Signage Implementation – Science and Health Careers Building # C20201128

Cuyahoga Community College
Metropolitan Campus
2900 Community College Avenue
Cleveland, Ohio 44115

STANDARD REQUIREMENTS AND SPECIFICATIONS FOR PUBLIC FACILITY CONSTRUCTION

Bidding and Permitting Set: November 3, 2020

Prepared by:

City Architecture
3200 Euclid Avenue
Cleveland, Ohio 44115
Phone: (216) 881-2444
Contacts: Benny Chew, hbchew@cityarch.com

Alex Pesta, #38002776
Expiration Date 12/31/2021

Project Team:
Architecture/project Management: City Architecture
Structural Engineer: R.E. Warner
Electrical Engineer: Advance Engineering Consultants

PROJECT MANUAL: TABLE OF CONTENTS

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INDEX TO THE DRAWINGS **ISSUED**

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ARCHITECTURAL (CA)

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CUYAHOGA COMMUNITY COLLEGE

Capital & Construction
700 Carnegie Ave.
Cleveland, OH 44115

Request for Proposal

ISSUED: November 5, 2020

Metro Campus
Signage Implementation- Science and Health Careers Building
Tri-C Project No. C20201128

Bid Packages in this RFP:
#1 Exterior Signage & Electrical

PRE-BID MEETING DATE:
Tuesday November 10, 2020 @ 11:00 pm
Metro MHCS Room 222

BID DUE DATE: Monday November 19, 2020 at 2:00P

Table of Contents

1 INTRODUCTION

Cuyahoga Community College District (Tri-C) is issuing this Request for Proposal (RFP) and inviting responses for the goods and/or services described in the accompanying specifications according to the terms, conditions, and requirements herein. Vendors responding to this RFP shall be herein called the "Bidder."

1.1 Project Overview

This project includes installation of new Exterior signage on the Metropolitan Campus. Please refer to the following Specifications and Drawings created by City Architecture for project details.

COLLEGE: MISSION, VISION, VALUES, AND HISTORY

Mission

The mission of the College is to provide high quality, accessible and affordable educational opportunities and services—include university transfer, technical and lifelong learning programs—that promote individual development and improve the overall quality of life in a multicultural community.

Vision

The vision of Cuyahoga Community College is that Tri-C will be recognized as an exemplary teaching and learning community that fosters service and student success. Cuyahoga Community College will be a valued resource and leader in academic quality, cultural enrichment, and economic development characterized by continuous improvement, innovation, and community responsiveness.

Values

To successfully fulfill the mission and vision, Cuyahoga Community College is consciously committed to diversity, integrity, academic excellence, and achievement of individual and institutional goals. We are dedicated to building trust, respect, and confidence among our colleagues, students, and the community.

History

Cuyahoga Community College was established in 1963, as Ohio's first community college. It now serves more than 55,000 credit and non-credit students each year. The College has four (4) traditional campuses. The Metropolitan Campus is located near downtown Cleveland, the Western Campus is located in Parma, the Eastern Campus is located in Highland Hills Village, and the Westshore Campus is located in Westlake. Two (2) Corporate Colleges are located in Westlake and Warrensville Heights; a Workforce, Community, and Economic Development Division (WCED) is located at the Manufacturing Technology Center adjacent to the Metro Campus; and the District Administrative Office is located downtown.

Cuyahoga Community College, Ohio's largest community college, offers associate degrees, certificate programs and the first two years of a baccalaureate degree. Students can choose from nearly 1,000 credit courses in more than 70 career, certificate and university transfer programs. Approximately 80 off-campus credit courses are available at various locations near homes, work sites, on cable television, and via the Internet; and non-credit workforce and professional development courses are also offered.

Cuyahoga Community College offers a quality education and flexible learning options at the lowest tuition in Northeast Ohio. The College also generates spending of about $500 million annually in Northeast Ohio and sustains more than 25,000 jobs. In addition, more than 500,000 Northeast Ohio residents attend college-sponsored cultural, community and sports programs each year. The College is home to the Cuyahoga Community College JazzFest in Cleveland, the nation's premier educational jazz festival, and hosts popular cultural arts programs at Playhouse Square and at campus theaters.

More than 700,000 county residents have passed through Cuyahoga Community College's doors, representing one in five county residents.

Specific information about Cuyahoga Community College can be obtained at www.tri-c.edu .

2 SUBMITTING YOUR PROPOSAL

Bidders are cautioned to read the information contained in this RFP carefully. Bidders must submit complete responses to all requirements and questions, in the order listed, and in accordance with the instructions specified in this RFP.

The Bid Due Date is November 19, 2020, by 2:00 PM. Proposals must be received at the location set forth below. Late proposals will not be accepted. Tri-C will confirm receipt of hard copies with a date and time stamp.

Two hard-copy proposals (one electronic copy to Michele.Crawford@tri-c.edu) are to be submitted to:

Cuyahoga Community College
Supplier Managed Services (SMS)
700 Carnegie Avenue
Cleveland, OH 44115
Attn: Judi Cooper

2.1 Contacts

Bidders must direct all questions regarding this RFP to Benny Chew, RA, Associate Principal at: hbchew@cityarch.com. The last day for questions is **Tuesday November 10, 2020 at 5:00PM**.

2.2 Preparation of Proposal

In submitting a proposal or in its performance under an award by Tri-C, the successful Bidder warrants and represents that it is not suspended or debarred by the Federal Government or the State of Ohio.

- Bidders must notify Tri-C promptly of any ambiguity, inconsistency, or errors.
- Tri-C will not provide compensation for any expenses incurred by the Bidder for preparation of the proposal or for product or service demonstrations.
- Alterations, deviations, or modifications must be noted in the submittal package.
- Tri-C will not assume responsibility for errors or misinterpretations resulting from the use of incomplete documents.
- Tri-C may not consider proposals that require or request changes to the terms of this RFP.
- Proposals and any other information submitted in response to this proposal are the property of the Tri-C, and will not be returned.

2.3 Supplier Diversity

Tri-C is committed to diversity and to supporting Greater Cleveland's economy. All suppliers are encouraged to do business with Tri-C. Tri-C encourages all Bidders to exceed the following goals:

a. Supplier Participation: 15% minority, 5% female, 2% veteran, and 6% CSB/SBE/SDBE.
b. Workforce Diversity: 45% local, 15% minority, 7% female, and 2% veteran

3 ADMINISTRATIVE AND CONTRACTUAL INFORMATION

- Tri-C reserves the right to reject any or all proposals received as a result of this RFP, modify specifications proposed, waive any formalities or technicalities, or negotiate separately with any source and in any manner whatsoever.

- Tri-C does not discriminate in admission, access, or treatment in programs and activities, employment policies or practices based on race, creed, sex, color, national or ethnic origin, religion, marital status, age, sexual orientation, Vietnam-era or qualified disabled veteran status, or qualified disability.

3.1 Award of Contract

Tri-C, at its sole discretion, shall decide if an award will result from this RFP. Proposals must be fully responsive to all requirements stated in the RFP to obtain consideration. Tri-C may not consider any proposal not prepared and submitted in accordance with the provisions outlined herein.

In the event a contract is awarded, this RFP and the proposal of the successful Bidder will be included as an addendum to the contractual obligations. Therefore, no information should be submitted which cannot be incorporated into that agreement.

Price alone will not be the sole determining factor in the selection process.

- Tri-C reserves the right to award based on various selection criteria.

- Tri-C is not bound to accept the lowest cost proposal, if in its judgment the lowest cost proposal does not provide the best overall value.

- Portions of the RFP may be awarded separately.

- Tri-C reserves the right to negotiate the final details of the Contract with the successful Bidder.

3.2 Pricing

- The Bidder must honor original pricing on all purchase orders up to the effective date of the approval.
- Price changes will be considered only after the initial term. Requests for price increases, prior to this period, may result in cancellation of the contract or specific items in the contract.
- Any price increase granted by Tri-C will be in the form of a written addendum to the original purchase order.
- All Bidders are required to hold discounted pricing for a period of six (6) months from time of submitted bid.

3.3 Delivery of Products and Services

Delivery requirements including inside delivery, and or installation for products and services are to be in coordination with Cuyahoga Community College or its designee, Late deliveries may be assessed a late fee.

- Deliveries of products & services must also be coordinated and scheduled with Tri-C.

**** All invoices associated with the purchase order will be reviewed and routed by City Architecture. Pencil draft invoices as well as subsequent approved invoices should be e-mailed to City Architecture Attention: Benny Chew, RA, Associate Principal at : hbchew@cityarch.com.**

3.4 Billing

Invoices must reflect the purchase order number and be submitted to Accounts Payable at:

Cuyahoga Community College District
Accounts Payable Dept
P O Box 3957
Scranton, PA 18505
Or emailed to Tri-C@edmamericas.com

3.5 Contract and License Agreements

Respondents must comply with all State of Ohio and Federal regulations concerning wages, liability insurance, worker's compensation, discrimination, intimidation, and any other applicable regulations.

4 TERMS AND CONDITIONS

Tri-C's Terms and Conditions are accessible on our web site at:
http://www.tri-c.edu/administrative-departments/supplier-managed-services/documents/terms.pdf

4.1 Entire Agreement

The RFP and any resulting Contract shall be the complete and exclusive statement of the agreement between Tri-C and the Bidder and supersedes all prior oral or written agreements.

The terms and conditions of any purchase order, agreements, amendments, modifications, or other documents submitted by either party which conflict with or in any way purport to amend or add to any of the terms and conditions of the Contract are specifically objected to by the other party and shall be of no force or effect; nor shall govern in any way the subject matter hereof, unless set forth in writing and signed by both parties.

4.2 Time of Performance

Bidder agrees to perform all obligations and render services set forth in the Contract, in accordance with the schedules herein and as mutually agreed upon between Tri-C and the Bidder during the term of the Contract.

4.3 Contracts Amendments

The Contract may be amended within the Contract period by mutual consent of both parties. No modification or amendment to the Contract shall become valid unless in writing and signed by both parties. All correspondence regarding modifications or amendments to the Contract must be forwarded to Tri-C's Vice President of Finance & Business Services for prior review and approval.

4.4 Insurance

A. For any Contract which requires the Bidder to provide on-site services, prior to commencement of work, Bidder shall provide Tri-C with Certificates of Insurance in the amounts shown below as a minimum requirement and shall maintain such coverage in effect for the duration of the contract.
The insurer must be rated at least an 'A' by A. M. Best and Company.

Worker's Compensation	Statutory
Employer's Liability	$1,000,000
Comprehensive General Liability	$1,000,000 each occurrence $3,000,000 in the aggregate
Comprehensive Automobile Liability (Any auto, hired auto, non-owned auto)	
a) Bodily Injury	$ 500,000 each occurrence
b) Property Damage	$ 500,000 each occurrence

If any part of the Contract is sublet, similar insurance shall be provided by or on behalf of the subcontractor to cover the subcontractor's operations. The Bidder shall provide evidence of such insurance. In the event a subcontractor is unable to furnish insurance in the limits required under the Contract, the Bidder shall endorse the subcontractor as an additional insured on the Bidder's policies.

The Bidder and Tri-C will include reciprocal "hold harmless" language in the contractual agreement.

B. Bidder shall deliver to Tri-C:

1. Certificates evidencing the existence of all such insurance promptly after the execution and delivery of contract and prior to the continued or additional performance of any services to be performed by the Bidder from or after the date of any agreement or purchase order; and

2. Such Certificates shall name Tri-C and its Board of Trustees as additional insured, with the exception of Workers Compensation and Employers Liability, and shall provide that the policies will not be cancelled until after 30 days unconditional written notice to Tri-C, giving Tri-C the right to pay the premium to maintain coverage.

C. The insurance policies required in this RFP shall be kept in force for the periods specified below:

1. The Bidder shall keep Commercial General Liability Insurance in force until receipt of final payment.

2. Workers' Compensation Insurance shall be kept in force until the Bidder's obligations have been fully performed and accepted by Tri-C in writing.

D. The Bidder shall provide Tri-C a full and complete copy of any insurance policy promptly upon request by Tri-C, and without charge.

4.5 Indemnification

The Bidder agrees to indemnify Tri-C, its officers, agents, employees, and/or subcontractors and hold them harmless from any and all liability (statutory or otherwise), claim, suit, demand, damage, judgment, cost, interest, and expense including but not limited to reasonable attorneys' fees and charges, which the Bidder may incur or pay out, by reason of or resulting from the performance of

Bidder; or by any negligent act or omission by Bidder, its officers, agents, employees, and/or subcontractors in connection with any resulting Agreement, other than as may result from the gross negligence or willful misconduct of Tri-C. Furthermore, the indemnification contained herein may not be assigned of subrogated to any third party, whether by operation of law or otherwise.

The indemnities herein shall survive the termination of any agreement or purchase order for any reason whatsoever.

4.6 Other Benefits

It is understood and agreed that no benefits, payments or considerations received by Bidder for the performance of services associated with and pertinent to a resulting Contract shall accrue directly or indirectly to any employees, elected or appointed officers or representatives, persons identified as agents of, or who are by definition an employee of Tri-C.

