognize changes of detector type in each location and provide proper indication that reprogramming for the affected address is required.

2.08 ADDRESSABLE PHOTOELECTRIC SMOKE DETECTORS

A. Addressable analog photoelectric smoke detectors with standard detector bases shall be in-stalled in all common corridors, in stairwells at each floor level, and in the vicinity of all fire alarm system control equipment, in accordance with this specification and as shown on the drawings. Unless otherwise shown on the drawings, these common area detectors shall be spaced at thirty (30) foot centers and spaced in accordance with NFPA 72 and the manufacturer's installation instructions. Smoke detectors shall only be installed in those environments suitable for proper smoke detector operation.

B. UL 268, photoelectric smoke detector with general alarm setting in all common spaces of 3.0% - 4.0% per foot obscuration.

C. The detectors shall provide a combination alarm/power LED. The LED shall flash under normal conditions, indicating that the detector is operational and in regular communication with the control unit. The LED shall be placed into steady illumination under an alarm condition. An output connection shall also be provided in the base to connect an external remote alarm LED. The mounting location of every device shall be approved by the Owner.

2.09 DETECTOR BASES

A. Automatic detectors shall utilize a common, plug-in, twist-lock, tamper-resistant type base that accommodates photoelectric and thermal detectors. Detectors shall be interchangeable to simplify field conversion.

B. Provide bases constructed of white, high impact polycarbonate designed for mounting on a standard 3-1/2 inch or 4 inches octagonal or 4-inch square outlet box. Provide screw terminal connections for No. 14 AWG wire.

C. Removal of the detector from the base shall cause a trouble indication at the FACU. Removal of the detector shall not disrupt the alarm circuit wiring or prevent the receipt of alarms from other devices operating in the circuit.

D. Insertion of an incorrect detector type into the base shall cause a "Wrong Device" trouble condition at the FACU until the proper type of detector is installed, or the system is re-programmed. The system program shall recognize the insertion of a wrong device and shall automatically default to the set point values corresponding to the inserted device and shall monitor alarm and trouble conditions according to the default parameters.

2.10 ADDRESSABLE MANUAL FIRE ALARM BOXES

A. Manual fire alarm boxes shall be UL 38 non-coded, double-action type, surface or semi-flush mounted, with integral contact monitor module to provide addressable operation.

B. Faceplates shall be red with raised white identification lettering.

C. Stations shall mechanically latch after operation, with a key operated reset feature, keyed the same as FACU.

2.11 ADDRESSABLE MONITOR MODULES

A. Each addressable monitor module shall be able to support any number of normally open (N/O) devices. Wiring to the devices(s) being monitored shall be Class A supervised (Style D). Module status (normal, alarm, supervisory, trouble) shall be transmitted to the FACU.

B. Addressable monitor modules shall include a mounting plate for installation in a junction box or shall be mounted in a locked cabinet or approved box, as shown on the manufacturers recommended specifications.

C. The addressable monitor modules shall provide address-setting means.

D. An LED shall be provided which shall flash under normal conditions, indicating that the monitor module is operational and in regular communication with the control unit.

2.12 ADDRESSABLE CONTROL RELAY OUTPUT MODULES

A. Provide addressable control relay output modules to permit hardwired control capability from the signaling line circuit. Relay contacts shall be DPDT, rated 2 amperes at 24 VDC.

B. Each relay shall operate according to the control program resident in the FACU. Relays shall be supervised for trouble conditions (open, short, device missing/failed) at the FACU.

C. Relay output modules shall include a mounting plate for installation in a junction box.

D. The relay output module shall provide address-setting means and shall also store an internal identifying code which the control unit shall use to identify the type of device.

E. An LED shall be provided which shall flash under normal conditions, indicating that the Relay Output Module is operational and is in regular communication with the control unit.

F. Provide transient suppressors for inductive loads.

G. All wiring and power shall be provided to properly operate all relays connected to the SLC.

H. Contractor is responsible to provide wiring and power in order to power field relays.

2.13 FAULT ISOLATOR MODULES

A. Fault isolator modules shall provide short circuit isolation for signaling line circuit wiring. Fault isolator modules shall be listed to UL 864, Standard for Control Units for Fire-Protective Signaling Systems.

B. Fault Isolator modules shall be installed where each SLC leaves and returns to the FACU.

C. Fault Isolator modules shall be installed such that no more than 25 fire alarm devices are in-stalled between fault isolator modules.

D. Fault Isolator modules shall be installed to isolate each floor of all SLCs.

E. The isolator module shall mount directly to a minimum 2 1/8-inch-deep, standard 4-inch square electrical box, without the use of special adapters or trim rings.

F. Power and communications shall be supplied by the signaling line circuit.

G. Fault isolator modules shall report faults to the satellite and master FACU.

H. After the wiring fault is repaired, the fault isolator modules shall test the lines and automatically restore the connection.

2.15 AUDIBLE AND VISIBLE NOTIFICATION APPLIANCES

A. General
   1. All notification appliances shall be rated at 24 VDC and shall be powered by supervised notification appliance circuits originating from the FACU or remote power extenders listed for this purpose.
   2. The notification appliances shall be installed in accordance with the required audibility levels and the required illumination levels as described in NFPA 72.
   3. All notification appliances shall be installed in environmental conditions in accordance with their listing and manufacturer's specifications and installation instructions. Where required, notification appliances that are to be installed in

outdoor areas or in areas with harsh environmental conditions shall be tested and listed for outdoor use or for weather-proof applications.

4. All notification appliances must be red in color.

B. Audible (horn) notification appliances
   1. Fire alarm horns shall be listed in accordance with UL 464, Standard for Audible Signaling Appliances.
   2. The horn, whether integral with a combination horn/strobe unit or a separate appliance, shall have a minimum output designation from UL of 90 peak dBA at 10 feet or 15 dBA above the average ambient sound level, whichever is louder.
   3. Horn/strobe units shall be either flush-mounted or ceiling mounted as indicated on the drawings.

C. Visible (strobe) notification appliances
   1. All strobes shall conform to the requirements of NFPA 72, UFAS and the ADA and shall be listed to UL 1971, Standard for Signaling Devices for the Hearing Impaired.
   2. All visible notification appliance circuits shall be synchronized and have a rated light output as indicated on design drawings.

2.16 NOTIFICATION APPLIANCE REMOTE POWER SUPPLIES

A. General
   1. Remote power supplies shall power and supervise a minimum of 2 Class A (Style Z) NACs that shall be capable of being synchronized together on the same circuit, being synchronized together with notification appliance circuits on other power supplies, and being synchronized with notification appliance circuits connected directly to the FACU.
   2. Remote power supplies shall have an auxiliary power output for providing remote power to fire alarm system devices other than notification appliances. Devices to be powered from auxiliary power output shall be approved by the Manufacturer and have been tested by a UL and/or FM.
   3. Remote power supplies shall be connected to FACU, supervised by and activated by a dedicated Class A notification appliance circuit or Class A connections from addressable monitor modules and addressable control relay output modules. Isolation modules shall be installed on both the feed and return sides of control modules used to activate remote power supplies.
   4. Remote power supplies shall be supervised for loss of power, brownout, and battery trouble conditions. NACs shall be supervised for wiring faults including, opens, wire-to-wire short circuits and earth faults. Remote power supply Trouble signal(s) shall report on the FACU display. Additionally, remote power supply shall have visible indicators (LEDs) for displaying Trouble signal(s) and indicating which NAC is in Trouble at the power supply.
   5. All locations containing remote control equipment (such as a power supply extender) shall be protected with a smoke detector, in accordance with NFPA 72 –

2013.

2.17 TRANSMISSION OF SIGNALS

A. All alarm signals shall be transmitted to the Kingston Fire Department via a local energy Masterbox.

B. All municipal loop wiring must be a minimum of #12 AWG. If IMSA wiring is required, the type must be 19-5 or acceptable to the Coordinator of Alarms.

C. Any terminal cans for municipal loop wiring must be NEMA 3R rated, painted red, and keyed to a C364A key.

A. The system shall include a DACT programmed for point ID transmission and a Sur-Gard TL300CF for IP protocol transmission and connected to URI's network.

D. The masterbox shall be activated by a circuit installed in separate raceway. This circuit shall be directly from the FACU. An addressable control module shall not be used to activate the existing masterbox.

PART 3 - 3.0 EXECUTION

3.01 EXAMINATION

A. Coordinate examinations with the Owner.

B. Examine and verify actual location of equipment, initiating devices, notification appliances, monitor modules, output modules, fault isolation modules, remote power supplies and other components.

C. Examine and verify actual locations of vertical and horizontal raceway including existing raceway that may be reused.

D. Examine walls and partitions for suitable thickness, fire- and smoke-rated construction, framing and other conditions where equipment is to be installed prior to preparing pre-installation submittal.

E. Promptly report conflicts with proposed solutions.

3.02 PREPARATION

A. Prepare and submit a minimum of six (6) complete "Pre-Installation Documentation" submittal packages to the Engineer for review prior to submitting same to local officials (as required) for approval and permit. Resubmit portions or entirety of submittal to address Engineer comments prior to submitting package to local officials (as required) for approval and permit. See Part 1 "Submittals" for submittal content.

B. Obtain Owner approval to deliver materials and begin installation once "Pre-Installation Documentation" review process is complete and necessary local approvals and permits

have been secured.

3.03 GENERAL EQUIPMENT INSTALLATION

A. Installation, workmanship, fabrication, assembly, erection, examination, inspection and testing shall be in accordance with NFPA 72.

3.04 MODULE AND REMOTE POWER SUPPLY INSTALLATION

A. Install remote power supplies as indicated on Pre-Installation Documentation submittal. Obtain Engineer approval for locations not previously identified (and approved) in submittal.

B. If a remote power supply is used to power a NAC and is actuated from the SLC, isolation modules shall be installed on both the feed and return side of the control module.

C. Install addressable isolator modules as indicated on Pre-Installation Documentation submittal. Obtain Engineer approval for locations not previously identified (and approved) in submittal.

D. Install addressable monitor modules as indicated on Pre-Installation Documentation submittal to supervise and monitor the status of each non-addressable device, such as conventional spot-type heat detectors, linear heat detection, sprinkler waterflow alarm switch and valve supervisory switch contacts. Addressable monitor module shall also supervise the emergency generator for 'running' condition.

E. Install addressable control relay output modules as indicated on Pre-Installation Documentation submittal. Obtain Engineer approval for locations not previously identified (and ap-proved) in submittal.

F. All wiring, and power shall be provided to properly operate all relays connected to the SLC.

3.05 INITIATING DEVICE INSTALLATION

A. In general, automatic detectors shall be mounted on the structural ceiling or finished ceiling and not on the bottom or side of any type of construction or structure which extends down from the ceiling. Automatic detectors shall be installed as indicated on the plans and in conformance with all codes and Regulations and these specifications. The detectors shall be in-stalled within five (5) feet of the location shown on the drawings to accommodate construction.

B. Automatic detectors shall be located near points where air currents normally intersect. Detectors shall not be located in the direct path of the draft from an HVAC air supply grille, a door, window, or hallway. Detectors shall be installed a minimum of three (3) feet from an HVAC air supply diffuser or return air opening, in accordance with NFPA 72.

C. Addressable analog photoelectric smoke detectors shall be installed in all common

corridors, waiting rooms and other common spaces in accordance with this specification, as shown on the drawings. Unless otherwise shown on the drawings, these common area detectors shall be spaced at thirty (30) foot centers, and in accordance with NFPA 72 and the manufacturer's installation instructions. Smoke detectors shall only be installed in those environments suitable for proper smoke detector operation.

D. Manual fire alarm boxes shall be installed at every exit and in common areas in accordance with NFPA 72, as shown on the drawings.

E. Manual fire alarm boxes shall be mounted at a height between 42-inches and 48-inches measured to the activating handle, above the finished floor, in accordance with NFPA 72 and the ADA.

3.06 NOTIFICATION APPLIANCE INSTALLATION

A. All notification appliances shall be wall-mounted such that that the entire strobe lens is not less than eighty (80) inches and not greater than ninety-six (96) inches above the finished floor, or six (6) inches below the finished ceiling, whichever is lower.

B. Strobes shall be synchronized in accordance with NFPA 72.

C. All audible notification appliances shall sound the three-pulse temporal fire alarm evacuation signal.

3.07 WIRING INSTALLATION

A. The wiring and raceway system for the fire alarm system shall be in accordance with NFPA 70, National Electrical Code. Device and appliance boxes shall be new and low-profile.

B. Furnish metal raceway, wiring, outlet boxes, junction boxes, cabinets, labels and similar devices necessary for the complete installation of the fire alarm system. Wiring shall be of the type as specified herein and recommended by the manufacturer and shall be installed in metal raceway throughout.

C. Fire alarm system wiring within the building shall be installed in metal raceway with steel couplings and box connectors. Cast "LB" or "T" type connectors shall be permitted. An equipment-bonding conductor shall be provided in all flexible metallic raceways.