4.7 Non-Disclosure

The Bidder and Tri-C acknowledge that in the performance of a resultant Contract employees of either parties may come into the possession of proprietary or confidential information owned by or in the possession of the other. Neither party shall use any such information for its own benefit or make such information available to any person, firm, corporation, or other organization regardless of whether directly or indirectly affiliated with the Bidder or Tri-C, unless: (1) required by law; (2) by order of any court or tribunal; (3) such disclosure is necessary for the assertion of a right or defense of an assertion of a right; by one party against the other party hereto; or (4) such information has been acquired from other sources.

4.8 Publicity

The Bidder agrees that it shall not publicize the Contract or disclose, confirm, or deny any details thereof to third parties; use any photographs or video recordings of Tri-C employees; or use Tri-C's name in connection with any sales promotion or publicity event without the prior express written approval of Tri-C.

4.9 Severability

In case any provision hereof, or of any resulting agreement or purchase order, shall, for any reason be held invalid or unenforceable in any respect, such invalidity or unenforceability shall not affect any other provision thereof, and this Contract shall be construed as if such invalid or unenforceable provision had not been included herein.

4.10 Assignment

This agreement is with the Bidder, and Bidder's interest in such agreement, duties hereunder, and/or fees due hereunder may not be assigned or delegated to a third party.

4.11 Observance of College Rules and Regulations

The Bidder agrees that at all times its employees will observe and comply with all regulations of Tri-C, including but not limited to smoking, parking, and security regulations.

5 ADDITIONAL INFORMATION

A. PRICING OF PROPOSAL

Each proposal is to be submitted on the attached Bid Form. Complete all of the relevant blank spaces and requested information. These forms must be properly signed, before scanning and sending to Michele.Crawford@tri-c.edu as an pdf .

Installation will be performed under direct coordination of the selected Bidder and Cuyahoga Community College.

If you are not able to provide the specified product, please indicate "N/A" (for not applicable). Refer to Paragraph 5.D for Substitutions.

It is requested that Bidders who may have any questions pertaining to these documents, or any concerns that may be in doubt as to the true meaning of any part of the Specification or their proposed contract documents, should submit to **Benny Chew, RA, Associate Principal at: hbchew@cityarch.com** in an email request for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made by Addendum duly issued and a copy of such Addendum will be e-mailed to each person receiving a set of pricing documents.

Pricing for the above described work must be submitted on this RFP furnished with the pricing documents.

B. WITHDRAWL OF PROPOSAL

No bidder may withdraw their proposal for a period of (90) days after the date of opening.

C. REJECTION OR ACCEPTANCE OF PRICING PROPOSAL

Cuyahoga Community College reserves the right to reject any or all proposal and any part or parts of any proposal and the right to waive any informalities of any kind.

D. SUBSTITUTIONS

Acceptable substitutions are to be e-mailed to Benny Chew attention for review : hbchew@cityarch.com. The alternate shall be included if and only if written approval is received via Tri-C's addendum.

- Proof of equality & a comparison to basis of specification shall be included with each proposed substitution.
- Substitutions are to be delivered to Benny Chew, no later than November 10, 2020 by 5:00 PM

E. PRODUCT

Workmanship and materials will be warranted for a period of not less than one year from the date of final acceptance by Tri-C. Should defects develop within warranty period, the manufacturer, through the Bidder, shall remedy the defects and reimburse Tri-C for all damage to other work, whether caused by the defects or the work of correcting the same. Warranties extending beyond the one-year period shall be specifically provided in the Contract and may be fulfilled by the written warranty of the manufacturer.

F. DELIVERY, STORAGE, & HANDLING

The Bidder shall be responsible for the receipt of product and supplies necessary to provide a complete installation. All deliveries shall be scheduled and coordinated with the College. Equipment must be promptly installed after delivery. Exact date is yet to be determined; refer to Section 3.3 for range of dates. All products shall be delivered in good condition and in its original and unopened crating and covering.

G. DESIGN SERVICES

N/A

H. SUBMITTALS

The following items shall be submitted at Bid Time:

1. Completed Bid Form.
2. Certificate of Insurance (Accord Form is acceptable)
3. Updated W-9 Form.
4. Registered, Legal Name of Vendor.

The following items shall be submitted within 10 days of Contract or Notice of Intent to Award:

5. Product Data / MSD sheets of all products included in Bidder's bid package.
6. List of sub-contractors you will use on this project.
7. Sustainability:
    a. The Bidder is asked to make all reasonable efforts to reduce packaging. Include a brief description of a waste reduction strategy with your proposal, indicating strategies to be employed. If dumpsters will be used, waste shall be diverted from landfills wherever possible: include LEED-compliant reporting of dumpsters monthly, and a summary with your closeout submittals.
    b. Provide low-VOC paints, adhesives, sealants, etc.. If this is not possible, demonstrate that this is not allowed by the manufacturer or it does not meet project intent.

I. INSTALLATION

The Bidder will have a full-time installation crew capable of completing the job requirements. Installation will be in accordance with the manufacturer's installation procedures. All systems and components will be installed level, plumb square, and with proper alignment with adjoining walls, furniture or equipment. The equipment will be securely attached to the building when required. The Bidder will be responsible for the removal of all trash and debris associated with the installation of all equipment in this package.

Installation Services: The Bidder (Contractor) shall:

1. Notify the College two (2) weeks prior to installation. Timing of installation shall be coordinated with the College.

2. Conduct an inspection of the building to identify phasing and staging or any restrictions, which might impact installation.

3. Identify appropriate delivery area with Tri-C; use of passenger elevator is predicated on approval of the College. Elevator may not be available for use.

4. Provide all necessary equipment required to transport.

5. Packing materials will be removed from the work area at the end of each day. The site will be left "broom-cleaned" daily.

6. Coordinate with general contractor, building electrician, or subcontractor, i.e., telephone, electrical, etc., to schedule timing of each.

7. Protect all doors, door jambs, walls, and floor finishes from move-in activities.

8. Repair all scratches, tears, and dents that were a result of delivery, handling and installation.

9. All equipment will be final-cleaned after adjustment, leveling, and inspection for damage; notify the College when the area is ready for "punch listing."

10. Contractor to provide on-site field supervisor during full-term of installation. Cost of this person shall be included in the Bidder's bid.

11. Safety
    a. Bidders are to comply with all pertinent sections of CFR 1926 (OSHA) and related codes. Provide required signage, temporary protection, and barricades necessary for the protection of the public. Hard hats, safety glasses, and appropriate work gloves are required to be worn by contractors' labor force at all times.

12. Installation
    a. Labor Requirements
        1) The Bidder shall base its bid upon the prevailing rates of wages as ascertained by the Ohio Department of Commerce, Wage and Hour Bureau. Comply with ORC Section 4115.03 through 4115.04.
        2) Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work in this section.
        3) The Owner reserves the right to reject any workmen, supervisor, or staff of the Contractor.

    b. Examination
        1) Examine Project site 24 hours before first delivery, including loading dock area, elevators, and staging area, to ensure conditions are satisfactory for proper performance of work. Existing damage to building or debris that hinders performance shall immediately be called to the attention of the College's Representative.
            a. Examine substrate and conditions under which work is to be performed.

2) Examine materials or equipment immediately upon delivery and again prior to installation. Reject damaged or defective items.
3) Do not proceed until unsatisfactory conditions have been corrected.

c. Installation of Signage
1) Provide and install the signage as shown on the drawings and as specified herein.
2) Comply with manufacturer's installation instructions and recommendations.
3) Provide connection devices, hardware and accessories required for complete installation.
4) Install components. Lock securely into place at heights and dimensions Indicated.

d. Cleaning
1) Remove packing material and debris from Project site and off site at the end of each working day. The job site is to be maintained in a clean, orderly condition and kept free from the accumulation of waste materials and rubbish.
2) Clean equipment of soils marks, dust and fingerprints.

e. Finishes
1) Factory or site finish, color, sheen, and texture shall be uniform.

f. Protection
1) Cover, ventilate, and protect installed goods to protect from damage caused by weather, moisture, heat, staining, dirt, abrasions, or other conditions that may adversely affect appearance or use.
2) Protect against deterioration of finish, warpage, distortion, twisting, opening of joints and seams, delamination, or other injury.
3) Limit exposure to the following:
a. Excessively high or low temperatures
b. Excessively high or low humidity
c. Water
d. Solvents
e. Puncture
f. Abrasion
g. Spoiling, staining, and corrosion
h. Rodent and insect infestation
i. Combustion

13. Project Closeout:

a. Refer to project close-out requirements in the project manual, (available for reference at Capital and Construction,700 Carnegie Ave., Cleveland, OH 44115.)

b. Final Cleaning
1) Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean surfaces or units to the condition expected in building cleaning and maintenance program. Comply with manufacturer's instructions.
a) Complete the following cleaning operations before requesting inspection for Certification of Contract Completion:
i. Remove labels that are not permanent
ii. Clean exposed hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances.
iii. Remove temporary protection
iv. Repair wall surfaces damaged during installation to like new

condition.

- **These notes shall take precedence over drawings and sketches.**

Appendix A – Proposal Form

Metro Campus Exterior Signage
Tri-C Project No. C20201128

Bid Packages in this RFP:
Exterior Signage

Having read the Request for Proposal, prepared by the Office of the Capital & Construction, Cuyahoga Community College District Office, Cleveland, Ohio 44115 and having also received, read, and taken into account any Addenda and likewise having inspected the sites of, and conditions affecting and governing the construction of the said project, the undersigned hereby proposes to furnish all material and to perform all labor, as specified in this RFP for the said work, for the following sum (please round all numbers to the nearest dollar):

Time of Completion

- Overall Project Completion 04/01/21

BASE BID ITEM 1- Exterior Signage & Electrical
For the Sum of: $ _____

Sum in words: _____

Acknowledge Receipt of All Addenda by Listing Each Addendum and Date Received:

Addendum #'s / Received Date _____

Signature: _____

Printed Name: _____

Title: _____

Company: _____

Date: _____

Appendix B

Bidder's Certification and Authorization to Execute

The Bidder hereby acknowledges that the following representations in this bid are material and not mere recitals:

1. Bidder has read and understands the Contract Documents and agrees to comply with all requirements of the Contract Documents, regardless of whether the Bidder has actual knowledge of the requirements and regardless of any statement or omission made by the Bidder, which might indicate a contrary intention.

2. The Bidder represents that the bid is based upon the Standards specified by the Contract Documents.

3. Bidder has become familiar with local conditions and has correlated personal observations about the requirements of the Contract Documents. The Bidder has no outstanding questions regarding the interpretation or clarification of the Contract Documents.

4. Bidder understands that the award of separate Contracts for the Project will require sequential, coordinated and interrelated operations, which may involve interference, disruption, hindrance or delays in the progress of the Bidder's Work. The Bidder agrees that the Contract price, as amended from time to time, shall cover all amounts due from Tri-C resulting from interference, disruption, hindrance or delay caused by or between Bidders or his agents and employees. The Bidder agrees that any such interference, disruption, hindrance or delay is within the contemplation of the Bidder and Tri-C and that the Bidder's sole remedy for any such interference, disruption, hindrance or delay shall be an extension of time in accordance with the Contract Documents. This provision is intended to be, and shall be construed as, consistent with, and not in conflict with, Section 4113.62, ORC.

5. During the performance of the Contract, the Bidder agrees to comply with OAC Chapters 123:2-3 through 123:2-9 and agrees to incorporate the provisions contained in the Ohio Administration Code Section 123:2-9-01 into all subcontracts on the Project, regardless of tier. The Bidder understands that the Ohio Equal Opportunity Center may conduct pre-award and post-award compliance reviews to determine if the Bidder maintains nondiscriminatory employment practices, maintains an affirmative action program and is exerting good faith efforts to accomplish the goals of the affirmative action program. For a full statement of the rules regarding Equal Employment Opportunity in the Construction Industry, see OAC Chapters 123:2-1 through 123:2-9.

6. The Bidder and each person signing on behalf of the Bidder certifies, and in the case of a joint or combined bid, each party thereto certifies as to such party's organization, under penalty of perjury, that to the best of the undersigned's knowledge and belief: (a) the Base Bid, any Unit Prices and any Alternate Bid in the bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition as to any matter relating to such Base Bid, Unit Prices or Alternate bid with any other Bidder; (b) unless otherwise required by law, the Base Bid, any Unit Prices and any Alternate bid in the bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to the bid opening, directly or indirectly, to any other Bidder who would have any interest in the Base Bid, Unit Prices or Alternate bid; (c) no attempt has been made or will be made by the Bidder to induce any other individual, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

7. Bidder understands that the Contract is subject to all the provisions, duties, obligations, remedies and penalties of Chapter 4115, ORC, "Wages and Hours on Public Works," and that the Bidder shall pay any wage increase in the locality during the term of the Contract.

8. The Bidder shall pay the prevailing wage rates of the Project locality, as issued by the Ohio Department of Commerce. Wage and Hour Bureau to laborers and mechanics performing Work on the Project.

9. If the bidder or its Subcontractors fail to comply with O.R.C Chapter 4115, Tri-C may withhold payment. The Bidder is liable for violations committed by the Bidder or its Subcontractors.

10. Bidder certifies that upon the award of a Contract, the Bidder will make a good faith effort to ensure that all of the Bidder's employees, while working on Tri-C property, will not purchase, transfer, use or possess illegal drugs or alcohol or abuse prescription drugs in any way and will ensure that its employees will not carry any firearm onto Tri-C premises or job site.

11. Bidder agrees to furnish any information requested by Tri-C to evaluate the responsibility of the Bidder.

12. Bidder certifies that it is enrolled and in good standing in an Ohio Bureau of Workers' Compensation (BWC) Drug Free Workplace Program (DFWP) or an equivalent BWC approved DFWP. Bidder certifies that it will require each of its Subcontractors on the Project to also be enrolled in a BWC approved DFWP and will submit confirmation of enrollment of its Subcontractors to Tri-C with this Bidder's Certification.

13. Bidder certifies that the Personal Property Tax Certificate attached hereto is true and accurate in all respects.

14. All signatures must be original.

15. By signature hereto, Bidder offers and agrees to furnish products and / or services as proposed and comply with all terms, conditions, and requirements set forth in the RFP documents contained herein.

16. Bidder further certifies that all statements and information prepared and submitted in response to this solicitation are complete and accurate.

17. Bidder certifies that the individual signing this document and documents made part of the RFP is authorized to sign documents on behalf of the said company and to bind the company under any Contract that may result from the submission of a proposal.

18. Bidder certifies compliance with all Federal laws and regulations pertaining to Equal Employment Opportunities and Affirmative Action.

BIDDER'S NAME: _____

Authorized Signature: _____

Date Signed: _____

Print Name: _____

Title: _____

Company Name: _____

Mailing Address: _____

_____

Telephone Number: _____

Facsimile Number: _____

E-Mail Address: _____

Where Incorporated: _____

Federal Identification Number: _____

Contact person for Contract processing: _____

Date enrolled in an OBWC-approved DFWP (month/date/year): _____/_____/_____

President or Primary Officer Name and Title: _____

_____

Acknowledge Receipt of all Addenda: _____

State of Ohio
Ohio Facilities Construction Commission

DELINQUENT PERSONAL PROPERTY TAX AFFIDAVIT

(Section 5719.042, ORC)

State of Ohio }
} SS.
County of _____ }

The undersigned individual, or duly authorized representative of the identified company, having been first duly cautioned and sworn, alleges and states that said individual or company has been advised that he has or it has received a Notice of Intent to Award a Contract(s) let by competitive bid by **Cuyahoga Community College District**, on behalf of the State of Ohio under Section 3318.10, ORC, but prior to the execution of said Contract(s), and pursuant to Section 5719.042, ORC, provides this statement to the Treasurer under oath that he or it was not charged, on the date the Bid(s) was submitted, with any delinquent personal property taxes on the general tax list of personal property of _____ County, Ohio, or that he or it is so charged in the following amount:

Delinquent Tax: _____

Penalties and interest due and unpaid: _____

Total (if none, indicate "NONE") _____

A copy of this sworn statement will be attached to and incorporated into the Contract(s) for this Project which shall enable payments to be made under said Contract(s).

By: _____ Date: _____, _____

Company:_____

Project:

Sworn to and executed before me this _____ day of _____, _____

_____
Notary Public
My commission expires: _____

Appendix D

Contract Completion Checklist

Project Name: _____ Contractor Name: _____

Project Number: _____ Address: _____

Project Location _____ _____

_____

N/A	Included	Not Included	
Closeout Forms / Certifications Required (3 original copies to Owner required):			
☐	☐	☐	Payment Release Affidavit
☐	☐	☐	Final Certified Payroll Reports
☐	☐	☐	Updated Form 26
☐	☐	☐	Affidavit of Compliance to Prevailing Wages for each sub
☐	☐	☐	Certification of Equipment Demonstrations
☐	☐	☐	Partial Certification of Contract Completion
☐	☐	☐	Certification of Warranty Commencement
☐	☐	☐	Final Certification of Contract Completion
☐	☐	☐	Waiver of Lien
☐	☐	☐	Affidavit of Contractor/Subcontractor
Closeout Action Items and Record Documents (3 original copies to Owner required):			
☐	☐	☐	Final Cleaning
☐	☐	☐	Complete Punch List Work
☐	☐	☐	Certificate of Occupancy
☐	☐	☐	Inspection Certificates
☐	☐	☐	Letter of Approval - State Fire Marshal for Fire Suppression System
☐	☐	☐	Operations and Maintenance Manuals
☐	☐	☐	As-Built Drawings
☐	☐	☐	Detailed Drawings - concealed utilities, MEP systems
☐	☐	☐	Warranties and Guarantees, including the most recent address and telephone number of any Subcontractors, Material Suppliers, or manufacturers
☐	☐	☐	Extra Material, e.g. Attic Stock, keys, specialized wrenches, etc.
☐	☐	☐	Consent of Surety for Final Payment

Reviewed by:

Construction Manager (or Architect / Engineer for Stipulated Sum Contracts)

Name: _____ Signature _____ Date: _____

Plant Manager

Name: _____ Signature _____ Date: _____

Capital and Construction

Name: _____ Signature _____ Date: _____

SECTION 011100 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Summary
2. Description of Work
3. Definitions
4. Project Schedule
5. Quality Assurance
6. General Requirements of Contract
7. Coordination
8. Project Management and Coordination – Environmental
9. Bidding Classification

1.2 DESCRIPTION OF WORK

A. Project Description:

1. The Project Entitled:

Cuyahoga County Community College Metropolitan Campus -
Signage Implementation – Science and Health Careers Building
Cleveland, Ohio 44115
Project No. C20201128

B. Work Included: The work of this Project is shown on the Drawings and described in the various Sections of the Specifications.

C. Drawings and General Provisions of Contract, including "Standard Conditions of Contract for Construction" and Division 01 Specification Sections, apply to work specified in this Section.

D. Description of Scope of Work: This project entails the performance of the following work but not necessarily limited to the following:

1. Installation of wall signage at the north wall of the Science and Health Careers Building

a. The wall has four (4) signs:
   i. One (1) Tri-C illuminated box sign;
   ii. One (1) MetroHealth illuminated logo sign;
   iii. One single row “MetroHealth” illuminated dimensional lettering;
   iv. One single row “Science & Health Careers” illuminated dimensional lettering;

b. Dimensioning lettering shall be attached to surface-mounted dual rail tracks, to hold dimensional lettering structurally and provide the necessary power to the letters;
c. The Tri-C and “MH” logo sign shall be directly attached to the existing wall surface with dedicated power source penetrating into the building;
d. The existing building wall system is a concrete masonry structural wall, with an air cavity and face brick veneer horizontally tied back to the structural masonry wall;
e. Power source shall be tied back to power source located on the 3rd floor;
f. Illumination schedule shall be controlled by photocell detection;
g. Vehicular use for installing signage shall be limited to 100 psf live load where the roof of the garage level beneath is designed for;

2. Other Work as indicated in the Contract Documents, but not necessarily described above.

1.3 DEFINITIONS

A. In addition to definitions shown in other documents, the following shall also apply to this Project:

1. Furnish: Purchase and deliver to project site, ready for installation.

2. Install: Unpack, assemble, set in final position, fasten in place, make final connections, clean, adjust, and leave ready for use.

3. Provide: Furnish and install.

4. Receive: Accepting a delivery.

5. Final Connections: Complete plumbing, mechanical, and electrical connections as required and recommended by manufacturer for optimum operation of equipment.

6. Drawings, Use of: Do not scale the Drawings. If the Contractor chooses to calculate measurements by scaling the Drawings, it is at their own risk and is not considered to be an accurate measurement. The Contractor is responsible for the accuracy of measurements, elevations, lines, and grades of the Work.

1.4 PROJECT SCHEDULE

A. The intent of the project schedule is to commence construction no later than Notice to Proceed is issued. Upon given notice of commencement, the Contractors shall proceed with the Project in accordance with the following unless an extension of time is granted in writing by the Architect:

1. Substantial Completion: February 26, 2021
2. Project Completion: April 1, 2021

B. Contractors’ Attention is directed to the Contract provision for liquidated damages for failure to meet Contract Completion dates.

C. Refer to the "Standard Conditions of Contract for Construction" and Section 01 32 16 - Construction Project Schedule for additional requirements.

1.5 QUALITY ASSURANCE

A. It is the intent of the Owner and the Contract Documents to conform with the AMERICANS WITH DISABILITIES ACT OF 1991 – ANSI 117.1

1.6 GENERAL REQUIREMENTS OF CONTRACTS

A. Extent of Contract: Unless the Agreement contains a more specific description of the Work, names and terminology on Drawings and in Specification Sections determine which contract includes a specific element of the Project.

1. Unless otherwise indicated, the Work described in this Specification for each Contract shall be complete systems and assemblies, including products, components, accessories, and installation required by the Contract Documents.

2. Local custom and trade-union jurisdictional settlements do not control the scope of the Work of each Contract. When a potential jurisdictional dispute or similar interruption of work is first identified or threatened, affected Contractors shall negotiate a reasonable settlement, prior to the work being done, to avoid or minimize interruption and delays.

3. Cutting and Patching will be provided by the Contractor responsible for the work requiring the cutting or patching. Refer to Section 01 73 29 "Cutting and Patching".

B. Temporary Facilities and Controls: In addition to specific responsibilities for temporary facilities and controls indicated in this Section and in Section 01 50 00.01"Temporary Facilities and Controls, Contractor is responsible for the following:

1. Installation, operation, maintenance, and removal of each temporary facility usually considered as its own normal construction activity, and costs and use charges associated with each facility. Coordinate shared and storage space requirements with the University's Representative.

2. Plug-in electric power cords and extension cords, supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.

3. Its own telephone service.

4. Temporary enclosures for its own construction activities.

5. Waste disposal facilities, including collection and legal disposal of its own hazardous, dangerous, unsanitary, or other harmful waste materials.

6. Progress cleaning of its own areas on a daily basis.

7. Secure lockup of its own tools, materials, and equipment.

8. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.

1.7 COORDINATION

A. General Contractor shall be responsible for project coordination between the General Contractor and all other Sub-Contractors.

B. Project Coordinator: Full-time, Non-working, Project Coordinator shall be experienced in administration and supervision of building construction, including plumbing, fire protection, HVAC, electrical and telecommunications work.

1. Coordination activities of Project Coordinator include, but are not limited to, the following:

a. Provide overall coordination of the scheduling of the Work and the Work itself.
b. Coordinate shared access to workspaces.
c. Coordinate product selections for compatibility.

d. Provide overall coordination of temporary facilities and controls.
e. Coordinate and schedule interruptions of permanent and temporary utilities, including those necessary to make connections for temporary services.
f. Coordinate construction and operations of the Work with work performed by each Contractor, University's Material Supplier, University Services and Faculty / Student class schedules and activities.
g. Prepare Coordination Drawings to coordinate work by more than one Contractor.
h. Coordinate sequencing and scheduling of the Work. Include the following:
i. Refer to the "Standard Conditions of Contract for Construction" for additional requirements.
j. Provide photographic documentation.
k. Provide quality-assurance and quality-control services specified in Section 01 14 00 "Quality Requirements."
l. Coordinate sequence of activities to accommodate tests and inspections, and coordinate scheduling of tests and inspections.
m. Provide information necessary to adjust, move, or relocate existing utility structures affected by construction.
n. Provide progress cleaning of common areas and coordinate progress cleaning of areas or pieces of equipment where more than one contractor has worked.
o. Coordinate cutting and patching.
p. Coordinate protection of the Work.
q. Coordinate hazardous material abatement.
r. Coordinate completion of all punch list items for all contractors.
s. Coordinate preparation of Project Close-out Procedures.

1.8 PROJECT MANAGEMENT AND COORDINATION - ENVIRONMENTAL

A. Contractor shall designate an on-site party responsible for overseeing the environmental goals for the project and implementing procedures for environmental protection.

1. Qualifications: Minimum 5 years' construction experience on projects of similar size and scope; minimum 1 year experience with environmental procedures similar to those of this project; familiarity with Environmental Management Systems (EMSs) such as ISO 14001; familiarity with environmental regulations applicable to construction operations.

2. Responsibilities: Responsibilities shall include:

a. Compliance with applicable Federal, State, and local environmental regulations, including maintaining required documentation.
b. Implementation of the Environmental Protection Plan.
c. Training for Contractor personnel in accordance with their position requirements.
d. Monitoring and documentation of environmental procedures.

1.9 ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by Contract limits, size utilization plan and as indicated by requirements of this Section.

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

1. Limits: Confine construction operations to areas within the Contract Limit Line.

2. Driveways, Walkways and Entrances: Keep driveways and loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. Protection of Existing Building: Protect existing building from damage during construction. Repair damage caused by construction operations. Protect existing building around field office and lay-down areas.

D. Contractor to restore damaged areas outside and inside Project Limit Lines to original condition including but not limited to pavement, sidewalks, curbs, landscaping and walls.