D. All fire alarm system riser conduits shall be minimum 1-inch in diameter.

E. All wiring shall be installed continuous from device to device.

F. Terminal cabinets with hinged, lockable red covers, manufactured by Space Age Electronics, Marlboro, MA, or approved equal shall be provided at all junction points. All conductor splices shall be made on screw-type terminal blocks – wire nuts, butt, crimp or screw-type connectors shall not be used. All terminals within a terminal cabinet shall be properly and permanently labeled. All junction box covers shall be painted red.

G. Raceways containing conductors identified as "Fire Alarm System" conductors shall not contain other conductors. AC carrying conductors shall not be installed in the same raceway with the DC fire alarm detection and signaling conductors.

H. The conductors for the notification appliance circuits shall not be installed in the same race-way as the conductors for signaling line circuits unless written certification from the manufacturer is supplied to the Engineer indicating that the inclusion of these circuits in the same raceway is acceptable and that no additional consideration is needed for these circuits.

I. Notification appliance circuits and control equipment shall be arranged and installed such that loss of any one (1) notification appliance circuit shall not cause the loss of any other notification appliance circuit in the system.

J. Color coding of conductors shall be approved by the Owner. Unless otherwise indicated, the color code for all fire alarm system conductors shall be as follows:
   1. Signaling line circuits and initiating device circuits shall be red and black. Red shall be positive and black shall be negative. (SLC/IDC)
   2. Audible notification appliance circuits shall be blue and white. Blue shall be positive and white shall be negative (NAC).
   3. Sprinkler/standpipe circuits shall be red and black. Red shall be positive and black shall be negative.
   4. Smoke detector power circuits shall be brown and violet. Violet shall be positive, and brown shall be negative.
   5. Auxiliary remote power supply circuits shall be brown and violet. Violet shall be positive, and brown shall be negative.
   6. Electro-magnetic door hold-open circuits shall be gray and gray.
   7. HVAC shut-down circuits shall be orange and yellow.
   8. Remote annunciator circuits shall be violet and numbered at each end.
   9. Bond wires from the control unit to the master box ground rod, and all required bonding conductors shall be green.
   10. AC supply circuit to the main FACU shall be white, black and red. The black shall be one phase, and the red shall be the opposite phase, if required. The white shall be the neutral. If a separate feed is required for the battery charger, it shall be black and white unless the main FACU requires only one AC feed. In that case, the conductors to the battery charger shall be red and white.
   11. Municipal master box tripping circuits shall be orange and orange. Conductors for this circuit shall be installed in a separate raceway.

K. Exposed raceways shall be run parallel and perpendicular to the walls and ceilings. Wherever practical, exposed raceways shall be run on the ceiling as close as possible to a wall or as high as possible on a wall. Where exposed raceways shall cross under a structural beam or rib, they shall be run down on one side of the beam or rib, across its bottom, and up to the ceiling on the other side of the beam or rib. No spanning from beam to beam or rib to rib shall be permitted. The use of a raceway body on one side of

a beam or rib shall be permitted provided it shall be readily accessible.

L. Exposed conduit must be painted in accordance with Section 09 9000.

M. Fault isolator modules shall be furnished as required and shall be mounted as directed by the manufacturer. The field location of the fault circuit isolators shall be labeled so that the devices may be easily located, and that location shall be noted on the point-to-point and as-built drawings.

N. The power employed to operate the fire alarm system shall have a high degree of reliability and capacity for the intended service. Connections to this power service shall be made on a dedicated branch circuit(s). The circuit shall be mechanically protected.

O. The electrical supply to the FACU shall be equipped with a dedicated fused disconnect with a handle that must be locked in the "power on" position. This disconnect is to be provided at the connection to the normal power supply serving the FACU. Circuit disconnecting means shall have a red marking, shall be accessible to authorized personnel, and shall be identified as "FIRE ALARM CIRCUIT CONTROL." The location of the circuit disconnecting means shall be permanently identified on a nameplate installed on the inside of the FACU.

P. All wiring within the control unit shall be neatly served in the panel gutters and be secured by means of Thomas & Betts "Ty-Raps" or by other approved means.

Q. Where penetrations of floor slabs, fire-resistance rated walls and/or smoke barrier walls are made, the wiring shall be sleeved in metal raceway and the penetrations shall be fire-stopped with UL Listed through-penetration firestop assembly in accordance with Section 07 2700.

3.08 IDENTIFICATION

A. Provide Brady, or approved equal, adhesive markers indicating the device address with minimum 12-point font lettering in the following locations:
   1. Outside of addressable smoke detector bases.
   2. Outside of addressable heat detector bases.
   3. Outside of addressable manual fire alarm boxes.
   4. Outside of addressable monitor modules.
   5. Outside of addressable relay output modules.
   6. Outside of addressable fault isolator modules.

B. See Part 3 "Wiring Installation" for identification of conductors.

3.09 FIELD QUALITY CONTROL

A. Work shall be performed in accordance with the best and the most modern practices of the trade. The entire system shall be installed in a neat and workmanlike manner, in accordance with the standard instructions and recommendations of the manufacturer and in accordance with the approved manufacturer's wiring diagrams unless otherwise specifically permitted by the Owner and the Engineer.

B. The system shall be installed under the supervision of a qualified, trained, NICET (minimum Level III) Certified manufacturer's representative. The technical representative is expected to be on site with the Contractor during the installation of wiring and during the entire time of final connections and testing of the fire alarm system. The system shall be demonstrated to perform all of the functions as specified.

C. The supervisory work of the qualified manufacturer's technical representative shall include, but not necessarily be limited to, checking all the system wiring connections; advising the Contractor regarding technical details of the installation; and the adjustment and testing of all components of the system in order to ensure a complete and satisfactorily operable system. The manufacturer's technical representative shall be on site, as required by the Owner and the Engineer, during the entire installation and connection of the new control equipment. The technical representative shall monitor all wiring changes and assist the Contractor to ensure a smooth transition to the new control equipment. The cost of the technical representative shall be paid by the Contractor and shall be included in the bid price. The minimum amount of man-hours for this technical representative to be carried is 40 hours. The Contractor shall identify the amount of manufacturer’s technical representative’s man-hours that shall be provided and the per-hour cost (including the cost for possible overtime [premium] hours) for the technical representative’s time.

D. Perform testing to ensure that all wiring is free from grounds and short circuit faults. Document and endorse results, and forward to the supplier, the Owner and the Engineer. No connections to the FACU shall be made until the system wiring has been accepted by the equipment supplier.

E. Perform inspections and tests required by NFPA 72, "Inspection Testing and Maintenance" for control equipment, batteries, conductors, remote transmission, remote annunciators, initiating devices, notification appliances and auxiliary functions.
   1. Replace system components that do not pass test procedures and retest to demonstrate compliance. Repeat procedure until satisfactory results are obtained. Replace detectors that are outside their marked sensitivity range.
   2. Use the NFPA 72 "Record of Completion" to document the inspection and test results.

3.10 CLEANING AND PROTECTION

A. Do not install smoke detectors prior to substantial completion by other portions of the Work.

B. Remove paint splatters and other spots, dirt, and debris. Touch up scratches and marred finish to match original finish. Clean unit(s) internally using methods and materials recommended by manufacturer.

3.11 EQUIPMENT REMOVAL

A. Completely remove any unused existing fire detection, alarm system control equipment,

conduit and wiring and components and equipment that are not specified as being part of the new systems. The equipment removed shall be boxed, labeled and delivered to the Owner. All unused fire alarm system wire and cable shall be removed and disposed of properly off-site.

B. Perform all removal work efforts in accordance with the best and most modern practices. Removal of existing equipment shall include all cutting, patching and painting of existing walls, hard ceilings and/or replacement of suspended ceiling tiles.

3.12 ENGINEER PRE-ACCEPTANCE

A. Schedule and complete Pre-Acceptance Test with related trades prior to Pre-Acceptance Test with Owner, Engineer.

B. Prepare and submit one (1) complete "Pre-Acceptance Documentation" submittal package to the Engineer a minimum of five (5) business days prior to proposed pre-acceptance test date. See Part 1 "Submittals" for submittal content. Resubmit portions or entirety of submittal to address Engineer comments prior to scheduling test date.

C. Schedule Pre-Acceptance Test with Owner, Engineer and related trades once submittal package was been reviewed to the satisfaction of the Engineer. Tests shall not be scheduled or conducted prior to satisfactory review of "Pre-Acceptance Documentation" submittal package. A programmer with a computer must be present at the test.

D. Demonstrate system functional performance. Document testing results in the format specified by NFPA 72 Figure 10.6.2.3; at a minimum, perform the following:
   1. Functionally operate, in accordance with NFPA 72, each building fire alarm initiating device to ensure proper operation, correct annunciation at each remote annunciator (as shown on the drawings) and at the control unit and proper operation of all alarms and auxiliary functions. "Magnet" testing of smoke detectors will not be accepted as a functional test.
   2. The signaling line circuits and the notification appliance circuits shall be opened in at least two locations per floor to check for the presence of correct supervisory circuitry.
   3. One-half of all tests shall be performed on battery standby power.

E. Reschedule testing where unsatisfactory results cannot be resolved such that testing can be completed during business hours on the scheduled day. See Owner "General Agreement" for possible additional costs and penalties.

F. Upon satisfactory completion of the Pre-Acceptance Test, leave the system operating for a minimum of one week prior to the Final Acceptance Test. The Coordinator of alarms must be notified within a reasonable time to witness the Final Acceptance Test (at least 48 hours). The Contractor shall provide the necessary personnel and equipment to conduct the test.

G. Provide a hard copy fire alarm as-built drawing showing all system components, and

wire routing point to point, as built and shall be no smaller than 1/8" = 1' scale to the Coordinator of Alarms, URI prior to the Final Acceptance Test.

3.13 AUTHORITY HAVING JURISDICTION FINAL ACCEPTANCE

A. Prepare and submit a minimum of six (6) complete "Final Acceptance Documentation" submittal packages to the Engineer for review prior to submitting same to local officials for final system approval. Resubmit portions or entirety of submittal to address Engineer comments prior to submitting package to local officials. See Part 1 "Submittals" for submittal content.

B. Submit reviewed "Final Acceptance Documentation" submittal package to authority and co-ordinate scheduling (minimum ten (10) business days' notice) of common fire sprinkler and fire alarm system acceptance testing. If acceptable to the authority, the reviewed "Approval Documentation" submittal may be submitted to the authority at the time of the final acceptance tests. A programmer with a computer must be present at the test.

C. Demonstrate proper operation of system components to authority having jurisdiction as necessary.

D. A 60-hour battery test shall be performed if requested by the Authority Having Jurisdiction.

E. Reschedule testing where unsatisfactory results cannot be resolved such that testing can be completed to the satisfaction of the authority having jurisdiction. See Owner "General Agreement" for possible additional costs and penalties.

F. Upon satisfactory completion of the tests, leave the fire alarm system in proper working or-der.

3.14 PROJECT CLOSEOUT PROCEDURES

A. Prepare and submit a minimum of six (6) closeout documentation packages to the Engineer for review prior to scheduling Owner demonstration and training. Resubmit portions or entire-ty of submittal to address Engineer comments prior to scheduling demonstration and training. See Part 1 "Submittals" for submittal content.

B. Schedule Owner demonstration and training with the Owner for each building. Provide at least five (5) working days' notice.

C. Demonstrate equipment, specialties, and accessories with the Owner. Review operating and maintenance information with the Owner.
   1. Fire Alarm Response Teams – University Security Personnel: Prior to final acceptance of the fire alarm system, provide operation training to each shift of the Owner's designated Building Manager. Each training session shall be a minimum of 1 hour and shall be conducted on shift or at a time acceptable to the Owner. Each session shall include an overview of the system and the devices connected to it, emergency procedures (including alarm, trouble and supervisory condition

procedures), control panel operation, and safety requirements. Each session shall include a complete demonstration of the system. Training shall be recorded for future use.

2. The manufacturer's technical representative shall also be required to instruct designated building and management personnel in the general operation of the system and to give the designated personnel an overview of the system functions when the system is in normal, supervisory mode, alarm mode, and trouble mode, as specified in this specification.

END OF SECTION

SECTION 31 0000 - EARTHWORK

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. General Requirements
   1. Provide all facilities, labor, materials; equipment, transportation, supervision, and related work necessary to complete the work specified in this Section, and as shown on the Drawings.
   2. All work performed under this Section of the specifications shall be performed in accordance with Division General Requirements and contract documents.
   3. All Work shall be performed in accordance with applicable Codes, permits and regulations, and the requirements of all local, State and Federal agencies having jurisdiction over the Work.
   4. The work of this section includes, but is not limited to:
      a. Excavating all types of materials to limits indicated or required, including soil, boulders, bedrock, utilities, foundations, pavements, debris, and any other materials and obstructions *for* below-grade construction and other site improvements shown on the Drawings.
      b. Providing, placing, moisture conditioning, compacting, and grading of fill and backfill materials to the specified limits and percent compaction required to construct proposed foundations, slabs, structures, utilities, roadways, parking areas, and other site improvements shown on the Drawings.
      c. Handling, segregating, and stockpiling of materials utilized during the course of the Work.
      d. Removing from the site and legally disposing of all excess materials and materials that are not suitable for on-site re-use in accordance with the Specifications.
      e. Protecting existing utilities, structures and other facilities to remain during all the Work.
      f. Providing plant, labor, equipment and materials and performing operations in connection with legally collecting, removing, handling and discharging groundwater and surface water encountered during construction.
      g. Preventing trafficking of soil materials onto public roads or sidewalks and providing street cleaning if required to remove such materials during the Work.
      h. Conducting all Work in accordance with Occupational Safety and Health Administration (OSHA) requirements and other applicable laws and regulations, and with the requirements of all federal, state, county, and local agencies and authorities having jurisdiction over the Work,
      i. Obtaining, paying for and complying with all required permits, licenses, and approvals prior to commencing the Work.

B. Related Sections: The following Sections contain requirements that relate to this Section.

1. Section 02925 – Lawns and Grasses.
2. Section 02650 – Water Service Lines.
3. Section 02640 – Valves and Appurtenances
4. Section 02661 – Installation of Water Piping Systems
5. Section 02651 – Ductile Iron Pipe

C. Permits, Codes, and Safety Requirements
1. Comply with all rules, regulations, laws and ordinances of Municipality, State, Federal, and all other authorities having jurisdiction over the project site. All labor, materials, equipment and services necessary to make the work comply with such requirements shall be provided by the Contractor without additional cost to the Owner.
2. Comply with the provisions of the Manual for Accident Prevention in Construction of the Associated General Contractors of America, Inc., and the requirements of OSHA, United States Department of Labor.
3. The. Contractor shall procure and pay for all permits and licenses required for the complete work specified herein and shown on the Drawings.
4. The Contractor shall not close or obstruct any street, sidewalk, or passageway without written permission from authorities having jurisdiction. The Contractor shall so conduct his operations. as to interfere as little as possible with the use ordinarily made of roads, driveways, sidewalks or other facilities near enough to the work to be affected thereby.
5. The Contractor shall comply with regulations of the State of Rhode Island, Municipality, Environmental. Protection Agency (EPA), and other agencies having jurisdiction over the work for disposal of dewatering discharge water.

D. Protection of Persons and Property
1. The Contractor shall be responsible for the health and safety of all workers engaged in. the Work.
2. The Contractor is solely responsible for job site safety and for the protection of all persons and property within and near the site from adverse impacts of the Work.
3. The Contractor shall protect all existing and newly constructed structures, utilities and all other facilities from damages caused by settlement, lateral movement, undermining, physical striking, washout and any other effects created by the Contractor's operations. The Contractor shall immediately notify the University of any damage or impacts caused to any facility and shall immediately repair or replace such impacted facility in accordance with the direction of University Representative.
4. Retaining Structures: Provide bracing, shoring, sheeting, sheet piling, underpinning or other retaining structures necessary to guard against any movement or settlement of existing or new construction, utilities, paving, light standards, piping or conduit. Assume responsibility for the strength and adequacy of retaining structures, and for the safety and support of construction, utilities or paving, and for any movement, settlement or damage thereto.
5. Pumping and Drainage: Excavate areas in a manner and sequence to afford adequate drainage. Control grading and pump or divert seepage water or surface runoff to prevent water running or accumulating into the excavated areas. Provide temporary pumps, sumps, discharge lines, hoses and other system components necessary to convey water away from excavations until permanent drainage is installed and in operation. Until the Work is completed, provide sufficient pumping capacity to remove water from temporary and permanent sumps so that water levels are always below the lowest excavation to maintain a. stable subgrade. Comply with specification for "Sedimentation and Erosion Control" and

all local, State and Federal regulations of Authorities having jurisdiction for silt control of water removed from excavations.

a. When dewatering is necessary, pumps shall not discharge directly into the site drainage system or the adjacent University or municipal drainage system. Prior to dewatering, submit to the Owner and the Engineer a written proposal for specific methods and devices to be used and obtain the Engineer's review of such methods and devices.
b. If the Engineer determines that the pumping operation is causing turbidity problems, said operation shall cease until such time as a means of controlling turbidity is submitted for review by the Engineer, and implemented.

6. Protection of Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
7. Repair and reestablish grades in settled, eroded, and rutted areas to specified tolerances.
8. Reconditioning Compacted Areas; Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact to required density prior to further construction.
9. Settling: Where settling is measurable or observable at excavated areas, remove surface (pavement, lawn, *or other* finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work and eliminate evidence of restoration to greatest extent possible.

1.03 REFERENCE STANDARDS AND. DEFINITIONS

A. Reference herein to any technical society, organization, group or body is made in accordance with the following abbreviations. Unless otherwise noted or specified, all work under this Section shall conform to. the latest edition, as applicable.
   1. ASTM – American Society for Testing and Materials
   2. OSHA – Occupational Safety and Health Administration
   3. RIDOT – Rhode Island Department of Transportation
   4. Building Code – Rhode Island State Building Code

B. Definitions:
   1. Zone of Influence: A horizontal dimension measured perpendicular to a footing that identifies the lateral extent of bearing stratum that is affected by the load from the footing. This dimension shall be taken equal to the height of required fill plus 2 feet, beyond the edge of the proposed footing.

1.04 SUBMITTAL

A. General: Submit the following according to the Conditions of the Contract and Division 1 of the Specifications:
   1. At least ten days prior to mobilization to the site, the Contractor shall submit the following to the Geotechnical Engineer:
      a. Proposed schedule, sequence, procedures and equipment for all earthwork including descriptions of all methods, operations and equipment proposed for excavation, sheeting and shoring, subgrade preparation; backfilling and compaction.
      b. Details of compaction equipment.
      c. Off-site disposal locations proposed to be utilized by the Contractor to receive materials that are not reused on-site as further described in1.05C.

d. Shop Drawings: Submit detailed shop drawings and calculations, to be reviewed by the Owner's Geotechnical Engineer, of applicable earthwork procedures and sequences.
e. Shop drawings showing proposed types and details of dewatering, systems to be used. The submittal shall include:
   1) The arrangement locations and depths of the proposed systems, systems
   2) A complete description of equipment and materials to be used and the procedure to be followed in installation
   3) Primary power source, operation, maintenance and removal in relation to the proposed sequence of excavation, foundation construction and backfilling
   4) The standby equipment and standby power supply.
   5) The proposed locations of points of discharge of water and their relationship to sediment control facilities.
f. Copies of all permits.

2. For each type of proposed fill material, the Contractor shall deliver to the Geotechnical Engineer's laboratory two 50-lb bag samples for quality control testing from each borrow source or supplier, at least ten days prior to when approval is required. No soil material shall be delivered to the site prior to submission of samples and other data as required herein, or without approval by the Geotechnical Engineer.
3. Prior to delivery to the site, submit chemical test data and source site data, on fill materials to be imported to the site. All materials being imported to the site shall be newly-excavated borrow materials, free from contamination, oil and hazardous materials. Submit documentation judged sufficient by the Geotechnical Engineer that confirms that all imported materials are free of contamination. A letter, including backup data and chemical test results, from a Licensed Environmental Professional will constitute suitable documentation that the material is clean. Source site data shall include, as a minimum:
   a. Location, address, owner's name and telephone number, and nature of the source site, including a street map with the limits of the borrow pit property and the exact location of the borrow source on the site clearly illustrated.
   b. Present and past usage of the source site and materials; description of abutting properties and their uses
   c. Any previously existing report(s) associated with an assessment of the source site as it relates to the presence of oil or hazardous materials.
   d. Location within the site from which the material will be obtained.
4. In the event that site characterization of off-site borrow sources indicates that soils are acceptable for use in the judgment of the Geotechnical Engineer, then chemical testing will not be required. It is anticipated that chemical testing will not be required for customarily utilized commercial borrow sources. However, if the site characterization data indicate materials could possibly be contaminated, chemical testing will be required as directed by the Geotechnical Engineer. The chemical testing shall be done as directed by the Geotechnical Engineer by the Contractor at no additional cost to the Owner.
5. The Geotechnical Engineer will review the submitted information and make judgments about the suitability of the material. If the proposed materials are judged unacceptable, the Contractor shall identify and obtain materials from alternate source(s).
6. Certification For Examination of Site and Records: Before proceeding with the Work,

submit certification in a acceptable form, stating that careful examination has been made of the site, adjacent structures, existing structures, records of utility lines, test boring records, soil samples, subsurface exploration reports by the subsoil exploration consultant(s), the drawings, and specifications.

B. Coordination
   1. Prior to start of earthwork operations, the Contractor shall arrange an on-site meeting with the University Utilities Department, Engineer, Architect and Geotechnical Engineer the purpose of establishing the Contractor's schedule of operations and reviewing observation and testing procedures and requirements.
   2. As construction proceeds, the Contractor shall be responsible for notifying the Geotechnical Engineer at least three working days prior to the start of earthwork operations requiring monitoring and/or testing.
   3. Cooperate with the Geotechnical Engineer in obtaining field samples and conducting field testing. Furnish incidental labor in connection with the required sampling and testing.

1.05 QUALITY ASSURANCE

A. The University will retain a Geotechnical Engineer to perform on-site observation and testing during various phases of the construction operations. The Geotechnical Engineer's presence does not constitute supervision or direction of the Contractor's work. Neither the presence of the Geotechnical Engineer, nor any observations and testing performed by him, nor any notice or failure to give notice shall excuse the Contractor from conformance with these Specifications or from defects discovered in his work or from the Contractor's responsibility for site safety including both persons and property.

B. All costs related to testing or replacement of nonconforming materials shall be paid for by the Contractor at no. additional cost to the Owner.

C. The University will employ, at their expense, a Geotechnical Engineer to perform all tests and. submit reports specified in this Section

D. The Geotechnical Engineer shall conduct and interpret the tests; shall state in each report whether or not the test specimens comply with all requirements of the Contract Documents and shall specifically: note any deviations there from.

E. Testing of Materials: The Geotechnical Engineer shall perform tests herein specified and any additional tests as may be required and submit test reports to the Architect, including the following:
   1. One moisture-dry density curve for each type of fill under building slabs and paved areas, Determine maximum dry density and optimum moisture content for each material in accordance with ASTM D1557C.
   2. Each type of borrow and fill material shall receive:
      a. Mechanical Analysis: ASTM D422.
      b. Moisture-density curve determination: ASTM D1557C.
   3. The Geotechnical Engineer shall determine the suitability of materials to be used for fills. .

F. Testing of Subgrade and Fill Layers: Subgrades and fill layers shall be approved by the Geotechnical Engineer before construction of any further work thereon. Test of subgrades and fill layers shall be taken as follows:

1. Footing; Building Slab, and Paved Area Subgrades: For naturally deposited, undisturbed materials, subgrades may be approved by observation by the Geotechnical Engineer: New fill shall be tested as indicated below.
2. Each layer of fill beneath Building Slabs, and Paved Areas shall meet the specified density. In each compacted fill layer, make one "field density test for every overlaying 2500 sq. ft. of building slab or paved area, but not less than three (3) tests. Perform field density tests in accordance with ASTM D2922,
3. Each layer of fill within the Zone of Influence beneath Foundation Wall Footings shall meet the specified density. In each compacted fill layer, make one field density test for every 50 linear ft. of foundation wall footing, but no fewer than two (2) tests per lift. Perform field density tests in accordance with ASTM D2922.

G. Cooperate with the Geotechnical Engineer in the performance of the required tests.

H. If, based on reports of the Geotechnical Engineer and observations, the subgrade is determined to be unsuitable or backfill is found to be below the specified density or does not meet material specifications, additional compaction and proper materials shall be provided and at no additional expense to the owner.

I. Lines, Grades and Tolerances
1. The Contractor shall be responsible for establishing lines, grades, and other survey control to complete the Work. The Contractor shall be responsible for the maintenance and protection of the survey control reference points and location stakes. The Contractor shall employ a licensed Registered Land Surveyor or a Registered Civil Engineer, familiar with building construction, to establish lines and levels. The Contractor shall be responsible for the correct location of the proposed facilities, including locations and elevations and limits of excavations and fills.
2. Finished grades, contours and elevations indicated on the: Drawings describe final surface elevations for completed construction. Spot elevations shall take precedence over contours. The Contractor shall review the Drawing details and Specifications carefully to ascertain specific work limits and requirements for this Contract.
3. Construct finished grades to within 'A in. of the elevations indicated on the Drawings.

1.06 PROJECT CONDITIONS

A. Subsurface Soil Data and Existing Site Conditions
1. Examine the site, records of existing utilities and construction, record of test borings, subsurface exploration reports, and the soil samples and rock cores to determine conditions under which the Work will be performed. Subsurface geotechnical data are available from the University. Subsurface information is contained in the 12 November 2004 report entitled "Geotechnical Engineering Report, University of Rhode Island, New Student Housing, Kingston, Rhode Island" by Haley & Aldrich, Inc. The soil samples and rock core are available for review at the offices of Haley & Aldrich, Inc, 800 Connecticut Boulevard, Suite 100, East Hartford, Connecticut, 06108, Phone: 860-282-9400. The report is made available for information on factual data only and shall not be interpreted as a warranty of subsurface conditions whether interpreted from written text, test boring logs or other data. The test boring information represents subsurface conditions at the exploration locations at the time conducted.