1.10 COORDINATION WITH OCCUPANTS

A. Full Owner Occupancy: Owner will occupy a portion of the site outside the proposed Project Limit lines and the adjacent Business Administration Building “A” and “D” during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner’s day-to-day operations. Maintain existing exits unless otherwise indicated.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, doorways, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.

2. Notify Owner not less than 72 hours in advance of activities that will affect Owner’s operations.

1.11 WORK RESTRICTIONS

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

1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. On-Site Work Hours: No restrictions on on-site work hours. If contractor is to be on-site before or after normal working hours of 7:00 a.m. to 5:00 p.m., Monday through Friday and weekends, notify Owner forty-eight (48) hours in advance.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify Architect, Owner’s Representative and Owner not less than two days in advance of proposed utility interruptions.

2. Obtain Owner’s written permission before proceeding with utility interruptions.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.

1. Notify Architect and Owner not less than two days in advance of proposed disruptive operations.

2. Obtain Owner’s written permission before proceeding with disruptive operations.

3. See Fall school session for 2020 and Spring 2021 in Section 011200 - Scheduling

4. Noise control means of construction activity must be kept in check so as not to disrupt classes in session. Contractor is to submit a demolition strategy plan to demonstrate noise management in their project schedule against class schedule.

E. Controlled Substances: Use of tobacco products and other controlled substances on the project site is not permitted.

1.12 BIDDING CLASSIFICATION

A. This project shall be performed under a lump sum contract.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION
Not Used

END OF SECTION 011100

SECTION 011200 - SCHEDULING

PART 1 - GENERAL

1.1 Related Documents

A. General Provisions of the Contract, including General and Supplementary Conditions, Division 0 Specification Sections and Drawings, apply to this section.

1.2 Summary

A. Work Included

1. Administrative and procedural requirements for the Project scheduling requirements including but not limited to:

a. Milestones and Project Completion
b. Critical Path Method Scheduling
c. Submittal Schedules
d. Payment Application Schedule

B. Related work specified elsewhere:

1. Summary of Work

2. Submittal Procedures

1.3 Project Schedule Compliance

A. The milestone schedule has been included at the end of this section. The schedule includes critical milestones that must be met in order to reasonably complete the building by the required deadline. Upon Notice to Proceed the overall Project CPM Schedule will be prepared in accordance with the following.

B. The Project Schedule included in this section is based on the issuance of Notice to Proceed on the start of December 7, 2020 If the actual Notice to Proceed date is later than the Notice to Proceed milestone completion dates issued for bid, the Contract completion dates will be adjusted day for day to the actual number of dates later than Notice to Proceed at no additional expense to the Contract amount.

C. The Contractor shall provide mobilizations as required to install the Work due to the sequencing of the project. The Owner and Architect does not warrant a maximum number of mobilizations a Contractor may be required to provide for this Project. Incidental work will be required for installation such that other Contractors' work can be installed. This incidental work shall be performed in sufficient time to achieve the stated milestone and completion dates and may require additional mobilizations. The Contractor shall not be reimbursed for additional costs or claims on the basis of providing additional mobilizations.

1.4 CPM Construction Scheduling

A. The CPM Schedule network plan including any appropriate milestone dates and the computer produced reports shall be part of the Owner/Contractor agreement as stipulated herein.

B. The project management tool commonly called the Critical Path Method (CPM) will be employed for the planning, scheduling and reporting of all work to be performed under the contract. The precedence diagramming method shall be utilized in preparing the CPM Schedule network diagrams. Primavera's P6 will be used by the Construction Manager to computerize the CPM Schedule network. Should the contractor use earlier versions of Primavera such as P5 or P3 or another scheduling program such as Sure Track or Microsoft Project it will be the responsibility of the contractor to coordinate their own transfers and conversions.

C. Activity time delays shall not automatically mean that an extension of the Contract Completion Date is warranted or due the Contractor. A Contract Modification or delay may not affect existing critical activities or cause noncritical activities to become critical. A Contract Modification or delay may result in only absorbing a part of the available total float that may exist within an activity chain in the Network, thereby not causing any effect on any interim milestone date or the Contract Completion Date.

D. Total float is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, for each and every activity in the schedule. Float is for the exclusive use or benefit of the Owner and Construction Manager.

1.5 INITIAL SUBMITTAL AND NETWORK PREPARATION

A. The Contractor shall assemble, with the assistance of its Subcontractors and Suppliers, information regarding the Project that includes but is not limited to:

1. A CPM logic network that represents the Contractor's best judgment of how it shall perform and complete the Work in compliance with the specific dates stipulated.

2. The identity and duration of all activities to be included in the Detailed Construction Network shall meet the following criteria:

a. Activity description shall be clear and concise. The beginning and end of each activity shall be readily verifiable.
b. Responsibility for each activity shall be identified with a single performing organization.
c. Resources required (labor by craft, commodity type, equipment, services, etc.) shall be identified for each activity, as relevant. See item 1.15 of this specification for further information.
d. An activity must be no more than 20 days in duration unless approved in advance by the CM. An exception to this requirement is activity durations for long-lead fabrication and delivery activities, which may exceed more than 20 days.
e. The identity of long lead times and delivery dates of all major pieces of equipment or materials.
f. The identity of any potential problems or constraints related to the implementation of the overall construction plan.
g. Whether work will be performed on a single, double or triple shift, and whether it is to be done on a 5, 6 or 7-day work week basis.

B. Within Five (5) calendar days following Contract Award or Notice to Proceed (NTP), the Contractor shall submit to the CM the initial version of the Detailed Construction network. The Contractor shall ensure that the Contractor's schedule meets the specific requirements of the Contract Documents.

C. The Contractor shall submit to the CM a print-out / plot and computer CD-Rom of a backup/export or executable file of their proposed Contract activities. The print-out / plot and computer CD-Rom of the backup/export or executable file shall consist of a network diagram with activity descriptions, durations, logic ties and supporting data which will explain the Contractor's planning of the Work.

D. The network diagram shall show:

1. The order and interdependencies of the Contractor's activities and the major points of interface or interrelation with the activities of other contract work, including specific dates for completion.

2. Conformance with and identification of the mandatory Milestone Dates specified in the Contract Documents

3. The description and quantity of work by activity

4. The time required for engineering, preparation and approval of shop drawings, manufacturing, and delivery of Contractor-furnished permanent plant materials.

5. The time required for procurement, delivery and erection of the Contractor's permanent plant materials

6. Application for all required permits

7. Delivery of Owner-furnished materials and equipment

8. Shop fabrication and delivery

9. Critical Path (or Paths)

10. Erection and installation

11. Testing of equipment and materials

12. Punch Lists

E. The network diagram shall provide a complete and detailed sequence of operations of the work within the time limits specified in the Contract.

F. An activity is defined as any portion or element of work, action, and/or reaction that is precisely described, readily identifiable and is a function of a logical sequential process.

G. The Detailed Construction Network shall indicate a completion date for the Project that is no later than the Project's required completion date. All activity durations shall be given in workdays. The level of detail required in the Detailed Construction Network should generally be a function of the complexity of the work. The Detailed Construction Network shall establish "scheduled start – scheduled finish", "late start – late finish" dates, and total float value for each path of activities. The Detailed Construction Network shall also indicate each of the following:

1. Interfaces with the work of outside Contractors, e.g., utilities, power and with any separate Contractor

2. Description of activity including activity number

3. Estimated duration time for each activity

4. Early start date for each activity

5. Late start date for each activity

6. Early finish date for each activity

7. Late finish date for each activity

8. Float available for each path of activities containing float

9. Actual start date for each activity begun

10. Identification of all critical path activities in the mathematical analysis

11. The critical path for the Project, with said path of activities, must be clearly and easily recognizable on the time-scaled network diagram. The relationship between all non-critical activities and activities on the critical path shall be clearly shown on the network diagram.

12. The dollar value of each activity in relation to the Schedule of Values. See item 1.15 of this specification for further information.

13. The responsibility code for the Contractor or Subcontractor performing each activity or portion thereof.

14. The percentages complete of each activity in progress or completed.

H. The Contractor shall submit with the Detailed Construction Network a narrative report indicating anticipated allocation of the following resources and work shift to be utilized on the Project:

1. Labor resources

2. Equipment resources

I. It is expressly understood and agreed by the Contractor that the schedule is an estimate to be revised from time-to-time as progress proceeds, and that the Owner does not guarantee the Contractor can start work activities on the early start or late start date or complete work activities on the early finish or late finish date shown in the schedule; the schedule may be updated or revised and the Owner or CM cannot guarantee that Contractor can proceed at all times in the sequence established by said schedule. If the Contractor's schedule indicates that Owner or a separate Contractor is to perform an activity by a specific date, or within a certain duration, the Owner or any separate Contractor shall not be bound to said date or duration unless the Owner expressly and specifically agrees in writing to the same; the Owner's; the Architect's overall review and approval or acceptance of the Detailed Construction Network does not constitute an agreement to dates, durations or sequences for activities of the Owner or any separate Contractor.

J. Approval by the Owner and Architect, of the Contractor's Detailed Construction Network is advisory only and shall not relieve the Contractor of the responsibility for accomplishing the Work within each and every required Milestone and Completion date. Omissions and errors in the approved Detailed Construction Network shall not excuse performance, which is not in compliance with the Contract. Approval by the Architect and Owner in no way makes the Architect and Owner, an insurer of the Detailed Construction Network's success or liable for time or cost overruns flowing from its shortcomings. The Owner hereby disclaims any obligation or liability by reason of Owner and Architect approval of or acquiescence to the Detailed Construction Network.

1.6 SCHEDULING UPDATING AND REVISIONS

A. The Approved Project Schedule will be updated by the Contractor at least once a month for the purpose of recording and monitoring the progress of work.

B. Upon completion of the joint reviews, the Contractor will revise the network to reflect progress to date plus any approved revisions to the network, and carry out a computer calculation to determine status which will be provided to each Prime Contractor.

C. Each updated Project Schedule will be distributed to the Owner and Architect for review and comment.

1.7 RECOVERY SCHEDULE

A. Should any activities shown on the Contractor's Detailed Construction Network fall behind schedule to the extent that any of the mandatory specific dates or completion dates are in jeopardy, the Contractor shall be required to, at no extra cost to the Owner, prepare and submit a supplementary Recovery Schedule, in a form and detail appropriate to the need, to explain and display how the Contractor intends to reschedule those activities to regain compliance with the Detailed Construction Network during the immediate subsequent pay period.

B. The Contractor shall do the following after determination of the requirement for a Recovery Schedule:

1. The Recovery Schedule shall represent the Contractor's best judgment as to how it shall reorganize the Work so that the Contractor may return to coordinating the Work using the Detailed Construction Network within the immediate subsequent pay period. The Recovery Schedule shall be prepared to a similar level of detail as the Detailed Construction Network and shall have a maximum duration of one (1) month, which shall coincide with the pay period unless otherwise deemed necessary.

2. Within three (3) calendar days, the Contractor shall participate in a conference with the Owner and Architect to review and evaluate and approve the Recovery Schedule. Any revisions necessary as a result of this review shall be resubmitted by the Contractor for approval within two (2) calendar days of the conference. The approved Recovery Schedule shall then be the schedule the Contractor shall use in planning, organizing, directing, coordinating, performing and executing the Work (including all activities of subcontractors, equipment vendors and suppliers) for its one (1) month duration, to regain compliance with the Detailed Construction Network.

1.8 FLOAT TIME

A. Float or slack time is defined as the amount of time between the earliest start date and the latest start date or between the earliest finish date and the latest finish date of a chain of activities on the submitted construction schedule.

1.9 RESPONSIBILITY FOR COMPLETION

A. The Contractor shall furnish sufficient forces, plant and equipment, and shall work such hours including night shift and overtime operations, as necessary to ensure the prosecution of the work in accordance with the current monthly update of the Project Schedule.

1.10 Work Included

A. The milestone schedule represents critical dates that must be met in order to finish by the final project completion date. The Contractor shall plan for the necessary resources to achieve these dates. Upon Notice to Proceed, the overall project CPM schedule will be prepared in accordance with this Section. This CPM schedule will list the sequencing and duration of each specific work activity.

B. The submissions of shop drawings, product data and samples is critical to the timely completion of the project, and as such, each Contractor is responsible to make the required submissions as necessary to allow for reasonable review time and obtain the materials required to complete the work

by the specified completion dates. Submission deadlines for shop drawings are based on their relative impact on the Construction Schedule

1.11 SCHEDULE OF MILESTONES

ACTIVITY	**DEADLINE**
Bidding	November 5 – November 19, 2020
Pre-Bid Meeting	November 10, 2020,11:00am
Administrative Interval/Decision-Making	November 23 – November 30, 2020
Anticipated Permit Release (Industrial Compliance)	December 7, 2020
Anticipated Notice to Proceed (NTP)	December 7, 2020
Preparation of submittals, site survey	December 8, 2020 – December 21, 2020
Sign Fabrication	December 22, 2021 – January 29, 2021
Site Installation	January 30, 2021 – February 12, 2021
Substantial completion; punch list	February 13 – February 26, 2021
Overall Project Completion	**April 1, 2021**

1.12 Schedule of Off-Site Activities

A. The Contractor shall include all procurement related activities which lead to the delivery of materials to the site in a timely manner. The schedule of off-site activities shall include, but is not limited to, the following:

1. Dates for submittals, ordering, manufacturing, or fabricating, and delivery of equipment and materials. Long lead items requiring more than one month between ordering and delivery to site shall be clearly noted.