2. The Contractor may perform additional explorations if the Contractor desires additional subsurface information, after obtaining University's permission, at no. additional cost to the University Owner.
3. If, during the course of construction operations, conditions differing substantially. From those indicated in the report are encountered, promptly notify the Architect in writing, and do not disturb such conditions until directed. The Geotechnical Engineer will investigate such conditions, and, if it is determined that the conditions differ substantially from those that reasonably would have been anticipated from examination of the report and site, and that such conditions will necessitate a change in the Work, he will recommend any required changes and adjustments. Oral or written communications with field personnel will not constitute acknowledgment of a differing subsurface condition.
4. Prospective bidders shall visit the site and observe existing conditions prior to submitting a bid.

B. Existing Utilities
1. Existing utilities remaining in service, including those remaining in service until after relocation, and relocated utilities are shown on the Drawings. Before excavating near any existing utilities, notify the University Utilities Department, coordinate protective work and comply with the utility owners' requirements. Safeguard and protect from damage or movement any existing services, utilities and utility structures uncovered or encountered which are to remain in service. Provide protection as necessary to prevent damage to existing utilities.
2. Prior to beginning any excavation or fill placement, accurately locate and mark underground utilities and appurtenances in site area. Excavate to and expose utilities at locations, and conduct field surveys as necessary to determine locations of existing utilities.
3. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult the University Utilities Department immediately for directions. Repair damaged utilities to the satisfaction of utility company.
4. Do not interrupt existing utilities serving facilities occupied and used by others, except when permitted in writing by the University and then only after acceptable temporary utility services have been provided.
5. In case of damage or injury caused in the performance of work the Contractor shall, at his own expense make good such damage or injury to the satisfaction of, and without cost to, the University. Existing utilities damaged during the project work shall be repaired or replaced to their condition prior to commencement of earthwork operations.
6. Inactive or abandoned utilities encountered during construction operations shall be removed, plugged or capped as directed by the University Utilities Department. The location of such utilities shall be noted on the Record Drawings and reported in writing to the University Utilities Department.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Common Fill: Common Fill may be used for raising grades below pavement sections and landscaped areas. Common Fill shall consist of mineral soil, free of clay, organic soil, deleterious material, and particles larger than 10 in. in size, which can be spread and compacted.

B. Existing On-Site Fill Material and Glaciodeltaic Soils
   1. The existing on-site fill material and glaciodeltaic soils may be re-used as Common Fi11, provided that they meet the specifications for Common Fill.
   2. Even though the existing on-site fill material and glaciodeltaic soils may not necessarily meet the specified gradation for Compacted Granular Fill, it may be possible to re-use the existing on-site fill material and glaciodeltaic soils under footings and to within 6 in. of the underside of slabs on grade subject to the following limits *and* precautions:
      a. Material should be compacted to at least 95 percent of the maximum dry density per ASTM D1557.
      b. Existing fill and glaciodeltaic soils are not suitable for re-use in areas requiring non-frost susceptible or free-draining materials (such as foundation drains).
      c. If re-used under footings, the existing on-site fill material or glaciodeltaic soils should not contain material larger than 6 in. in size.
      d. The existing on-site fill material and glaciodeltaic soils are variable and shall only be placed and compacted during full-time field observation by a qualified Geotechnical Engineer.
      e. Slabs on grade shall bear on a 6 in. layer of soil that meets all of the requirements for Compacted Granular Fill, including the specified gradation requirements.
      f. If re-used beneath the 6 in. layer of Compacted Granular Fill beneath slabs on grade, the existing on-site fill material or glaciodeltaic soils should not contain material larger than 3 in. in size.

C. Landscape Fill: For use under lawn and ground cover areas, within the top 18 in. of the subgrade, material shall be friable earth containing no more than 10 percent by weight of material passing the No. 200 sieve. For use under tree and shrub planting areas within the top 36 in. of the subgrade under plant pit areas material shall be friable earth containing no more than 10 percent by weight of material passing the No. 200 sieve.

D. Impervious Fill: Impervious fill shall be used as the final 12 in. thickness of fill at ground surface above foundation wall backfill. Impervious fill should consist of general fill with a minimum 20 percent passing a No. 200 sieve.

E. Compacted Granular Fill: Compacted Granular Fill shall be used to replace unsuitable materials below footings and lowest floor slabs, to raise grade below foundations and floor slabs, to backfill footing excavations below floor slabs, and to backfill foundation walls.

F. Granular fill should be placed in maximum 9 in. thick lifts and compacted to at least 95 percent of the maximum dry density determined by ASTM D1557. In confined areas, use maximum 6 in. lifts. Compaction equipment in confined areas may consist of hand guided vibratory equipment or mechanical tampers.

G. Off-site granular fill shall consist of sandy gravel or gravelly sand, free of organic material,

snow, ice, frozen soil, or other unsuitable material, and be well graded within the following limits:

U.S. Standard Sieve size	Percent Finer by Weight
6 in. *	100
No. 4	20-80
No. 40	10-50
No. 200	0-8

* Use a maximum 3 in. size for fill placed within 6 in, of concrete.

H. Crushed Stone: Crushed stone should be used at underslab drains, and around drain pipe at perimeter drains. This material should consist of %-in. size crushed stone satisfying the requirements of Rhode Island Department of Transportation 2004 Standard Specifications for Road and Bridge Construction, M.01.0, Gradation of Aggregates, Gradation VI, Cover Stone. Crushed stone should be separated from surrounding soil using a geotextile filter.

I. Geotextile Filter: Fibers used in the manufacture of geotextile, and the threads used in joining geotextiles by sewing, shall consist of long-chain synthetic polymers composed of at least 85 percent by weight polyolefin, polyesters, or polyamides. This. shall be formed into a network such that the filaments or yarns retain dimensional stability relative to each other, including selvedges. These materials shall conform to the physical requirements of 2.3 C below. Suitable materials include but are not limited to Amoco 4551 and Nicolon 5600. Geotextile rolls shall be furnished with suitable wrapping for protection against moisture and extended ultraviolet exposure prior to replacement. Each roll shall be labeled or tagged to provide product identification sufficient for inventory and quality control purposes. Rolls shall be stored in a manner which protects them from the elements. If stored outdoors, they shall be elevated and protected with a waterproof cover. Geotextile shall meet the following criteria:

MIN. REQUIREMENT	
Property	Class A
Grab Strength (tbs.)	i 60
Seam strength (Tbs.)	140
Puncture strength (lbs.)	80
Burst strength (lb./in. 3)	290
Trapezoidal tear (lbs.)	50
Apparent opening size U. S, std, sieve	Greater than No. 30 sieve
Permeability (mils)	k fabric >k soil for all classes
Ultraviolet degradation at 150 hours	7 0 % of strength retained for all classes

J. Perforated Pipe: Perforated pipes are specified in Section 02620 "Subdrainage"

2.02 ACCESSORIES

A. Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities 6 in.wide and 4 mils thick minimum, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 in. deep
   1. Tape Colors: Provide tape colors to utilities as follows:
      a. Red: Electric.
      b. Yellow: Gas, oil, steam, and dangerous materials.
      c. Orange: Telephone and other communications.
      d. Blue: Water systems.
      e. Green: Sewer and drainage systems.

PART 3 – EXECUTION

3.01 STRIPPING, HANDLING, SEGREGATION AND STOCKPILING OF MATERIALS

A. During the course of the Work, various quantities of materials will be accumulated and stockpiled. for future re-use on-site or for off-site disposition. All excavated soils shall be classified by the Geotechnical. Engineer prior to reon-re-use. on the site. The Contractor shall handle, segregate to prevent intermixing of different materials, protect, stockpile, and dispose. of the excavated soils, as specified.

B. Strip topsoil from areas to be excavated or filled, areas within proposed building limits and proposed paving areas and stockpile where it will least interfere with construction 'operations in accordance with Specification "Site Clearing". Stockpiled topsoil shall be amended, prior to spreading, if necessary, as required by Division 2 Specification Section "Topsoil". Stockpiling shall be coordinated by *the* Construction Manager *and* shall comply with the requirements of Division 2 Specification Section "Erosion Control."

C. Do not stockpile materials within any restricted areas. shown on the Drawings.

3.02 EXCAVATION

A. Excavation shall include the removal of all materials encountered including earth, organic soils, boulders, pavement, utilities, obstructions, foundations, slabs, incidental structures and other materials to the elevations and limits required to construct the Work shown. on the 'Drawings. Excavations for footings shall be to naturally-deposited, inorganic bearing soils *as* accepted by the Geotechnical Engineer. Glaciodeltaic soils shall be removed. from within 2 ft of footing bottoms.

B. Excavation, subgrade preparation and backfilling shall be performed in-the dry.

C. Where excavations are made to remove fill, organic soils, disturbed soil and other unsuitable materials beneath the planned building foundations or other structural elements, the horizontal limits of excavation shall be sufficient to place Compacted Granular Fill beneath the structure and to a horizontal limit equal to the Zone of Influence. If such fill limits cannot be achieved, the footing bearing level shall be lowered as needed to meet this requirement.

D. Where excavations are required to be made into the Zone of Influence below constructed

foundations or structures, the Contractor shall design a system to protect the soil within the Zone of Influence from loosening and becoming ' disturbed and protect the structure from movement. The Contractor is responsible to protect all existing structures and utilities to remain from all damage.

E. The Contractor shall control the grading so that ground is-pitched to prevent water from running into excavated areas, damaging other structures, or leaving the site.

F. Where soil has been softened, frozen or otherwise disturbed, it shall be removed and replaced with suitable material at no additional cost to the Owner.

G. Exercise care to preserve materials below and beyond the lines of excavation. Where excavation is carried out, through error, below indicated grade or beyond the lines of excavation, backfill to the indicated grade and compact with acceptable materials at no additional cost to the Owner.

H. Authorized Additional. Excavation: Where the Owner's Geotechnical Engineer determines that the soil encountered at the elevations shown is not capable of' supporting the design load, or where unsuitable material is encountered, including unsuitable material to a depth of 3 ft. below finish grade of paved areas, a Change Order will be issued to remove the unsuitable soil, fill with approved fill material and compact as hereinafter specified.

I. Unauthorized Excavation: Excavations performed below the elevations shown or beyond the specified limits, shall be filled with Compacted` Granular Fill and compacted as hereinafter specified, at no additional cost to the Owner.

J. The Contractor shall shore, brace and/or slope excavations in compliance with OSHA. The Contractor shall be solely responsible for protection of existing or new facilities, and for maintaining site safety in accordance with OSHA and other applicable regulations, Lateral excavation' support systems shall be designed to retain and provide full support for adjacent soil, rock, structures, - utilities, light fixtures, streets and other features and protect them from damage due to settlement, lateral movement, loss of ground, or any other causes related to this construction. In addition, the support system must be located to allow new construction to be completed. Lateral excavation support systems shall be designed for all temporary and permanent loading conditions to which it will be subjected.

K. Excavated materials unsuitable for reuse, and surplus excavated soil not used to fulfill requirements of the Contract, shall be legally removed and disposed of by the Contractor in accordance with regulations and requirements of municipalities or agencies having jurisdiction over the disposal, disposal sites and the route between the project and the disposal sites. Materials shall not be disposed of at schools, residential properties, day care facilities or similar environmentally-sensitive sites.

3.03 ROCK EXCAVATION

A. Rock Classification: Rock is defined as native material that cannot be broken and removed or dislodged by a D-8 Caterpillar tractor, or equivalent, equipped with a hydraulically operated power ripper (or CAT 235 hydraulic excavator or equivalent), without the use of explosives or hoe ramming, or boulders over 1 cu. yd. in volume. This classification does not include materials such as loose rock, concrete or other materials that can. be removed by means other than drilling and blasting or drilling and wedging, but which, for reasons of economy in excavating, is removed by drilling and blasting.

B. Rock Survey. Before excavating any material which. is claimed as rock excavation, such material shall be uncovered, exposed and measured prior to proceeding further. No payment will be allowed for rock or cemented materials which have not been uncovered and measured as specified nor for boulders which have not been separated from earthwork for proper measurements. The material uncovered shall then be cross-sectioned and measured and the quantities within the rock payment lines hereinafter specified shall be computed and. certified by a professional engineer or land surveyor registered in Rhode Island.

C. Rock Excavation in Utility Trenches: Elevations and measurements of rock surfaces shall be taken from rock profiles appearing in trenches after excavation.

D. Rock Surface: Rough or sloping rock shall be brought to level beds in steps for foundations as required. In pipe spaces or other unfinished areas, low spots shall be filled and leveled off with Compacted Granular Fill, sand or other acceptable material.

E. Blasting: Blasting will not be permitted.

F. Rock Payment. Lines: The base bid shall include excavation from the assumed top of rock to the limits indicated below. No payment will be allowed for rock excavated beyond the following limits or for granular fill or lean concrete fill placed below footings to replace over excavated rock:
   1. 2 ft. outside of concrete work for which forms are required except footings.
   2. 1 ft. outside of the perimeter of footings where forms are required.
   3. 1 ft. below bottom of footings.
   4. 1 ft. below bottom of concrete for slabs on grade.
   5. Neat outside dimensions of concrete work where no forms are required.
   6. In pipe trenches and utility trenches, 6 in. below invert elevation of pipe and 2 ft. wider than the inside diameter of the pipe but not less than 3-ft. minimum trench width.
   7. 6 in. below underslab drainage stone.

3.04 TRENCH EXCAVATION

A. Trench excavation shall include the removal and satisfactory disposal of all materials encounter e in the construction of all necessary utilities.

B. Excavate all soils to at least 6 in. below bottom of proposed utility lines, or deeper if required to place bedding materials shown on the Drawings.

C. When, in the opinion of the Geotechnical Engineer, unstable bearing soils are encountered at excavation subgrade; over excavate at least 1 ft below the required excavation subgrade (or deeper as necessary) to a firm and stable subgrade. Place Compacted Granular Fill or Crushed Stone wrapped *in* nonwoven filter fabric up to the bottom of the required pipe bedding material.

D. Excavations for manholes, catch basins and miscellaneous site structures shall provide 18 in. minimum clearance on all sides.

E. Trench excavation shall be of sufficient width and depth at all points to allow pipes to be laid and appurtenant work to be built in a workman-like manner and, when needed, to allow for sheeting and shoring, pumping and draining, and/or for removing and replacing any unsuitable materials. Excavations for pipelines shall

provide 12-in. minimum clearance on all sides.

F. The Contractor shall design, furnish, place, remove or leave in place (as accepted by the Geotechnical Engineer) all sheeting and bracing required to support the sides of all trenches and other excavations needing lateral support, in accordance with OSHA.

3.05 DEWATERING

A. Provide, operate and maintain site and subsurface drainage and dewatering in an acceptable manner as required to complete the Work throughout the course of the project.

B. Provide, maintain, and operate sumps, wells, pumps and related equipment, including stand-by equipment, of sufficient capacity to maintain excavations and. trenches free of water 24 hours per day, to enable all work to be conducted in-the-dry, and to protect bearing surfaces from

disturbance.

C. Water from excavations shall be disposed of in such manner as will not cause injury to public health, public and private property, existing work, work to be completed or in progress, roads, walks, and streets, or cause any interference with use of same by public, Under no circumstances shall concrete or fill be placed in excavations containing standing water.

D. Construction could require excavation below water level in soil. The Contractor shall complete this work in-the-dry to maintain the undisturbed condition of the bearing soil.

E. Maintain groundwater it the bearing strata at least 12 in. below lowest exposed subgrade level. If the dewatering methods have not been adequate and the bearing soils disturbed, remove disturbed soil as directed by the Geotechnical Engineer and replace with Compacted Granular Fill, crushed stone with filter fabric, or lean concrete at no additional cost to the Owner.

F. Pumped groundwater and surface water runoff shall be filtered or initially pumped to a settling basin to remove suspended solids prior to discharge.

G. Discharge of pumped water, either surface water runoff or groundwater, shall be in compliance with discharge criteria contained in permits issued by governing agencies, and all legal requirements and regulations. Discharge into municipal systems shall not be conducted without prior approval of the Owner and obtaining required permits.

3.06 SUBGRADE PREPARATION

A. Prepare subgrades for structures, pavements, or filling in the presence of the Geotechnical Engineer.

B. Remove vegetation, debris, loam, subsoil, trash, unsuitable soil materials, obstructions, and deleterious materials from subgrade surfaces prior to fill placement, Subgrades that become soft or unstable due to inadequate dewatering, caving of the excavation, prolonged exposure, improper methods, or other causes shall be re-excavated and re-re-prepared at no additional cost to the Owner.

C. Care shall be taken to avoid disturbance to natural inorganic soil or previously- placed fill

subgrades in areas to receive fill or support future structures.

D. Upon completion of the required excavation, removal of disturbed or otherwise unsuitable material, and observation of the subgrade by the Geotechnical Engineer, proofroll the subgrade with, at least four passes of a self-propelled vibratory roller imparting. at least 25,000 lbs of dynamic force deemed acceptable, by the Geotechnical Engineer. In limited access areas, proofroll the subgrade using walk-behind vibratory drum roller or other equivalent equipment deemed acceptable by the Geotechnical Engineer.

E. In areas of weaving or soft or unstable soils, the soft materials shall be excavated and replaced with Compacted Granular Fill, Crushed. Stone on filter fabric, or other materials acceptable to the Geotechnical Engineer, at no additional cost to the Owner.

F. Prevent foundation and slab bearing. subgrades from freezing and frost at all times, before and after placing additional fill or structures; by backfilling, use of insulated blankets or other approved methods. Soil subgrades in structure or site areas that freeze prior to concrete placement or further filling shall be thawed and recomputed or the frozen, soil removed. and replaced with acceptable material, as directed by the Geotechnical Engineer.

3.07 PLACEMENT AND COMPACTION OF FILL MATERIALS

A. Fill Placement

1. Prior to placement of fill, deliver representative samples of each type of proposed borrow material in accordance with Paragraph. 1.5 to the Geotechnical Engineer for determination of suitability.
2. Place and compact fill to the limits, of the types and in the manner as specified herein and shown on the Drawings. Unless otherwise specified or directed, material used for filling and backfilling shall meet the requirements specified under Part 2, Products. If material removed from the excavations does not meet requirements specified herein, provide material that does meet the criteria for backfilling. .
3. Slope and compact soil surfaces at the end of each day to provide for free surface drainage.
4. Do not place fill containing frozen materials, snow or ice. Do not place fill in temperatures less than 32 degrees Fahrenheit. Do not place fill over frozen ground.
5. Placement of fill shall not begin prior to •observation and approval of subgrade conditions by the Geotechnical Engineer. The Contractor shall not place or compact fill material in the absence of the Geotechnical Engineer.
6. Protect foundations, footings, waterproofing, utilities and other facilities during backfilling. Repair damage at no additional cost to the Owner.
7. Backfill shall not be placed against walls creating an unbalanced condition until they are braced or have cured sufficiently to develop strength necessary to withstand, without damage, pressure from backfilling and compacting operations. At walls not designed to resist lateral earth pressures, maintain the difference in elevation of the top of the backfill on either side of the wall within 2 ft.
8. If weaving or instability is observed during compaction, as judged bythe Geotechnical Engineer, compaction efforts shall be discontinued until the Contractor stabilizes the subgrade. If required, the Contractor shall excavate and replace the unstable fill material with acceptable compacted material, at no additional cost to the Owner.
9. Compaction shall be performed using approved vibratory compaction equipment. Compaction by puddling or jetting is prohibited.

10. Control groundwater and surface run-off to minimize disturbance of material being placed. Dewater all subgrades prior to filling. Place all fill in-the-dry on stable, undisturbed subgrades.
11. Place Compacted Granular Fill beneath structures below an envelope defined by 2 feet horizontally from the bottom the structural element at the bearing elevation, and down on 1H:1V slope to suitable natural inorganic bearing soil ("Zone of Influence").
12. Provide suitable transition layers or non-woven filter fabric, as required to prevent the migration of fine material into void spaces of coarser fill materials. Transition layers may consist of limited thickness. of Crushed Stone (less than 6 in. thick), lean concrete or other methods approved by the Geotechnical Engineer. Crushed stone shall not be placed directly on soil subgrades beneath structures without fabric.

B. Trench Backfill
1. Trenches shall be backfilled as soon as practicable.
2. Utility bedding material shall be deposited in the trench, uniformly on both sides of the pipe, for the entire width of the trench to the springline of the pipe. The backfill material shall be placed. by hand shovels, in layers not more *than 6* in. thick in loose depth, and each layer shall be thoroughly and evenly compacted by tamping on each side of the pipe to provide uniform support around the pipe, free from voids.
3. Trench backfill material above the utility bedding material may consist of the excavated soils, provided the excavated soils meet the Fill requirements for the intended area (e. g., below slabs, foundations, parking areas, etc.), and can be readily spread and compacted. Organic soils and other unsuitable materials shall not be used as trench backfill.
4. All trench backfilling shall be done so as not to disturb the work at any time. The moisture content of the backfill material shall be such that *proper compaction will* be obtained. Puddling, of backfill with water will not be permitted. Backfill within areas of pavement construction shall be made to grades required to establish the proper pavement base courses.
5. Any trenches or excavations improperly backfilled or where settlement *occurs shall* be reopened, to the depth required for proper compaction, then refilled and compacted with the surface restored to the required grade and condition, at no additional expense to the Owner.
6. During filling and backfilling operations, pipelines will be checked by the Utility Owner to determine whether any displacement of the pipe has occurred. If the inspection of the pipelines shows poor alignment, displaced pipe or any other defects, the. condition shall be remedied in a manner satisfactory to the Utility Owner at no additional cost to the Owner or Utility Owner.

C. Compaction Equipment
1. Compaction equipment used to compact soil in open areas where space permits shall consist of vibratory rollers weighing. at least 15,000 pounds applying a dynamic centrifugal force of at least 25,000 pounds, pneumatic compactors or other similar approved equipment sufficient to provide a firm, stable subgrade and achieve the required compaction.
2. Compaction equipment used in tight access areas shall consist of a walk- behind vibratory drum roller or other equivalent equipment having at least 5,000 pounds centrifugal force with at least four passes and sufficient to provide a firm, stable subgrade and achieve the required compaction.

D. Compaction Requirements:
   1. In-situ density testing should be performed during placement of compaction fill as a means of control. The nuclear in-place density test outlined in ASTM D2922 is required.
   2. The degree of compaction is expressed as the in-place dry unit weight as a percentage of the maximum dry density at optimum moisture content as determined by ASTM Test D 1557C. Fill and backfill shall be compacted to at least the following minimum compaction requirements:

	Minimum Compaction
Area	Percent
Below footings and building slabs (Zone of Influence)	95
Pavement, slab, and sidewalk gravel base	95
Within 3 feet below exterior slabs, sidewalks, pavements	95
Deeper than 3 feet below exterior slabs, sidewalks, pavements	92
Landscape and Lawn areas	90

   3. If in-situ density tests indicate that insufficient densification has been achieved, the lift should be recompacted until the required density has been achieved.

E. Moisture Control
   1. The fill should generally be within 2 percent of its optimum moisture content to. facilitate proper compaction.
   2. Fill too wet for proper compaction shall be scarified or otherwise treated to allow compaction to the required density. Fill that cannot be adequately dried shall be removed and replaced with drier material.
   3. Fill too dry for proper compaction shall be uniformly watered over the surface of the top loose layer. Sufficient water shall be added to allow compaction to the required density. Care shall be used to prevent ponding of water.
   4. In no ease shall fill be placed over material that is frozen or shall frozen fill be used as backfill. No material shall be placed, spread or rolled during unfavorable weather conditions. When work is interrupted by heavy rains, fill operations shall not be resumed until the moisture content and the density of the previously placed fill have been tested and confirmed to meet the specified requirements.
   5. Soils excavated from on-site may. be too wet and may. require moisture conditioning prior to reuse on-site in order to provide a firm, stable subgrade and achieve the specified compaction requirements.
   6. All moisture conditioning will be performed at no additional cost to the Owner.

F. Lift Thickness
   1. Place fill in uniform horizontal layers.
   2. Place fill in layers not to exceed 9 in. in loose lift thickness prior to compaction when utilizing heavy self-propelled vibratory compaction equipment, and 6 in. when utilizing hand-operated compaction equipment. Compact material with a minimum of four complete coverages per lift.

G. Protection of Fill
   1. Newly graded areas shall be protected from the actions of the elements and traffic. Damage to any lift caused by equipment, moisture entering the material, or any other cause shall be fully repaired by the Contractor prior to placement of overlying materials at no additional cost to the Owner.
   2. In the event of and prior to heavy rains, the Contractor shall suspend fill operations immediately and shall take steps to keep the site as well drained as possible. Fill operations shall not be resumed until the moisture content of the fill meets the requirements of the Specifications.
   3. The Contractor shall take not disturb subgrade and underlying natural soils or compacted fill during excavation and filling operations. Methods of excavation and filling shall be revised as necessary to avoid disturbance of subgrade and underlying soils, including restricting the use of certain types of construction equipment and their movement over sensitive or unstable materials, dewatering, and other acceptable control measures. Disturbance shall be construed to include deterioration of fill, before or after placement and satisfactory compaction, due to the Contractor's operations, such as moving equipment, hauling trucks, and others.
   4. All excavated or filled areas disturbed during. construction, all loose or saturated soil, and other areas that do not meet compaction requirements as specified herein shall be removed and replaced with suitable materials. Costs of removal of disturbed material and replacement shall be borne by the Contractor.