2. All significant activities to be performed by the Contractor during the fabrication and erection / installation in a Contractor's plant or on a job site, including materials / equipment purchasing, delivery.

3. The Contractor's drawings and submittals to be prepared and submitted to the Architect.

4. The Contractor shall be solely responsible for expediting the delivery of all materials to be furnished by the Contractor so that the construction progress shall be maintained.

5. Submittals, equipment orders, and similar items are to be treated as schedule activities.

B. The Contractor, in developing his off-site and procurement schedules, will ensure that off-site activities do not control the critical path of on-site activities.

1.13 Payment Application Schedule

A. The request for Progress Payments shall be submitted to the Owner and Architect per the following schedule:

1. On the 25th of each month - submission of the pencil copy of the Payment Application and Schedule update

2. On the 5th of each month - submission of approved Payment Applications

B. The processing of pencil copy pay applications will depend on the satisfactory submission of Update Worksheets.

C. Payments are subject to receipt of Certification of Milestone dates and Completion Dates, properly completed payment application, proper insurance certificates, execution of Contract and Owner required forms.

D. All Requests for Payment shall be submitted on forms required by the Owner.

1.14 Resource and Cost Loading

A. All contractors Work activities will be cost and resource loaded.

B. The Cost and resource loading will correlate with the pay applications schedule of values. Resource loading will include but not limited to the following:

1. Labor-Including acceptable Overhead and Profit

2. Equipment-Including acceptable Overhead and Profit

C. The cost for each work activity will include all setup, mobilization and activities related for progressing with the work within the project activities scope of work.

D. Acceptance of the approved resource loading by the Construction Manager will be a condition precedent to the making of any partial payments under the Contract.

PART 2 - (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 011200

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SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Substitution Procedures

B. Related Sections:

1. Submittal Procedures: Section 01 33 00.

a. Three (3) copies of all Submittals, plus number of copies to be returned to Contractor, shall be submitted unless otherwise specified.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. Source Limitations: To the greatest extent possible for each unit of work, provide products, materials, or equipment of a singular generic kind from a single source.

B. Compatibility of Options: Where more than one choice is available as options for Contractor's selection of a product or materials, select an option which is compatible with other products and materials already selected (which may have been from among options for those other products and materials). Total compatibility among options, if not assured by limitations within contract documents, must be provided by Contractor. Compatibility is a basic general requirement of product/material selections.

C. Architect’s Approval Required:

1. The Contract is based on the materials, equipment, and methods described in the Contract Documents.

2. The Contract Drawings and Specifications establish the "minimum standard of quality" each product and/or system must meet to be considered acceptable. Products of other manufacturers will be considered if the product and/or system meets or exceeds the "minimum standard of quality" established by the Contract Documents.

3. The Architect will consider proposals for substitutions under the "or approved equal" provision of materials, equipment, and methods by Addendum, prior to Bid due date, only when such proposals are accompanied by full and complete technical data and all other information required by the Owner and Architect to evaluate the proposed substitutions.

a. Proposals for substitutions are to be submitted by Bidders only. Submissions by other Contractors or suppliers will not be accepted.
b. It will be the responsibility of the submitting Contractor to prove equality.
c. The Submittal shall include a line-by-line, item-by-item description of the specified and proposed product.

4. Requests for substitutions must be submitted to the Architect NO later than ten (10) days prior to Bid due date.

5. If the proposed product and/or system is acceptable as an equal, as herein described, an Addendum will be issued noting the specific items accepted.

6. DO NOT SUBSTITUTE MATERIALS, EQUIPMENT, OR METHODS UNLESS SUCH SUBSTITUTIONS HAVE BEEN SPECIFICALLY APPROVED FOR THIS WORK BY THE ARCHITECT, BY ADDENDUM.

D. "Approved Substitution" or "Approved Equal":

1. Where the phrase "Approved substitution" or "Approved equal" occurs in the Contract Documents, do not assume that material, equipment, or methods will be approved as equal by the Owner and Architect unless the item has been specifically approved for this work by the Owner and Architect.

a. Color choices as well as match to existing materials will be determining factors for approval.

2. The decision of the Architect will be final.

E. Availability of Specified Items:

1. Verify prior to bidding that all specified items will be available in time for installation during orderly and timely progress of the work.

2. In the event specified item or items will not be so available, so notify the Architect prior to the receipt of Bids.

3. Costs of delay caused on non-availability of specified items, when such delays could have been avoided by the Contractor, will be back-charged as necessary and shall not be borne by the Owner.

F. Whenever the Contractor secures approval for changing any items and such change involves a corresponding change or adjustment in any adjacent or related item, the responsibility for making the required change, or seeing that it is made, rests with the Contractor. The cost of these changes and/or adjustments shall be paid for by the Contractor unless it is otherwise agreed, in writing, at the time the change is approved. The acceptance of any change will not, in any way, relieve the Contractor from full compliance with the Contract Documents.

PART 3 - EXECUTION
Not Used

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

B. Related Requirements:

1. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions.

1.4 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
2. Within time specified in Proposal Request after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
c. Include costs of labor and supervision directly attributable to the change.
d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
e. Quotation Form: Use forms provided by Owner.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Proposal Request Form: Use form provided by Owner.

1.5 ADMINISTRATIVE CHANGE ORDERS

A. Allowance Adjustment: See Section 012100 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

B. Unit-Price Adjustment: See Section 012200 "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.

1.6 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701..

1.7 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

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SECTION 012800 - SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements governing each prime contractor's Schedule of Values.

1. Coordinate the Schedule of Values (Contract Cost Breakdown) with the Applications for Payment, Project Schedule, Submittal Schedule, and List of Subcontracts.

2. Contractors shall use form provided.

B. Progress payments will not be processed without an approved Schedule of Values on file.

1.3 SCHEDULE OF VALUES (CONTRACT COST BREAKDOWN)

A. Coordination: Each prime Contractor shall coordinate preparation of its Schedule of Values for its part of the Work with the Project Schedule.

1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:

a. Project Schedule
b. Application for Payment forms, including Continuation Sheets
c. List of Subcontractors
d. Schedule of Allowances (only where applicable)
e. Schedule of Alternates (only where applicable)
f. List of Products
g. List of Principal Suppliers and Fabricators
h. Schedule of Submittals

2. Within 30 days of receipt of the Notice to Proceed, each awarded Contractor shall submit to the Construction Manager a Schedule of Values, for approval, showing accurate costs for the items of work assigned to the Contractor, defined under Section 01 11 00 - Summary of the Work.

3. Sub Schedules: Where Work is separated into phases requiring separately phased payments, provide sub schedules showing values correlated with each phase of payment.

B. Format and Content: Use the Project Manual table of contents as a guide to establish the format for the Schedule of Values. The Schedule of Values shall include at a minimum a line item for labor and material costs for each specification section assigned to the Contractor under Section 01 11 00 - Summary of the Work, and shall further divide the work into a sufficient number of individual work items to serve as an accurate basis for Contractor's Application for Payment, each work item shall receive its prorated share of profit and overhead, including a line item for closeout. The Schedule of Values shall consist of a complete breakdown of the Contractor's contract sum showing the various items of work, divided so as to facilitate the approval of payments to the Contractor for Work

completed. In addition to and conjunctive with the division of various items of work, the breakdown shall separate individual buildings within the project shall separate sitework from building(s) components, and shall separate remodeling/renovation work from new construction work. The Schedule of Values shall be prepared in a format as directed by the Owner, showing the breakdown of items of Work and supported by such data to substantiate its correctness as the Owner may require. Each item of W Architect and Owner shall be used as the basis of approving payments along with establishing percentages of Work complete.

1. Identification: Include the following Project identification on the Schedule of Values:

    a. Project Name and Location
    b. Name of the Architect
    c. Project Number
    d. Contractor's Name and Address
    e. Date of Submittal

2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:

    a. Related Specification Section or Division
    b. Description of Work
    c. Name of Subcontractor
    d. Name of Manufacturer or Fabricator
    e. Name of Supplier
    f. Change Orders (numbers) that Affect Value
    g. Dollar Value
    h. Percentage of Contract Sum to Nearest One-Hundredth Percent, Adjusted to Total 100 Percent

3. In addition to the sections assigned to the Contractor as defined above, Contractors shall include the following line items on their Schedule of Values:

    a. Bonds: Performance, Labor and Material (if required)
    b. Mobilization
    c. Demobilization
    d. Insurance/Hazcom/Safety
    e. Submittals
    f. Daily Cleanup
    g. Routine Cleaning
    h. Closeout
    i. Scheduling

4. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Break principal subcontract amounts down into several line items. Schedule of Values shall be coordinated with the Construction Schedules such that the percentages of Work completed closely relates to the values for the Work shown on the request for payments. At the beginning of the Project, the Contractor shall prepare a schedule of monthly progress payments showing the amount the Contractor may require for the Work proposed to be completed. The purpose of this schedule is to allow the Owner to determine what amounts of funds will be required to have available each month during the progress of construction for progress payments.

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

6. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed.

    a. Differentiate between items stored on-site and items stored off-site. Include requirements for insurance and bonded warehousing, if required.

7. Provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

8. Margins of Cost: Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete. Include the total cost and proportionate share of general overhead and profit margin for each item.

    a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at the Contractor's option.

9. Schedule Updating: Update and resubmit the Schedule of Values prior to the next Applications for Payment when Change Orders result in a change in the Contract Sum.

C. Each Schedule of Values shall have the Contractor's name, Bid Category name and number, project name and number and shall be dated and signed.

D. Should the Schedule of Values be returned "rejected, resubmit", re-submittal is due within 5 days of receipt of rejected schedule.

PART 2 - PART 2 PRODUCTS
Not Used

PART 3 - PART 3 EXECUTION
Not Used

END OF SECTION 012800

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SECTION 012900 - APPLICATIONS FOR PAYMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements governing each prime contractor's Applications for Payment.

1. Coordinate the Applications for Payment with the Schedule of Values, Project Schedule, Submittal Schedule, and List of Subcontracts.

1.3 APPLICATIONS FOR PAYMENT

A. The pencil draft of the Application for Payment shall be made on the second job meeting of the month for review and comment by the Owner and Architect. The final (hard) copy of the Application for Payment shall be made on the third job meeting of the month with all corrections as directed by the Owner and Architect completed per the review of the pencil draft. The Application for Payment shall be submitted to through the Architect to the Owner. The payments to the Contractor will not be made until final approval by the Owner. The Contractor shall submit to the Architect, in triplicate, an itemized Application for Payment, supported by such data, as certified payrolls, invoices, etc. substantiating the Contractors right to payment as the Owner and Architect, The Application for Payment shall be prepared in the same form as the Schedule of Values submitted by the Contractor and as approved.

B. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and paid for by the Owner.

1. The initial Application for Payment, the interim Application for Payment, and the final Application for Payment involve additional requirements.

C. Payment Application Times: Each progress payment date is indicated in the Agreement. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

D. Application Preparation: Complete every entry on the form. Include execution by a person authorized to sign legal documents on behalf of the Contractor. The Architect will return incomplete applications without action.

1. Entries shall match data on the Schedule of Values and the Contractor's Project Schedule. Use updated schedules, if revisions were made.

2. Include amounts of fully executed Change Orders issued prior to the last day of the construction period covered by the application. Field Work Orders (FWO’s) are not to be listed on the Application for Payment.

E. Transmittal: Submit 2 signed original copies of each Application for Payment to the Owner by a method ensuring receipt at the appropriate job meeting. One copy shall be complete, including waivers of lien, certified payroll reports, diversity reporting and similar attachments, when required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the Construction Manager.

2. Attach approved pencil copy to each “hard copy” Application for Payment.

F. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include the following:

1. Schedule of Values
2. Approved Project Schedule
3. Submittal Schedule
4. Superintendents Resume
5. Certificates of Insurance and Insurance Policies
6. Workman’s Compensation Certificate

G. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:

1. Completion of Project Closeout Requirements
2. Completion of Items Specified for Completion
3. Ensure that unsettled claims will be settled.
4. Ensure that incomplete Work is not accepted and will be completed without undue delay.
5. Transmittal of Required Project Construction Records to the Owner
6. Certified Property Survey
7. Proof that Taxes, Fees, and Similar Obligations were Paid
8. Removal of Temporary Facilities and Services
9. Removal of Surplus Materials, Rubbish, and Similar Elements
10. Change of Door Locks to Owner's Access

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION
Not Used

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Coordination
2. Communication
3. Administrative Procedures
4. Coordination Drawings
5. Staff Names
6. Progress Meetings
7. Contractor Use of Site and Premises
8. College Occupancy
9. Control of Hazardous Energy
10. Construction Utilities and Use of Facilities

B. Related Sections

1. Standard Conditions of Contract for Construction
2. Section 011100 - Summary of Work
3. Section 013216 - Construction Project Schedule

1.2 COORDINATION:

A. Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections that are dependent on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Make adequate provisions to accommodate items scheduled for later installation.
3. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including, but not limited to, plumbing, fire protection, HVAC, electrical and telecommunications.

B. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as College’s property.

1.3 COMMUNICATION:

A. Prepare memoranda for distribution to each party involved outlining required coordination procedures. Include required notices, reports, and attendance at meetings.

B. The Contractor shall provide on site one (1) or more smart devices with the minimum requirements as described below for the purposes of communicating with the other members of the Project Team. The Contractor shall be required to maintain the smart device in working order at all times and shall be required to provide their own data connection. This connection will not be provided by Owner.

1. Smart Phone, with option to include:

2. Table Device: 8” or greater screen size;

3. Laptop Device: 11.6” or greater screen size

1.4 ADMINISTRATIVE PROCEDURES:

A. Coordinate scheduling and timing of administrative procedures with other activities to avoid conflicts and ensure orderly progress. Such activities include:

1. Preparation of Contractor's Construction Schedule.
2. Preparation of the Schedule of Values.
3. Installation and Removal of Temporary Facilities and Controls
4. Delivery and Processing of Submittals
5. Preinstallation Conferences
6. Progress Meetings
7. Startup and adjustment of systems
8. Project Closeout Activities

1.5 COORDINATION DRAWINGS:

A. The Contractor shall coordinate the preparation of Coordination Drawings with all other Sub-Contractors for all locations where close coordination is required for installation of products and materials by separate entities, and where limited space necessitates maximum utilization of space for efficient installation of different components.

1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:

a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
b. Indicate required installation sequences.
c. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to the University’s Representative for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

2. Sheet Size: At least 8-1/2 by 11 inches but no larger than 30 by 42 inches.

a. Number of Copies: Digital format is preferred. However, if paper submittals are submitted, Submit nine (9) opaque copies of each submittal. The College’s Representative will return four (4) copies.
b. Reviewed Coordination Drawings will be required as part of the Operations and Maintenance Manuals.

B. Refer to "Standard Conditions of Contract for Construction" for additional requirements.

C. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.

1.6 STAFF NAMES:

A. Key Personnel Names: Within 10 days of the Notice to Proceed, submit a list of ALL personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers for Project Managers and Superintendents.

1. The Contractor shall maintain a contact list of all personnel for the project on-site at all times.
2. Post copies in the Project meeting room, the field office, and at each temporary telephone.

1.7 PROGRESS MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

B. Preconstruction Conference: The College will schedule a preconstruction conference before starting construction, at a time convenient to the College. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: College’s Representative, Architect and their consultants; Contractor and its superintendent; major Subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following:

a. Tentative construction schedule.
b. Phasing, including scaffolding work.
c. Critical work sequencing and long-lead items.
d. Designation of key personnel and their duties.
e. Procedures for processing field decisions and Change Orders.
f. Procedures for requests for interpretations (RFIs).
g. Procedures for testing and inspecting.
h. Procedures for processing Applications for Payment.
i. Distribution of the Contract Documents.
j. Submittal procedures.
k. Preparation of Record Documents.
l. Use of the premises and existing utilities.
m. Prevailing Wage Requirements
n. Work restrictions.
o. University's occupancy requirements.
p. Responsibility for temporary facilities and controls.
q. Construction waste management and recycling.
r. Parking availability.
s. Office, work, and storage areas.
t. Equipment deliveries and priorities.
u. First aid.
v. Security.
w. Progress cleaning.
x. Working hours.
y. Toilet Facilities

3. Minutes: The College Representative will assemble and distribute meeting minutes.

C. Coordination Meetings: Conduct a Coordination Meeting at Project site before each Progress Meeting.

1. Agenda: the intent is for all construction coordination issues that require the cooperation of multiple Contractors to be resolved with options documented for presentation and resolution at the next Progress Meeting.
2. Review updating of the Contractor's Construction Schedule for discussion at the next progress meeting.
3. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Progress Meetings: Conduct progress meetings at weekly intervals. Actual dates for the progress meetings will be determined at the Pre-Construction Conference.

1. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

    a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    b. Review schedule of activities for next period.
    c. Discuss and assemble resolutions for expediting work behind schedule.
        i. Refer to the "Standard Conditions of Contract for Construction" for the process of expediting and completing work that is behind schedule.
    d. Review present and future needs of each entity present, including the following:
        i. Interface requirements.
        ii. Sequence of operations.
        iii. Status of submittals.
        iv. Deliveries.
        v. Off-site fabrication.
        vi. Access.
        vii. Site utilization.
        viii. Temporary facilities and controls.
        ix. Work hours.
        x. Hazards and risks.
        xi. Progress cleaning.
        xii. Quality and work standards.
        xiii. Status of correction of deficient items.
        xiv. Field observations.
        xv. Requests for interpretations (RFI's).
        xvi. Status of Bulletins.
        xvii. Pending changes.
        xviii. Status of Field Work Orders (FWO's)
        xix. Status of Change Orders.
        xx. Pending claims and disputes.
        xxi. Documentation of information for payment requests.

2. Minutes: the Architect will assemble and distribute the meeting minutes.
3. Schedule Updating: Revise the Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

1.8 CONTRACTOR USE OF SITE AND PREMISES

A. The Contractor shall coordinate the staging and storage areas with the College.

B. The Contractor shall limit construction operations to areas noted on the drawings.

C. The Contractor shall coordinate parking permits for all employees that intend to park on campus with the College Representative.

D. The Contractor shall provide all necessary traffic and pedestrian control to ensure the health and welfare of the public during the disruption of the building corridors from the performance of the work required under this contract.

E. The Contractor may commence daily work at the College's established working hours and may work as long as required except where the type of work dictates otherwise. The Contractor shall coordinate his work hours with the College. The Contractor is responsible for securing the construction site at the end of every work day.

F. Permission to perform any work outside Normal Working Hours including weekends and holidays shall be requested in writing a minimum of five calendar days prior to such work. The Contractor College to make satisfactory arrangements to inspect the work in progress. The Contractor may request a general approval to work out with College Police Department at the beginning and end of each work day while working outside Normal Working Hours.

G. The Contractor shall secure all equipment and materials at the end of every work day. The Contractor shall provide and maintain all items of protection in best condition for the duration of the project.

H. The Contractor and his employees shall be subject to and shall at all times conform to the College's rules and requirements for the protection of the buildings, the equipment, the project materials, the College's employees, and the public.

1.9 COLLEGE OCCUPANCY

A. Cooperate with the College to minimize conflict and to facilitate College's operations.

B. Schedule all work to accommodate College occupancy.

C. The College will occupy buildings around the periphery of the project. Disruption to the College's operations shall be minimized. Work that is classified as causing a disruption to the College's operations will be done at times other than normal work hours and will be required to be coordinated with the College's Representative.

1.10 SAFETY PLAN

A. The Contractor shall submit a Safety Plan for review by the College. The Plan shall include provisions to deal with the prevention of accidents including securing scaffolding, small fire an evacuation procedures, overhead demolition and new construction, contamination of indoor air quality and work precautions, electrical work precautions, and lockout/tagout procedures.

1.11 CONTROL OF HAZARDOUS ENERGY

A. The Contractor is not permitted to work on any energized circuits or active systems. Disconnect switches and valves shall be opened prior to the starting of work.

B. The Contractor shall comply with lockout/tagout requirements of OSHA 29 CFR 1910.147. The Contractor shall submit lockout/tagout procedures for review by the University as well as training certifications for employees prior to starting any work.

C. The control of hazardous energy procedures and training plans shall include the isolation or inactivation of hazardous energy sources before performing work thereon. A hazardous energy source is defined as a machine or equipment item with the potential for causing injury by unexpected energizing, startup, or stored energy release.

D. The procedures shall consist of placing appropriate tags on each item of equipment and each system component indicating its current status and requiring mandatory clearances from designated personnel to operate, energize, or remove from service the equipment or systems.

E. Current certification of training accomplishments is required. Certification shall include employee names and training completion dates.

F. Coordinate lockout/tagout operations with the College and Facilities personnel. Notifications of status and requests for clearances for operations are required. The procedures established shall be strictly followed.

1.12 CONSTRUCTION UTILITIES AND USE OF FACILITIES

A. Refer to Section 01 50 00.01 "Temporary Facilities & Controls " for additional requirements.

B. Telephone services will not be available for use by the Contractor.

1.13 ENVIRONMENTAL REQUIREMENTS

A. The Contractor is required to comply with all applicable federal, state, and local environmental laws and regulations, including but not limited to those dealing with the protection of air, water, natural and cultural resources and noise pollution management.

B. The Contractor is required to comply with all applicable federal, state, and local laws and regulations dealing with the proper management and disposal of solid, toxic, and hazardous wastes. The Contractor shall be responsible for obtaining all necessary disposal permits and licenses prior to commencement of work.

1.14 PCB HANDLING REQUIREMENTS

A. Refer to Division 26 Electrical for PCB Handling and Disposal.

1.15 UTILITY OUTAGE RESTRICTIONS

A. Definitions.

1. Switching Outage: An outage required to transfer utility loads from one source (e.g. distribution feeder) to another for installation of new equipment (e.g. switchgear) or for rework of building services. Switching outages shall be restricted to a maximum of one (1) hour in length unless written authorization is received from the University.
2. Construction Outage: An outage due to any other circumstance besides a switching outage. The utility service shall be restored within twelve (12) hours or less as scheduled elsewhere in the Construction Documents.
3. Extended Outage: The College may make special arrangements and grant special permission to allow a Construction Outage to exceed the twelve (12) hour restriction.

B. The Contractor will be working around existing buildings which are occupied. The Contractor shall maintain service of power, light, water, sewage, gas, steam, telephone, and data at all times unless temporary outages have been approved by the University.

C. If construction activities require an outage in any of the College's utilities, the Contractor shall submit an outage request to College for their review and approval. This outage request shall be submitted ten (10) days prior to the proposed outage, and an approval must be received at least seven (7) days prior to the proposed outage before it may be scheduled.

D. Normal Working Hours for Cuyahoga County Community College are 6:30 AM to 11:00 PM, Monday through Saturday.

E. All utility outages shall be scheduled outside Normal Working Hours unless permitted elsewhere in the Construction Documents. Outages may be scheduled on Sundays and holidays to minimize utility interruptions. The Contractor's bid shall reflect any additional costs associated with outage work scheduled outside of Normal Working Hours.

F. Duration of outages shall be limited by the College during their review and approval of the Contractor's outage request. Specific requirements are identified elsewhere in the Construction Documents. Typically, utility outages are not permitted to extend into the next Normal Working Hour.

G. If the Contractor cannot restore utility services within the limits of the approved outage, the Contractor may be assessed liquidated damages. In the case of electrical construction, the Contractor shall always be prepared to supply 120 volt, 20 amp backup electrical power to campus critical loads using the Contractor's own portable generators, if necessary. The Contractor shall provide all conductor, conduit, disconnects, cords, and overcurrent protection as required when connecting temporary generation equipment. Critical loads will be identified and a list provided to the Contractor prior to each approved outage.

H. The Contractor shall anticipate work conditions (e.g. power and lighting interruptions) during utility outages and is responsible for making temporary arrangements (e.g. portable generator) to provide a safe work environment. A description of the temporary arrangements shall be included in the Contractor's outage request and must be approved by and College.

I. Switching Operations:

1. Utility switching by the Contractor shall be done under the direction of the University. Except in the case of an emergency, the Contractor is not permitted to switch utilities without the College's approval.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 INSPECTION OF CONDITIONS:

A. The installer of each component shall inspect the substrate and conditions under which work is performed. Do not proceed until unsatisfactory conditions have been corrected.

3.2 MANUFACTURER'S INSTRUCTIONS:

A. Comply with the manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.

B. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.

C. Provide attachment and connection devices and methods necessary for securing work. Secure work true to line and level. Allow for expansion and building movement.

3.3 VISUAL EFFECTS:

A. Provide uniform joint widths in exposed work. Arrange joints in exposed work to obtain the best visual effect. Refer questionable choices to the Architect for final decision.

3.4 Installation

A. Recheck measurements and dimensions before starting each installation.

B. Install each component during weather conditions and project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.

C. Mounting Heights:

1. Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the Architect for final decision.

3.5 ENCLOSURE OF THE WORK:

A. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.

3.6 CLEANING AND PROTECTION:

A. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

B. Clean and maintain completed construction as often as necessary through the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

C. Limiting Exposures: Supervise operations to ensure that no part of construction, completed or in progress, is subject to harmful or deleterious exposure. Such exposures include, but are not necessarily limited to, the following:

1. Excessive Weathering
2. Excessively High or Low Temperatures or Humidity
3. Water or Ice
4. Chemicals or Solvents
5. Heavy Traffic, Soiling, Staining and Corrosion
6. Contact Between Incompatible Materials
7. Theft or Vandalism
8. Excessive Static or Dynamic Loading

9. Thermal Shock
10. Combustion

END OF SECTION 013000

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SECTION 013216 - CONSTRUCTION PROJECT SCHEDULE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project Schedule Requirements.

B. Related Sections

1. "Standard Conditions of Contract for Construction"

2. Section 01 30 00 - Project Management and Coordination

3. Section 01 33 00 - Submittal Procedures

1.2 SUMMARY

A. The purpose of the Project Schedule is to allow the Contractor to prepare an orderly guide to aid in the timely completion of the project.

B. The approved construction schedule shall be used to measure the progress of the work, to aid in evaluating time extensions and to provide the basis for all progress payments.

1. The Contractor shall cooperate with the College to provide all scheduling requirements herein specified in their respective construction schedules.

C. No payment applications can be approved unless a construction schedule has been approved by the Architect and the College.

1.3 PROJECT SCHEDULING SEQUENCE REQUIREMENTS

A. Upon receipt of a Notice to Proceed, the Contractor shall prepare a construction schedule for all work included under the scope of this contract, in accordance with Article 4.3 of the "Standard Conditions of Contract for Construction".

1. The Contractor shall schedule and conduct a Schedule Kick-Off Meeting within ten (10) days of the date of the Notice to Proceed.

a. The Contractor shall prepare and furnish to all Sub-Contractors a Master Activity Coding template, in hard copy and disk, defining the Responsibility Code, Work Area Code, Milestones, Phase Code, etc. for the Project Schedule, as outlined within this section. All Prime Contractors will submit subsequent schedule requirements and updates in accordance with the Master Activity Code template to afford continuity in merging all Sub-Contractor’s scheduling input.

1.4 SCHEDULE SOFTWARE

A. The computer software utilized by the Contractor to produce the project schedule shall be Microsoft Project, or an approved substitution.

PART 2 - PRODUCTS
NOT USED

PART 3 - EXECUTION

3.1 USE OF THE CRITICAL PATH METHOD

A. The Critical Path Method (CPM) of network calculations shall be used to generate the Project Schedule. The Lead Contractor shall provide the Project Schedule in either the Precedence Diagram Method (PDM) or the Arrow Diagram Method (ADM).

3.2 LEVEL OF DETAIL REQUIRED

A. With the exception of the preliminary schedule submission, the Construction Schedule shall include an appropriate level of detail.

B. Activity Durations:

1. Submit the following data to support the schedule calendar as it relates to durations. Failure of the Contractor to include this data will delay the review of the submittal until the College is in receipt of the missing data.

a. The proposed number of working days per week.
b. Coordination with the College Calendar.
c. The holidays to be observed during the life of the contract (by day, month and year).
d. The planned number of shifts per day.
e. The number of hours per shift.
f. Break up the work into activities of a duration no longer than 20 work days each, except as to non-construction activities (i.e., procurement of materials, delivery of equipment, concrete and asphalt curing) and any other activities for which the University may approve a longer duration.

C. Procurement Activities:

1. Prepare the schedule in chronological order of submittals. Show specification section of the submittal, name of contractor and generic description of work covered. Include activities to cover the complete procurement process to include but not limited to: submittal, review, approval, resubmittal, procurement, fabrication, delivery, permits, and similar pre-construction work.

D. Workers Per Day:

1. All activities shall have an estimate of the average number of workers per day that are expected to be used during the execution of the activity.

2. Identification of any manpower, material or equipment restrictions, as well as any activity requiring unusual shift work, such as two (2) shifts per day, six (6) day work week, specified overtime, or work at times other than regular days or hours, shall clearly be identified in the Project Schedule.

3. Critical or near Critical Paths resulting from the use of manpower or equipment restraints shall be kept to a minimum. Near Critical Paths shall be defined as paths having 10 workdays or less of total float.

E. Cost:

1. All activities shall be cost loaded in a logical manner tying to each Prime Contractors Schedule of Values.

F. Responsibility:

1. All activities shall be identified in the Project Schedule by the party responsible to perform the work. Responsibility includes, but is not limited to, the Contracting Firm, the Subcontracting Firm, Contractor Workforce, or Agency performing a given task. Activities shall not belong to more than one responsible party. The responsible party for each activity shall be identified by the Responsibility Code.

G. Work Areas:

1. Arrange the schedule to show each major area of construction for each major category or unit of work.

2. All activities shall be identified in the Project Schedule by the work area in which the activity occurs. Activities shall not be allowed to cover more than one work area. The work area of each activity shall be identified by the Work Area Code.

3. Modification or Claim Number:

4. Any activity that is added or changed by a change order or used to justify any claimed time, shall be identified by change order code that changed the activity. Activities shall not belong to more than one change order.

H. Milestones:

1. The following milestones are defined in calendar days, unless otherwise defined by specific “no later than” calendar date, and are to be adhered for all contractors from the date of Notice to Proceed.

2. Milestone Schedule

a. Milestones refer to the completion of the specific description for the buildings and are indicated as calendar dates with respect to the anticipated Notice to Proceed.

3. Milestones shall include all critical events for the Contractor, College, Architect and their Consultants, Testing Agencies, and Agencies having jurisdiction.

I. The phrase “Substantial Completion” is defined to mean - The completion of all work activity, in accordance with the contract documents by each prime contractor, so as to allow the owner to occupy the building(s) for the use for which it is intended.

3.3 SCHEDULED PROJECT COMPLETION

A. Project Start Date:

1. The Construction Schedule shall start no earlier than the date that the Notice to Proceed (NTP) was issued. The Lead Contractor shall include as the first activity in the Construction Schedule an activity called “Notice to Proceed”. The “Notice to Proceed” activity shall have: an “ES (early start) constraint, a constraint date equal to the date that the NTP was issued, and a zero (0) day duration.

B. Constraint of Last Activity:

1. Completion of the last activity in the schedule shall be constrained by the contract completion date. Calculation on project updates shall be such that if the early finish of the last activity falls after the contract completion date, then the float calculation shall reflect a negative float on the Critical Path. The Contractor shall include as the last activity in the Project Schedule an activity called “Contract Complete”. The “Contract Complete” activity shall have a: “LF” (late finish) constraint, a constraint date equal to the completion date for the project, and a zero (0) day duration.

3.4 INTERIM COMPLETION DATES (MILESTONES)

A. Contractually specified interim completion dates (Milestone Dates) shall also be constrained to show negative float if early finish date of the last activity in that phase falls after the interim completion date.

3.5 HAMMOCK ACTIVITIES FOR CONTRACTS

A. The Lead Contractor shall include a hammock type activity for each Sub-Contractor. The Contractor activity shall be logically tied to the earliest and latest activities in the Contractor’s Scope of Work. Hammock activities shall be identified within “HA” at the beginning of the Activity ID.

3.6 DEFAULT PROGRESS DATA DISALLOWED

A. Actual Start and Finish dates shall not be automatically updated by default mechanisms that may be included in the CPM Scheduling Software Systems. Actual Start and Finish dates and Remaining Durations on the CPM Schedule shall match those dates provided from Contractor Daily Reports for every in progress or completed activity and insure that the data contained on the Daily Reports is the sole basis for schedule updating. Failure to comply shall result in the disapproval of Contractor’s Schedule and the inability of the University to evaluate the Contractor progress for payment purposes.

3.7 OUT OF SEQUENCE PROGRESS

A. Activities that have posted progress without predecessors being completed (Out of Sequence Progress) shall be allowed only by the case by case approval of the College. The College may direct that changes in schedule logic be made to correct any or all Out of Sequence Work.

3.8 NEGATIVE LAG(S)

A. Lag durations contained in the Project Schedule shall not have a negative value.

3.9 DEFINITION OF, AND CONDITIONS RELATING TO FLOAT CONSTRUCTION SCHEDULE

A. Float is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, of any activity in the Project Schedule. Total float is defined as the amount of time any given activity or path of activities may be delayed before it will affect the project completion time.

B. Float is not time for the exclusive use or benefit of the Contractor, but must be used in the best interest of completing the project on time.

C. Extensions of time for performance required under the "Standard Conditions of Contract for Construction" pertaining to equitable time adjustment will be granted only to the extent that the equitable time adjustment exceeds total float in the activity or path of activities affected at the time Notice to Proceed was issued for the change.

D. Use of float suppression techniques such as preferential sequences, special lead/lag logic restraints, extended activity times, or imposed dates, other than as required by the Contract, shall be cause for rejection of the Construction Schedule and any revisions or updates.

3.10 PROJECT SCHEDULE SUBMISSION

A. The preliminary Project Schedule, defining the Contractor’s planned operations for the first 90 calendar days shall be submitted for approval within 14 calendar days after Notice to Proceed is issued. The approved preliminary schedule shall be used for payment purposes and the basis for measuring Contractor progress not to exceed 90 days after Notice to Proceed is issued.

B. Comments by the College:

1. Comments made by the College on the Construction Schedule during review shall not relieve the Contractor from compliance with the requirements of the Contract Documents.

2. Following the Contractor’s receipt of the College’s review comments, the Contractor shall review the schedule to identify missing activities and relationships relevant to the Scope of Work. No time extensions will be granted to complete activities not initially included in the Contractor’s Construction Schedule.

3. To the extent that there are any conflicts between the approved Construction Schedule and the requirements of the Contract Documents, the Contract Documents shall govern.

C. Resubmittal of Project Schedule Following Disapproval:

1. Should the College disapprove the Contractors submission of the Construction Schedule, the Contractor shall comply with the College’s direction and shall resubmit the Construction Schedule and all associated submittals within seven (7) calendar days.

D. Final Construction Schedule Submission Requirements:

1. The Construction Schedule shall be submitted for approval within 30 calendar days after Notice to Proceed is issued. It shall provide a reasonable sequence of activities which represent work through the entire project and a reasonable level of detail.

a. The Construction Schedule shall show the sequence and interdependence of activities required for complete performance of the work, beginning with Contractor’s receipt of the Notice to Proceed and concluding with the date of Final Completion of the Contract. The Project Schedule shall show all activities in workdays, with allowance for holidays and the effects of normal weather conditions on outside work.

b. The Construction Schedule shall comply with all limits imposed by the Scope of Work, with all contractually specified intermediate milestones and completion dates, and with all constraints, restraints, or sequences included in the Contract.
c. The Contractor shall submit one (1) copy of the data on CD-ROM, containing the resource loaded Construction Schedule.
d. The following computer generated reports in hard copy shall be required as part of the Construction and Preliminary Project Schedule submittals:
   i. Activity ID Report
   ii. Total Float/Early Start Report
   iii. Logic Report
   iv. Resource Report
   v. Coding Dictionary

e. The schedule network (graphic presentation) shall include:
   i. Activity ID
   ii. Activity Description
   iii. Original Durations
   iv. Remaining Durations
   v. Early Start and Finish Dates
   vi. Target Start and Finish Dates
   vii. Total Float
   viii. Percent Complete

f. The schedule shall be sorted by Early Start and Total Float and shall show both the Early and Target Schedule.
g. The College shall approve or disapprove, in writing, the Contractor's submission of the Construction Schedule and the associated submittals within 14 calendar days after the receipt of all required information. If the Construction Schedule is disapproved, the College shall provide comments in writing to the Contractor stating the reasons why the submission was disapproved.

E. Periodic Schedule Updates / Recovery Schedules:

1. The following computer generated reports in hard copy and in Adobe Acrobat PDF format shall be required as a part of the monthly update thereof as a condition precedent to the receipt of progress payments under the Contract.

2. The Construction Schedule shall be updated weekly, prior to each Progress Meeting.

3. A revised Construction Schedule will be issued at each Progress Meeting and as a requirement for each Application and Certificate for Payment.

4. Refer to the "Standard Conditions of Contract for Construction" for additional requirements.

5. The Contractor's monthly narrative report is to include:

   a. Activities started in the month (with actual start dates).
   b. Activities completed during the month (with actual start and completion dates).
   c. Activities in progress (with estimated remaining durations).
   d. Activities scheduled to start in the next month (with estimated start dates).
   e. A list of approved logic changes.
   f. A list of proposed logic changes, new activities, and deleted activities.
   g. Recommendations for adjusting or recovering the Construction Schedule to meet milestone completion and Contract completion dates (include why the schedule needs adjusting, i.e., change order, weather, contractor resources, etc.).

h. Attach copies of the Contractors' weekly schedule reports.

6. The Contractor's graphic presentation of the schedule is to include:

   a. Activity ID.
   b. Activity Description.
   c. Original Durations.
   d. Remaining Durations.
   e. Early Start and Finish Dates.
   f. Target Start and Finish Dates.
   g. Total Float.
   h. Percent Complete.
   i. The schedule should be sorted by Early Start and Total Float and should show both the early schedule and the target schedule.

7. One (1) CD-ROM for the update shall be provided with reports in Adobe Acrobat PDF format.

8. Computer generated reports are to include:

   a. Activity ID Report.
   b. Total Float/Early Start Report.
   c. Logic Report.
   d. In Progress or Planned to Start Report.
   e. In Progress or Planned to Finish Report.
   f. Resource Report.