H. Spreading Topsoil
   1. To be in compliance with Division 2 Specification section "Topsoil"

I. Final Surface
   1. Upon completion of the work, ground surface shall be left in a firm, stable, unyielding, uniform condition, free of ruts and surface irregularities, in accordance with the grading requirements shown on the Drawings. All final surface grades and subgrades shall be prepared within 1/2 in. of the grades shown on the Drawings.
   2. Uniformly smooth-grade all areas to be graded, as indicated and as directed, including excavated sections and all areas disturbed as a result of the Contractor's operations.

3.08 IMPORTING AND EXPORTING MATERIAL AND MATERIAL DISPOSAL

A. It is anticipated that imported fill materials will be required to complete the Work. The cost of providing all required materials shall be included in the base bid for the Work.

B. A basic requirement of the Work is to re-use the available on-site materials as possible. Materials shall not be removed from the site without authorization by the Owner.

C. Materials that are not reused on-site shall become the property of the Contractor and shall be removed *from the* site and legally disposed of in accordance with Federal, State, county laws, regulations and requirements, having jurisdiction over the Work, the Contractor's disposal sites and the route between the site and the Contractor's disposal sites. All costs for legal off-site disposal of materials, including chemical and physical testing, shall be included in the base bid cost of the work.

END OF SECTION

SECTION 31 1000 - SITE CLEARING

PART 1- GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section Includes:
   1. Cleaning site of debris, grass, trees and other plant life in preparation for site excavation Work.
   2. Protection of existing structures, trees or vegetation indicated to remain.
   3. Stripping topsoil from areas indicated.

1.03 RELATED WORK

B. Section 31 0000 - Earthwork:

1.04QUALITY ASSURANCE

A. Regulatory Requirements:
   1. Provide temporary erosion control systems as indicated on Drawings or as directed by the University or the Engineer to protect adjacent properties and water resources from erosion and sedimentation.

1.05 SITE CONDITIONS

A. Existing Conditions:
   1. Conditions existing at time of inspection during bidding will be maintained by the University so far as practical.
   2. Notify the University of variations to conditions or discrepancies in actual site conditions prior to start of site preparation Work.
   3. Traffic: Conduct operations and removal of debris with minimum interference to roads, streets, walks, and other adjacent facilities. Do not close or obstruct streets, walks or other facilities without permission from authorities having jurisdiction.
   4. Protections: Provide protection for safe passage of persons around area of site preparation. Take precautions and conduct operations to prevent injury to adjacent buildings, structures, other facilities, and persons.
      a. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement or collapse of structures to be demolished and adjacent facilities to remain.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Topsoil: Friable clay loam surface soil containing humus, organic matter, found in a depth of not less than 4 inches free of subsoil, clay lumps, stones, and other objects over 2 inches in diameter, and without weeds, roots, and other unsuitable material.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
   1. Locate existing utilities as specified in Section 31 0000.
   2. Verify that survey benchmark and intended elevations for the Work are as indicated and are not located in an area that may be damaged.
   3. Verify that existing plant life and clearing limits are clearly tagged, identified and marked in such a manner as to ensure their safety throughout construction operations.

B. Report in writing to University prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.

C. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the University.

3.02 PREPARATION

A. Provide temporary erosion control systems as indicated on Drawings or as directed by the University to protect site and adjacent properties and water resources form erosion and sedimentation.

3.03 CLEARING

A. Clear areas required for access to site and execution of Work.

B. Remove trees, shrubs, grass, other vegetation, improvements, or obstructions interfering with installation of Work as indicated on Drawings. Removal includes digging out stumps and roots. Fill depressions caused by clearing and grubbing operations to sub grade elevation. Prevent water ponding. Place suitable fill material in horizontal layers not exceeding 8 inches loose depth, and compact as specified herein and in Section 31 0000.

C. Remove grass, trees, plant life, stumps and all other construction debris from site to a clump site that is suitable for handling such material according to state laws and regulations.

3.04 TOPSOIL EXCAVATION

A. Strip topsoil from areas that are indicated to be filled, excavated, landscaped, or re-graded to depth that prevents contact with underlying subsoil or unsuitable material. Where trees are indicated to remain, stop topsoil stripping sufficient distance from tree to prevent damage to main root system.

B. Cut heavy growths of grass from areas prior to start of stripping. Remove heavy growths of grass along with clearing of other vegetation materials.

C. Topsoil: Organic surface soil found in depth not less than 6 inches.

D. Satisfactory Topsoil: Soil reasonably free of subsoil, clay lumps, and stones and

other objects over 2 inches in diameter, weeds, roots, and other unsuitable material.

E. Stockpile topsoil where indicated on Drawings or directed by University Resident Inspector. Construct stockpile areas to positively drain surface water. Cover stockpile areas as required to prevent windblown dust. Dispose of unsuitable topsoil of site as specified clearing, unless directed otherwise by University Resident Inspector. Dispose of excess topsoil off site as specified for clearing, unless directed otherwise by University Resident Inspector.

3.05 REMOVAL

A. Remove debris, rock, extracted plant life, paving, curbs, and other structures indicated on Drawings.

3.06 PROTECTION

A. Protect existing streets, structures, and utilities as specified in Section 31 0000.

B. Protect trees, plant growth, and features indicated to remain.

END OF SECTION

SECTION 31 1300 - TREE PROTECTION AND TRIMMING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes the protection and trimming of existing trees that interfere with, or are affected by, execution of the work, whether temporary or permanent construction.

1.03 DEFINITIONS

A. Tree Protection Zone: Area surrounding individual trees or groups of trees to remain during construction and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated.

1.04 SUBMITTALS

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

B. Tree Pruning Schedule: Written schedule from arborist detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.

C. Qualification Data: For tree service firm and arborist.

D. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.

E. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.

1.05 QUALITY ASSURANCE

A. Arborist Qualifications: An arborist certified by ISA or licensed in the jurisdiction where Project is located.

B. Tree Pruning Standard: Comply with ANSI A300 (Part 1), "Tree, Shrub, and Other Woody Plant Maintenance--Standard Practices (Pruning)."

C. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."
   1. Before tree protection and trimming operations begin, meet with representatives of authorities having jurisdiction, Owner, Architect, consultants, and other concerned entities to review tree protection and trimming procedures and responsibilities.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Drainage Fill: Selected crushed stone, or crushed or uncrushed gravel, washed, ASTM D 448, Size 24, with 90 to 100 percent passing a 2-1/2-inch (63-mm) sieve and not more than 10 percent passing a 3/4-inch (19-mm) sieve.
   1. Topsoil: Conforms with Division 2 Section "Topsoil".

B. Filter Fabric: Manufacturer's standard, nonwoven, pervious, geotextile fabric of polypropylene, nylon, or polyester fibers.

C. Chain-Link Fence: Metallic-coated steel chain-link fence fabric of 0.120-inch- (3-mm-) diameter wire; a minimum of 48 inches (1200 mm) high; with 1.9-inch- (48-mm-) diameter line posts; 2-3/8 inch- (60-mm-) diameter terminal and corner posts; 1-5/8-inch- (41-mm-) diameter top rail; and 0.177inch- (4.5-mm-) diameter bottom tension wire; with tie wires, hog ring ties, and other accessories for a complete fence system

PART 3 – EXECUTION

3.01 PREPARATION

A. Temporary Fencing: Install temporary fencing around tree protection zones to protect remaining trees and vegetation from construction damage. Maintain temporary fence and remove when construction is complete.
   1. Install chain-link fence according to ASTM F 567 and manufacturer's written instructions.

B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

C. Do not store construction materials, debris, or excavated material inside tree protection zones. Do not permit vehicles or foot traffic within tree protection zones; prevent soil compaction over root systems.

D. Maintain tree protection zones free of weeds and trash.

E. Do not allow fires within tree protection zone.

3.02 EXCAVATION

A. Install shoring or other protective support systems to minimize sloping or benching of excavations.

B. Do not excavate within tree protection zones, unless otherwise indicated.

C. Where excavation for new construction is required within tree protection zones, hand clear and excavate to minimize damage to root systems. Use narrow-tine spading forks and comb soil to expose roots.
   1. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches (75 mm) back from new construction.

2. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

D. Where utility trenches are required within tree protection zones, tunnel under or around roots by drilling, auger boring, pipe jacking, or digging by hand.
   1. Root Pruning: Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots with sharp pruning instruments; do not break or chop.

3.03 REGRADING

A. Grade Lowering: Where new finish grade is indicated below existing grade around trees, slope grade beyond tree protection zones. Maintain existing grades within tree protection zones.

B. Grade Lowering: Where new finish grade is indicated below existing grade around trees, slope grade, away from trees as recommended by arborist, unless otherwise indicated.
   1. Root Pruning: Prune tree roots exposed during grade lowering. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots with sharp pruning instruments; do not break or chop.

C. Minor Fill: Where existing grade is 6 inches (150 mm) or less below elevation of finish grade, fill with topsoil. Place topsoil in a single uncompacted layer and hand grade to required finish elevations.

D. Moderate Fill: Where existing grade is more than 6 inches (150 mm) but less than 12 inches (300 mm) below elevation of finish grade, place drainage fill, filter fabric, and topsoil on existing grade as follows:
   1. Carefully place drainage fill against tree trunk approximately 2 inches (50 mm) above elevation of finish grade and extend not less than 18 inches 450 mm) from tree trunk on all sides. For balance of area within drip-line perimeter, place drainage fill up to 6 inches (150 mm) below elevation of grade.
   2. Place filter fabric with edges overlapping 6 inches (150 mm) minimum.
   3. Place fill layer of topsoil to finish grade. Do not compact drainage fill or topsoil. Hand grade to required finish elevations.

3.04 TREE PRUNING

A. Prune trees to remain that are affected by temporary and permanent construction.

B. Prune trees to remain to compensate for root loss caused by damaging or cutting root system. Provide subsequent maintenance during Contract period as recommended by arborist.

C. Pruning Standards: Prune trees as necessary according to ANSI A300 (Part 1).

D. Cut branches with sharp pruning instruments; do not break or chop.

E. Chip removed tree branches and dispose of off- site.

3.05 TREE REPAIR AND REPLACEMENT

A. Promptly repair trees damaged by construction operations within 24 hours. Treat damaged trunks, limbs, and roots according to arborist's written instructions.

B. Aerate surface soil, compacted during construction, 10 feet (3 m) beyond drip line and no closer than 36 inches (900 mm) to tree trunk. Drill 2-inch- (50-mm-) diameter holes a minimum of 12 inches (300 mm) deep at 24 inches (600 mm) o.c. Backfill holes with an equal mix of augured soil and sand.

3.06 DISPOSAL OF WASTE MATERIALS

A. Burning is *not* permitted.

B. Disposal: Remove excess excavated material and displaced trees from the University property.

END OF SECTION

SECTION 31 2319 - DEWATERING, CONTROL AND DIVERSION OF WATER

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 DESCRIPTION

A. Work included:
   1. The work covered under this Section includes the furnishing of all labor, equipment. and materials, and performing all operations in connection with the dewatering, control and diversion of water, and all other operations necessary to maintain in the dry condition all excavations and work areas of this contract. The Contractor shall be responsible for providing, maintaining, operating and removing all dewatering, and other facilities, including all pumping and appurtenant equipment, required to maintain in a dry condition the areas in which construction of this contract is to be conducted. The Contractor shall be responsible for performing all required dewatering in a manner to prevent injury to persons or public health and damage to existing facilities or the work in progress.

1.03 RELATED WORK

A. Section 31 0000 - Earthwork

PART 2 – EXECUTION

2.01 DEWATERING EXCAVATION

A. Procedure:
   1. Where the excavations for work required under this contract are below existing ground water levels, the Contractor shall provide, operate and maintain all pumps, drains, well points, screens or any facility necessary for the control, collection and disposal of all surface and subsurface water encountered in the performance of the contract work. All excavations shall be kept dry at all times and all construction work shall be performed in the dry, unless otherwise authorized or directed by the University.
   2. Any damages to existing facilities or new work resulting from the failure of the Contractor to maintain the work areas in a dry condition shall be repaired by the Contractor, as directed by the University, at no additional expense to the University. Pumping shall be continuous where specified or directed or as necessary to protect the work and to maintain satisfactory progress.
   3. The Contractor's pumping and dewatering operations shall be carried out in such a manner that no loss of ground water will occur. All pipelines or structures not stable against uplift during construction or prior to completion shall be thoroughly braced or otherwise protected against movement or damage.

4. Water being disposed of by the pumping and dewatering operations shall be disposed of in such a manner to avoid injury to persons or public or private property, or to the work completed or in progress. Dewatering shall be accomplished by approved methods which have a background record of successful dewatering of similar excavations and subsurface conditions expected to be encountered in the work.

2.02 BRACED EXCAVATIONS

A. Procedure:
   1. Where braced excavations are necessary so that the work may be performed in the *dry,* the Contractor shall design, furnish, install, maintain and remove all such cofferdam facilities. Braced excavations shall be designed to withstand all imposed loads and to prevent injury to persons or damage to existing structures and property and to the work.
   2. Braced excavations shall be installed to sufficient depths to allow a reasonable depth of below-grade excavation below the work to be constructed. They shall be as watertight as necessary for the construction of the work in the dry. They shall be of such dimensions as to give sufficient clearance for construction and inspection of the work, and to permit installation of all necessary dewatering facilities.
   3. The Contractor shall be solely responsible for the design, construction, adequacy and safety of all cofferdam facilities and for any injury or damage caused by the installation or failure of the cofferdam facilities. Braced excavations, including all sheeting and bracing required, shall be removed by the Contractor after completion of the permanent construction unless otherwise directed by the University Resident Inspector.

2.03 DIVERSION OF WATER

A. Procedure:
   1. The Contractor shall be responsible for providing and maintaining all ditching, grading, sheeting, and bracing, pumping and appurtenant work for the temporary diverting of water courses and protection from flooding as necessary to permit the construction of work in the dry.
   2. Upon completion of the contract work, the Contractor shall remove all temporary construction and shall do all necessary earthwork and grading to restore the areas disturbed to their original condition or to such other conditions as indicated or directed by the University.
   3. Water shall not be permitted to flow into or through excavations in which work is under way or has been partially completed. The Contractor shall not restrict or close off the natural flow of water in such a way that ponding or flooding will occur, and shall at all times prevent flooding of public and private property. All damages resulting from flooding or restriction of flows shall be the sole responsibility of the Contractor, at no additional expense to the University.

END OF SECTION

SECTION 32 1216 - HOT-MIX ASPHALT PAVEMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. This Section includes the following:
   1. Hot-mix asphalt paving.
   2. Hot-mix asphalt patching.
   3. Pavement-marking paint.

B. Related Sections include the following:
   1. Division 1 Section "LEED Requirements" for additional LEED requirements:
   2. Division 31 Section "Earthwork" for aggregate sub-base and base courses and for aggregate pavement shoulders.

1.03DEFINITIONS

A. Hot-mix Asphalt Paving Terminology: Refer to ASTM D 8 for definitions of terms.

B. RIDOT: Rhode Island Department of Transportation

1.04 SYSTEM DESCRIPTION

A. Provide hot-mix asphalt paving according to materials, workmanship, and other applicable requirements of standard specifications of RIDOT.
   1. Standard Specification: RI Department of Transportation Standard Specifications for Road and Bridge Construction, 1997.
   2. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

1.05 SUBMITTALS

A. Product Data: For each type of product indicated. Include technical data and tested physical and performance properties.

B. LEED Submittals:
   1. Credit MR 4.1: Product Data and certification letter indicating percentages by weight of postconsumer and post-industrial recycled content for products having recycled content. Include statement indicating costs for each product having recycled content.
   2. Credit MR 5.1: Product Data indicating location of material manufacturer for regionally manufactured materials.
      a. Include statement indicating cost and distance from manufacturer to Project for each regionally manufactured material.

C. Job-Mix Designs: Certification, by authorities having jurisdiction, of approval

of each job mix proposed for the Work.

D. Qualification Data: For installer and manufacturer.

E. Material Test Reports: For each paving material.

F. Material Certificates: For each paving material, signed by manufacturers,

1.06 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced installer who has completed hot-mix asphalt paving similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

B. Manufacturers Qualifications: Engage a manufacturer experienced in manufacturing hot-mix asphalt similar to that indicated for this Project and with a record of successful in-service performance.
   1. Manufacturers shall be registered and approved paving mix manufacturer with the RIDOT.

C. Testing Agency Qualifications: Demonstrate to the University's satisfaction, based on. University Resident Inspector's evaluation. criteria conforming to ASTM 3666, that the independent testing agency has the experience and capability to satisfactorily conduct the testing indicated without delaying the Work.

D. Regulatory Requirements: Comply with applicable standards of the Rhode Island Department of Transportation for asphalt paving work.

E. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division I Section "Project Management and Coordination." Review methods and procedures related to hot-mix asphalt paving including, but not limited to, the following:
   1. Review proposed sources of paving materials, including capabilities and location of plant that will manufacture hot-mix asphalt.
   2. Review condition of subgrade and preparatory work.
   3. Review requirements for protecting paving work, including restriction of traffic during installation period and for remainder of construction period.
   4. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
   5. Review inspection and testing requirements, governing regulations, and proposed installation procedures.
   6. Review forecasted weather conditions and procedures for coping with unfavorable conditions.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver pavement-marking materials to Project site in original packages with seals unbroken and bearing manufacturers labels containing brand name and type of material, date of manufacture, and directions for storage.

B. Store pavement-marking materials in a clean, *dry,* protected location within temperature range required by manufacturer. Protect stored materials from direct sunlight.

1.08 PROJECT CONDITIONS

A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp or if the following conditions are not met:
   1. Prime and Tack Coats: Minimum surface temperature of 60 deg F.2. Asphalt Base Course: Minimum surface temperature of 40 deg F and rising at time of placement.
   2. Asphalt Surface Course: Minimum surface temperature of 60 deg F at time of placement.

B. Pavement- Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 50 deg. F for water based materials, and not exceeding 95 deg. F.

PART 2 - PRODUCTS

2.01 AGGREGATES

A. Aggregates shall conform to the applicable requirements of Section M.03. for base course and surface course (Class I-1) of the RIDOT Standard Specifications for Road and Bridge Construction.

2.02 ASPHALT MATERIALS

A. Asphalt cement materials shall conform to the applicable requirements of Section M.03.03 of the RIDOT Standard Specifications for Road and Bridge Construction.

B. Prime coat and tack coat material shall conform to the applicable requirements of Section M.03.03.

C. Water: Potable.

2.03 AUXILIARY MATERIALS

A. Pavement-Marking Paint: Latex, waterborne: emulsion, lead and chromate free, ready mixed, complying with FS TT-P-I 952, with drying time of less than 45 minutes.
   1. Color: As indicated on Drawings.

B. Glass Beads: AASHTO M 247, Type I.

2.04 MIXES

A. Hot-Mix Asphalt: Asphalt mixes shall conform to the applicable requirements of Section 401 and subsections M.03.01 of the RIDOT State Standard Specifications for Road and Bridge Construction.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that sub-grade is dry and in suitable condition to support paving and imposed loads.

B. Proof roll sub-base using heavy, pneumatic-tired rollers to locate areas that are unstable or that require further compaction.

C. Notify the University in writing of any unsatisfactory conditions. Do not begin paving installation until these conditions have been satisfactorily corrected.

3.02 PATCHING

A. Hot-Mix Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches into adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompact existing unbound-aggregate base course to form new sub-grade.

B. Tack Coat: Apply uniformly to vertical surfaces abutting or projecting into new, hot-mix asphalt paving at a rate of 0.05 to 0.15 gal./sq. yd.
   1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
   2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

C. Patching: Partially fill excavated pavements with hot-mix asphalt base mix and, while still hot, compact. Cover asphalt base course with compacted, hot-mix surface layer finished flush with adjacent surfaces.

3.03 SURFACE PREPARATION

A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.
   1. Sweep loose granular particles from surface of unbound-aggregate base course. Do not dislodge or disturb aggregate embedded in compacted surface of base course.

B. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.

3.04 HOT-MIX ASPHALT PLACING

A. Place hot-mix asphalt pavement in accordance with Section 401 of the Rhode Island Department. of Transportation Standard Specifications for Road and Bridge Construction.

3.05 JOINTS

A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free ' of depressions with same texture and smoothness as other sections of hot-mix asphalt course.
   l. Clean contact surfaces and apply tack coat to joints.

2. Offset longitudinal joints, in successive courses, a minimum of 6 inches.
3. Offset transverse joints, in successive courses, a minimum of 24 inches.
4. Construct transverse joints as described in Section 932 of the RIDOT Standard Specifications.
5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
6. Compact asphalt at joints to a density within 2 percent of specified course density.

3.06 COMPACTION

A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or vibratory-plate compactors in areas inaccessible to rollers.
   1. Complete compaction before mix temperature cools to 185 deg F.

B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct lay down and rolling operations to comply with requirements.

C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
   1. Average Density: 92 percent of reference maximum theoretical density according to ASTM D 2041, but not less than 90 percent nor greater than 96 percent.

D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.

E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.

G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.

H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.07 INSTALLATION TOLERANCES

A. Thickness: Compact each course to produce the thickness indicated within the following tolerances:
   1. Base Course: Plus or minus 1/2 inch.
   2. Surface Course: Plus 1/4 inch, no minus.

B. Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas:
   1. Base Course: 1/4 inch.
   2. Surface Course: 118 inch,

3.08 PAVEMENT MARKING

A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Architect.

B. Allow paving to age for 30 days before starting pavement marking.

C. Sweep and clean surface to eliminate loose material and dust.

D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.
   1. Broadcast glass spheres uniformly into wet pavement markings at a rate of 6 lb/gal.

3.09 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and to prepare test reports.
   1. Testing agency will conduct and interpret tests and state in each report whether tested Work complies with or deviates from specified requirements.

B. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

C. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549.

D. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.

E. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement according to ASTM D 979.
   1. Reference maximum theoretical density will be determined by averaging results from four samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 2041, and compacted according to job-mix specifications.
   2. In-place density of compacted pavement will be determined by testing core samples according to ASTM D 1188 or ASTM D 2726.
      a. One core sample will be taken for every 1000 sq. yd. or less of installed pavement, with no fewer than 3 cores taken.
      b. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D 2950 and correlated with ASTM D

1188 or ASTM D.2726.

F. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

3.10 DISPOSAL

A. Except for material indicated to be recycled, remove excavated materials from Project site and legally dispose of them in an EPA-approved landfill.
   1. Do not allow excavated materials to accumulate on-site.

END OF SECTION

SECTION 32 9200 -LAWNS AND GRASSES

PART I - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 RELATED WORK

A. Section 31 0000 - Earthwork

B. Section 31 1000 - Site Clearing

1.03 DEFINITIONS

A. Finish Grade: Elevation of finished surface of planting soil.

B. Manufactured Soil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

C. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

D. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil.

1.04 SUBMITTALS

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

B. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of panty, ᵍermination, and weed seed. Include the year of production and date of packaging.
   1. Certification of each seed mixture, identifying source, including name and telephone number of supplier.

C. Product Certificates: For soil amendments and fertilizers, signed by product manufacturer.

D. Qualification Data: For landscape Installer.

E. Material Test Reports: For existing topsoil and imported topsoil as outlined in Division 2 Section "Topsoil".

F. Planting Schedule: Indicating anticipated planting dates for each type of planting.

G. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of lawns and meadows during a calendar year. Submit before expiration of required maintenance periods

1.05 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape installer whose work has resulted in

successful lawn and meadow establishment.
1. Installer's Field Supervision: Require Installer to maintain an experienced full- time supervisor on Project site when planting is in progress.

B. Soil-Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

C. Topsoil Analysis: See Division 2 Section "Topsoil".

D. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1.06 DELIVERY, STORAGE, AND HANDLING

A. Seed: Deliver seed in original sealed, labeled, and undamaged containers.

1.07 SCHEDULING

A. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit.

1.08 LAWN MAINTENANCE

A. Begin maintenance immediately after each area is planted and continue until acceptable lawn is established, but for not less than the following periods:
1. Seeded Lawns: 60 days from date of Substantial Completion.
   a. When full maintenance period has not elapsed before end of planting season, or if lawn is not fully established, continue maintenance during next planting season.

B. Maintain and establish lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn.
1. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch. Anchor as required to prevent displacement.
2. Watering: Provide and maintain temporary piping, hoses, and lawn-watering equipment to convey water from sources and to keep lawn uniformly moist to a depth of 4 inches (100 mm). Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
3. Water lawn at a minimum rate of 1 inch (25 mm) per week.

C. Mow lawn as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 40 percent of grass height. Remove no more than 40 percent of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:
1. Mow grass 1-1/2 to 2 inches (38 to 50 mm) high.

D. Lawn Postfertilization: Apply fertilizer after initial mowing and when grass is dry.

1. Use fertilizer that will provide actual nitrogen of at least 1 lb/1000 sq. ft. (0.45 kg/92.9 sq. m) to lawn area.

1.09 MEADOW MAINTENANCE

A. Begin maintenance immediately after each area is planted and continue until acceptable meadow is established, but for not less than 40 days from date of Substantial Completion.

B. Maintain and establish meadow by watering, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch.

C. Watering: Provide and maintain temporary piping, hoses, and lawn-watering equipment to convey water from sources and to keep meadow uniformly moist.
   1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
   2. Water meadow at a minimum rate of 1/2 inch (13 mm) per week for 8 weeks after planting.

PART 2 – PRODUCTS

2.01 SEED

A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Journal of Seed Technology; Rules for Testing Seeds" for purity and germination tolerances.

B. Seed Species: State-certified seed of grass species, as follows:
   1. Sun and Partial Shade: Proportioned by weight as follows:
      a. 30 percent Perennial ryegrass.
      b. 20 percent Kentucky bluegrass (approved combination of the new improved varieties).
      c. 20 percent creeping red fescue.
      d. 30 percent shadow chewing fecue.

2.02 TOPSOIL

A. Topsoil: See Division 2 Section "Topsoil". Ammend topsoil for seed and sod areas as outlined in test results.

2.03 INORGANIC SOIL AMENDMENTS

A. Lime: ATM C 602, agricultural limestone containing a minimum 80 percent calcium carbonate equivalent and as follows:
   1. Class: Class T, with a minimum 99 percent passing through No. 8 (2.36-mm) sieve and a minimum 75 percent passing through No. 60 (0.25-mm) sieve,
   2. Class: Class 0, with a minimum 95 percent passing through No. 8 (2.36- mm) sieve and a minimum 55 percent passing through No. 60 (0.25-mm) sieve.
   3. Provide lime in form of dolomitic limestone.

B. Sulfur: Granular, biodegradable, containing a minimum of 90 percent sulfur, with a minimum 99 percent passing through No, 6 (3.35-mm) sieve and a maximum 10 percent passing through No. 40 (0.425-mm) sieve.

C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.

D. Aluminum Sulfate: Commercial grade, unadulterated.

E. Perlite: Horticultural perlite, soil amendment grade.

F. Agricultural Gypsum: Finely ground, containing a minimum of 90 percent calcium sulfate

G. Sand: Clean, washed, natural or manufactured, free of toxic materials.

H Diatomaceous Earth: Calcined, diatomaceous earth, 90 percent silica, with approximately 140 percent water absorption capacity by weight.

I. Zeolites: Mineral clinoptilolite with at least 60 percent water absorption by weight.

2.04 ORGANIC SOIL AMENDMENTS

A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 3/4-inch (19-mm) sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
   1. Organic Matter Content: 50 to 60 percent of dry weight.
   2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source separated or compostable mixed solid waste.

B. Peat: Sphagnum peat moss, partially decomposed, finely divided or granular texture, with a pH range of 3.4 to 4.8.

C. Peat: Finely divided or granular texture, with a pH range of 6 to 7.5, containing partially decomposed moss peat, native peat, or reed-sedge peat and having a water-absorbing capacity of 1100 to 2000 percent.

D. Wood Derivatives: Decomposed, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture, free of chips, stones, sticks, soil, or toxic materials.
   1. In lieu of decomposed wood derivatives, mix partially decomposed wood derivatives with at least 0.15 lb (2.4 kg) of ammonium nitrate or 0.25 lb (4 kg) of ammonium sulfate per cubic foot (cubic meter) of loose sawdust or ground bark.

E. Manure: Well-rotted, unbleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.

2.05 PLANTING ACCESSORIES

A. Selective Herbicides: EPA registered and approved, of type recommended by manufacturer for application.

2.06 FERTILIZER

A. Bonemeal: Commercial, raw or steamed, finely ground; a minimum of 2 percent nitrogen and [15 percent phosphoric acid.

B. Superphosphate: Commercial, phosphate mixture, soluble, a minimum of 20 percent available phosphoric acid.

C. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
   1. Composition: 1 lb/1000 sq. ft. (0.45 kg/92.9 sq. m) of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
   2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing agency.

D. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water insoluble nitrogen, phosphorus, and potassium in the following composition:
   1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.
   2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing agency.

2.07 MULCHES

A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley. Compost Mulch: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch (25-mm) sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
   1. Organic Matter Content: 50 to 60 percent of dry weight.
   2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source separated or compostable mixed solid waste.

B. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic; free of plant-growth or germination inhibitors; with maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.

C. Asphalt Emulsion: ASTM D 977, Grade SS-l; nontoxic and free of plant- growth or germination inhibitors.

2.08 EROSION-CONTROL MATERIALS

A. Erosion-Control Blankets: Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh. Include manufacturer's recommended steel wire staples, 6 inches (150 mm) long.

B. Erosion-Control Fiber Mesh: Biodegradable twisted jute or spun-coir mesh, a minimum of 0.92 lb/sq. yd. (0.5 kg/sq. m), with 50 to 65 percent open area.

Include manufacturer's recommended steel wire staples, 6 inches (150 mm) long.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine areas to receive lawns and grass for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.

   1. Protect adjacent and adjoining areas from hydroseeding overspray.

B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soilbearing water runoff or airborne dust to adjacent properties and walkways.

3.03 LAWN PREPARATION

A. Limit lawn subgrade preparation to areas to be planted.

B. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 3 inches (100 mm). Remove stones larger than 2 inch (25 mm) in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
   1. Apply superphosphate fertilizer directly to subgrade before loosening.
   2. Thoroughly blend planting soil mix off site before spreading or spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil mix.
      a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
      b. Mix lime with dry soil before mixing fertilizer.
   3. Spread planting soil mix to a depth of 6 inches (150 mm) but not less than required to meet finish grades after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
      a. Spread approximately one-half the thickness of planting soil mix over loosened subgrade. Mix thoroughly into top 3 inches (50 mm) of subgrade. Spread remainder of planting soil mix.
      b. Reduce elevation of planting soil to allow for soil thickness of sod.

C. Unchanged Subgrades: If lawns are to be planted in areas unaltered or undisturbed by excavating, grading, or surface soil stripping operations, prepare surface soil as follows:
   1. Remove existing grass, vegetation, and turf. Do not mix into surface soil.
   2. Loosen surface soil to a depth of at least of 8 inches (200 mm). Apply soil amendments and fertilizers according to planting soil mix proportions and mix thoroughly into top 6 inches (150 mm) of soil. Till soil to a homogeneous

mixture of fine texture.
   a. Apply superphosphate fertilizer directly to surface soil before loosening.
3. Remove stones larger than 2 inch (25 mm) in any dimension and sticks, roots, trash, and other extraneous matter.
4. Legally dispose of waste material, including grass, vegetation, and turf, off Owner's property.

D. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch (13 mm) of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit fine grading to areas that can be planted in the immediate future.

E. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

F. Restore areas if eroded or otherwise disturbed after finish grading and before planting.

3.04 SEEDING

A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph (8 km/h). Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
   1. Do not use wet seed or seed that is moldy or otherwise damaged.

B. Sow seed at the rate of [2 lb/1000 sq. ft. (0.9 kg/92.9 sq. m)] [3 to 4 lb/1000 sq. ft. (1.4 to 1.8 kg/92.9 sq. m)] [5 to 8 lb/1000 sq. ft. (2.3 to 3.6 kg/92.9 sq. m)] <Insert rate>.

C. Rake seed lightly into top 118 inch (3 mm) of topsoil, roll. lightly, and water with fine spray.

D. Protect seeded areas with slopes exceeding 1:6 with erosion-control fiber mesh and 1/4 with erosion control blankets installed and stapled according to manufacturer's written instructions.

E. Protect seeded areas with slopes not exceeding 1:6 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre (42 kg/92.9 sq. m) to form a continuous blanket 1·1/2 inches (38 mm) in loose depth over seeded areas. Spread by hand, blower, or other suitable equipment.
   1. Bond straw mulch by spraying with asphalt emulsion at the rate of 10 to 13 gal./1000 sq. ft. (38 to 49 L/92.9 sq. m). Take precautions to prevent damage or staining of structures or other plantings adjacent to mulched areas. Immediately clean damaged or stained areas.

3.05 HYDROSEEDING

A. Hydroseeding: Mix specified seed, fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.
   1. Mix slurry with asphalt-emulsion tackifier.
   2. Apply slurry uniformly to all areas to be seeded in a one-step process. Apply

mulch at a minimum rate of 1500-lb/acre (15.3-14929 sq. m) dry weight but not less than the rate required to obtain specified seed-sowing rate.

3.06 SATISFACTORY LAWNS

A. Satisfactory Seeded Lawn: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities.

B. Reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.

3.07 MEADOW

A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph (8 km/h). Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
   1. Do not use wet seed or seed that is moldy or otherwise damaged.

B. Sow seed at the net rate of 6 oz./1000 sq. ft. (170 g/92.9 sq. m).

C. Brush seed into top 1116 inch (1.6 mm) of topsoil, roll lightly, and water with fine spray.

D. Protect seeded areas from hot, dry weather or drying winds by applying compost mulch within 24 hours after completing seeding operations. Soak and scatter uniformly to a depth of 3/16 inch (4.8 mm) and roll to a smooth surface.

E. Water newly planted areas and keep moist until meadow is established.

3.08 CLEANUP AND PROTECTION

A. Promptly remove soil and debris created by lawn work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

B. Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout maintenance period and remove after lawn is established.

C. Remove erosion-control measures after grass establishment period.

END OF SECTION

SECTION 33 14 13 - DUCTILE IRON PIPE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 WORK INCLUDED

A. This section covers ductile-iron pipe, fittings, specials and appurtenances for buried service water pipe. Furnish and install pipe complete with all fittings, specials and accessories which are shown on the drawings, are specified herein or are otherwise required for proper installation and functioning of the water system.

1.03 RELATED WORK

A. Section 22 0523 - Valves and Appurtenances

B. Section 22 1113 - Installation of Water Piping Systems

C. Section 31 0000 - Earthwork

1.04QUALITY ASSURANCE

A. Reference Standards: Except as modified or supplemented herein, all cast -iron and ductile iron pipe, fittings, specials and appurtenances shall meet the requirements of the latest revision of and addenda to the following standard specifications.

1. American National Standards Institute, ANSI (Numbers in parenthesis are American Water Works Association designations for the standard.)
   a. A21.4-85 (C104) - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water.
   b. A2I.10-87 (C110) - Ductile-Iron and Gray-Iron Fittings.
   c. A21.11-85 (C111) - Rubber-Gasket Joints for Ductile-Iron and Gray- Iron Pressure Pipe and Fittings.
   d. A21.15-83 (C115) - Flanged Ductile-Iron and Gray-Iron Pipe with Threaded Flanges.
   e. A-21.51-86 (C151) - Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water and Other Liquids.
2. American Water Works Association
   a. C600-87 - Installation of Ductile-Iron Water Mains and Their Appurtenances
3. Underwriters Laboratory (UL)
4. Factory Mutual (FM)

B. Restrained joint pipe and fittings shall be TR Flex Joint Pipe as manufactured by U.S Pipe and Foundry Co., Flex Ring Joint Pipe as manufactured by American Cast Iron Pipe Co. or

approved equal.

C. Submittals:
   a. Shop drawings showing lengths of pipe, fitting and joint details, construction details, tolerances and other information, as required.
   b. Each shipment of pipe and fittings shall be accompanied with the pipe manufacturer's certification that materials meet specification requirements.

1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Handle pipe, fittings and accessories using lifting hoists or skidding to avoid shock or damage. Do not drop such materials. Do not allow pipe unloaded on skidways to be skidded or rolled into pipe previously unloaded. Protect the pipe coatings and linings from damage during delivery and handling.

PART 2 - PRODUCTS

2.01 DUCTILE IRON PIPE (DIP)

A. All standard water distribution pipe installed shall be cement mortar lined Ductile Iron Pipe. Brass wedges shall be installed at all gasket joints. URI may deviate from this standard depending upon the design considerations and service requirements.

B. All Ductile Iron Pipe 4 inches and larger shall meet or exceed the current AWWA C151 specification, be cement mortar lined, and be "push on" joint, bell and plain spigot end, unless grooved or flanged ends are approved.

C. Listed below are the specific pipe specifications for water distribution system pipe:
   1. All 4 inch and greater diameter pipes shall be a minimum of Class 52.
   2. Cement mortar lining shall meet or exceed current AWWA C104 Cement Mortar Lining Standards.
   3. Rubber Gasket Joints must meet or exceed current AWWA C111 Rubber Gasket Joints Standards.
   4. The following is the approved list of pipe manufacturers:
      a. Pacific States Cast Iron Pipe Company
      b. United States Pipe Company
      c. Griffin Pipe Products Company
      d. American Cast Iron Pipe Company

2.02 FITTINGS

A. All fittings shall be ductile iron and meet or exceed the current AWWA C153 Ductile Iron Compact Fittings standards.

B. Fittings shall be mechanical joint with rubber gaskets that meet or exceed current AWWA C111 Rubber Gasket Joints specifications. In addition, all fittings shall meet the following URI specifications:
   1. The exterior of all fittings shall have a petroleum asphaltic coating.
   2. The interior of all fittings shall be cement/mortar petroleum-asphaltic lined in accordance with current AWWA Specification C104 Cement Mortar Lining for Ductile Iron Pipe.

PART 3 – EXECUTION

3.01 INSPECTION

A. Examine the pipe and fittings for cracks, flaws or other defects. Remove all defective pipe and fittings from the site. Pipe and fittings in which the lining has been broken or loosened shall be replaced. Where the damaged areas are small and readily accessible, the Contractor may be permitted to repair the lining at the discretion of the Engineer.

3.02 PREPARATION AND INSTALLATION

A. Refer to Section 22 1113 - Installation of Water Piping Systems.

END OF SECTION