F. Two Week Look Ahead Schedule Submission:

1. The Contractor shall provide a two week Look Ahead Schedule for review at the Weekly Progress/Coordination Meeting that occurs closest to the 15th of each month. The Look Ahead Schedule will be based on the most recent monthly update and will show only those activities that are scheduled to begin or are in progress during the week before and for two weeks after the 15th of the current month. The two week Look Ahead Schedule reports will contain the following information for each activity and will be required from the Contractor throughout the duration of the project unless directed otherwise by the College.

   a. Activity I.D.
   b. Activity Description
   c. Original Duration
   d. Remaining Duration
   e. Early Start Date
   f. Early Finish Date
   g. Percent Complete
   h. Total Float
   i. Bar Graph Presentation

G. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis to demonstrate the effect of the proposed change on the overall project schedule.

H. Standard Activity Coding Dictionary:

1. The Contractor shall submit, with the Construction Schedule, a coding scheme that shall be used throughout the project for all activity codes contained in the schedule. The coding scheme submitted shall list the values for each activity code category and translate those values into

project specific designations. For example, A Responsibility Code Value, “ELE”, may be identified as “Electrical Sub-Contractor”. Activity code values shall represent the same information throughout the duration of the contract. Once approved with the Preliminary (first 90 calendar day) Project Schedule Submission, changes to the activity coding scheme must be approved by the College.

3.11 DATA DISKS

A. One CD-ROM containing the preliminary, target and update Project Schedules shall be provided.

B. File Medium:

1. Formatted for Microsoft Windows based operating system.

C. Disk Label:

1. The Contractor shall affix a permanent exterior label to each disk submitted. The label shall indicate the type of schedule (preliminary, target, update or change), full contract number, project name, project location, data date, name and telephone number of person responsible for the schedule, and file name.

D. File Name:

1. The Contractor shall insure that each file submitted has a name related to either the schedule data date, project name, or contract number. The Contractor shall develop a naming convention that will insure that the names of all the files submitted are unique. The Contractor shall submit the file naming convention to the College.

3.12 APPROVED CHANGES VERIFICATION

A. Only construction schedule changes that have been previously approved by the College shall be included in the schedule submission. The narrative report shall specifically reference, on an activity by activity basis, all changes made since the previous period and relate each change to documented, approved schedule changes.

B. The Contractor shall execute the work in accordance with the approved Construction Schedule. Out of sequence construction, defined as a change from the Construction Schedule in the Contractor’s actual operation requires prior approval from the College.

C. Upon the approval of a change order or the issuance of a unilateral change order by the College the agreed upon change order activities, activity durations, logic and impacts shall be reflected in the next schedule submittal by the Contractor.

D. No change to the approved activities, original activity durations, logic, interdependencies, milestones, planned sequence of operations, or resource loading of the Construction Schedule shall be made without prior approval from the College. If the Contractor desires to make a change to the approved Construction Schedule, the Contractor shall request permission from the College in writing, stating the reasons for the change as well as the specifics, such as the proposed changes in activities, original activity durations, logic, interdependencies, milestones, planned sequence of operations, or resource loading of the baseline Construction Schedule. The College shall respond within 14 calendar days after the receipt of the Contractor’s request.

E. If the College considers the Construction Schedule change requested by the Contractor to be a major nature, it may require the Contractor to revise and submit for approval, without additional cost to the College, all of the affected portions of the network diagrams, and any schedule reports, or

construction equipment reports deemed necessary to show the probable effect on the entire project. The proposed network revision and required reports shall be submitted to the College within seven (7) calendar days after the University notifies the Contractor that the requested revision is of a major nature. Only upon the approval of the requested change by the College shall it be reflected in the next Construction Schedule update submitted by the Contractor.

F. A change will be considered of a major nature if the time estimated for an activity or sequence of activities is varied from the original plan to the degree that there is reasonable doubt that the Contract completion date or milestones will be met, or if the change impacts the work of other Contractors at the job site. Changes to activities having adequate float shall be considered as minor changes, except that an accumulation of minor changes may be considered a major change when such changes affect the Contract completion date or milestones.

3.13 SCHEDULE REPORTS

A. The format of each activity for the schedule reports listed below shall contain:

1. Activity ID Number(s).

2. Activity Description.

3. Original Duration.

4. Remaining Duration.

5. Early Start Date.

6. Early Finish Date.

7. Target Start Date.

8. Target Finish Date.

9. Total Float.

10. Actual Start and Actual Finish dates shall be printed for those activities in progress or completed.

B. Activity ID Report: A list of all activities sorted according to Activity ID number and then sorted according to Early Start Date. For completed activities the Actual Start Date shall be used as the secondary sort.

C. Logic Report: A list of preceding and succeeding activities for every activity in ascending order by activity number and then sorted according to Early Start Date. For completed activities the Actual Start Date shall be used as the secondary sort.

D. Total Float Report: A list of all activities sorted in ascending order of total float. Activities which have the same amount of total float shall be listed in ascending order of Early Start Dates.

3.14 NETWORK DIAGRAM (GRAPHIC PRESENTATION)

A. The network diagram shall be required on the preliminary, baseline and monthly schedule submissions. The network diagram shall depict and display the order and interdependence of activities and the sequence in which the work is to be accomplished. The College shall use, but is not limited to, the following conditions to review compliance with this paragraph:

1. Continuous Flow - Diagrams shall show a continuous flow from left to right. The Activity ID, description, original duration, remaining duration, early start and finish dates, target start and finish dates, total float and percent completed shall be shown on the diagram.

2. Project Milestone Dates - Dates shall be shown on the diagram from start of any project, any contract required interim completion dates, and contract completion dates.

3. Critical Path(s) - The Critical Path(s) shall be clearly shown.

4. Banding - Activities shall be grouped to assist in the clear understanding of the activity sequence. Typically, this flow will group activities by category of work, work area and/or responsibility.

END OF SECTION 013216

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wherever possible throughout the Contract Documents, the minimum acceptable quality of workmanship and materials has been defined either by manufacturer's name and catalog number or reference to recognized industry standards.

2. To ensure that the specified products are furnished and installed in accordance with the design intent, procedures have been established for advance submittal of design data for its review and approval or rejection by the Architect.

3. This Section specifies administrative and procedural requirements for submittals required for performance of the work, including:

a. Shop Drawings, Product Data, and Samples
b. Certificates
c. Manufacturer Installation Instructions

4. Manuals

5. Miscellaneous Submittals

B. Related Sections:

1. "Standard Conditions of Contract for Construction"

2. Section 01 32 16 - Construction Project Schedule

3. Section 01 45 00 - Quality Control

4. Section 01 78 39 - Project Record Documents

5. Individual Submittals Required: Pertinent Sections of these Specifications.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information that requires the Architect's responsive action.

B. Informational Submittals: Written information that does not require Architect's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL Procedures

A. Coordination: Coordinate preparation and processing of Submittals with performance of construction activities. Transmit each Submittal sufficiently in advance of performance of related construction activities to avoid delay.

1. Coordinate each Submittal with fabrication, purchasing, testing, delivery, other Submittals and related activities that require sequential activity.

2. Coordinate transmittal of different types of Submittals for related elements of the work so processing will not be delayed by the need to review Submittals concurrently for coordination.

    a. The Architect reserves the right to return any incomplete submittal without reviewing.
    b. The Architect reserves the right to withhold action on a Submittal requiring coordination with other Submittals until related Submittals are received.
    c. No extension of Contract Time will be authorized because of failure to transmit Submittals to the Architect sufficiently in advance of the work to permit processing.
    d. The Architect reserves the right to reject a submittal that has clearly not been reviewed first by the Contractor.

3. The Architect and College's review of Contractor's submittals will be limited College's review of additional submittals will be made only with the consent of the College after notification by the Architect. The College shall be entitled to deduct from the Contract Sum amounts paid to the Architect for evaluation of such additional resubmittals.

B. Deliver Submittals to the Architect and College Representative.

1. Architect: Three (3) copies of all Submittals, plus number of copies to be returned to Contractor, shall be submitted unless otherwise specified.

    a. Provide additional copies as required for use in Project Record Documents.

2. College Representative: One (1) copy of all Submittals delivered to the College Representative simultaneous to delivery to Architect.

C. Submittals Schedule: Provide list of submittals and time requirements for scheduled performance of related construction activities.

D. Submittal Preparation: Place a permanent label or title block on each Submittal for identification. Indicate the name of the entity that prepared each Submittal on the label or title block.

1. Provide a space approximately 10" x 10" on the label or beside the title block on Shop Drawings to record the Contractor's, College, and Architect review and approval markings and the action taken.

2. Include the following information on the label for processing and recording action taken:

    a. TRI-C Project Name
    b. TRI-C Project Number
    c. Date
    d. Name and Address of Architect
    e. Name and Address of Contractor
    f. Name and Address of Subcontractor or Vendor
    g. Specification Section Number
    h. Location Where Item is to be Used
    i. Name of Manufacturer
    j. Drawing Number and Detail References, as Appropriate
    k. Certification by the Contractor

E. Submittal Transmittal: Package each Submittal appropriately for transmittal and handling. Transmit each Submittal from Contractor to Architect. Submittals received from sources other than the Contractor will be returned without action.

1. Transmit each submittal to the Architect with “AIA Document G810 - Transmittal Letter”.

2. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.

3. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number.

4. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

   a. Deviations: Circle or cloud or otherwise specifically identify deviations from the Contract Documents on submittals.
   b. Options and Selections: All specified options or selections for a given product must be circled, clouded, or highlighted. Failure to due so will result in the submittal being returned without being reviewed.

5. After Architect’s review of Submittal, revise and resubmit and/or as required, identifying changes made since previous Submittal.

6. When resubmittal is required for any reason, transmit under new letter of transmittal, indicating by reference to a previous Submittal that this is a Resubmittal.

   a. Identify on submittal all changes made since previous submission.

7. Distribute copies of reviewed Submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions.

8. All Submittals shall bear the stamp of approval of the Contractor submitting same as evidence that they have been checked by them, or they will be rejected.

   a. Must be signed or initialed certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
   b. Sub-Contractor shall forward a copy of all APPROVED Submittals to the Contractor.

9. Schedule submittals to expedite the Project, and deliver to Architect and College Representative. Coordinate submission of related items. Instruct parties to promptly report any inability to comply with provisions.

1.4 SHOP DRAWINGS

A. Where Shop Drawings are required, submit newly prepared information drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.

B. Shop Drawings shall be drawn at a scale to clearly indicate all of the above conditions and allow for corrections or modifications which the Architect may wish to make. The A Architect shall be the sole judge as to the acceptability of manufacturer's literature and catalog sheets as Shop Drawings.

C. Shop Drawings shall clearly indicate all dimensional data for all parts of the item; types and materials for all connections; finishes; the exact relation of the item to adjacent materials and equipment in the completed structure including clearance, any necessary isolation, and fastening methods and devices; and mechanical and electrical connections.

D. Shop Drawings include fabrication and installation Drawings, setting diagrams, schedules, patterns, templates, and similar Drawings. Include the following information:

1. Dimensions

2. Identification of Products and Materials Included

3. Compliance with Specified Standards

4. Notation of Coordination Requirements

5. Notation of Dimensions Established by Field Measurement

E. Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2" x 11", but no larger than 30" x 42".

F. Submit in the form of one reproducible vellum and seven (7) opaque reproductions. After review, reproduce and distribute to appropriate parties. The Contractor will typically receive back ONLY one vellum and one opaque copy.

G. Do not permit Shop Drawing copies, without an appropriate final "Action" marking by the Associate Architect, to be used in connection with the work.

H. The Contractors shall be responsible for distribution of additional prints to vendors, etc.

1.5 PRODUCT DATA

A. Where Product Data is required, collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."

1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:

a. Manufacturer's Printed Recommendations
b. Compliance with Recognized Trade Association Standards
c. Compliance with Recognized Testing Agency Standards
d. Application of Testing Agency Labels and Seals
e. Notation of Dimensions Verified by Field Measurement
f. Notation of Coordination Requirements
g. Type and Model Numbers

2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.

B. Distribution: Furnish copies of final Submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.

1. Do not proceed with installation until a copy of Product Data applicable is in the installer's possession.

2. Do not permit use of unmarked copies of Product Data in connection with construction.

1.6 SAMPLES

A. Where Samples are required, submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, full color-range sets, and swatches showing color, texture, and pattern.

1. Mount, display, or package Samples in the manner specified to facilitate review of qualities indicated. Include the following:

a. Generic Description of the Sample
b. Sample Source
c. Product Name or Name of Manufacturer
d. Compliance with Recognized Standards
e. Availability and Delivery Time

2. Colors:

a. General: Unless the precise color and pattern is specifically described in the Contract Documents, whenever a choice of color or pattern is available in a specified product, submit accurate color charts and pattern charts to the Architect for their review and selection.

3. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between the final Submittal and the actual component as delivered and installed.

a. Where variation in color, pattern, texture, or other characteristics are inherent in the material or product represented, submit multiple units (not less than 3) that show approximate limits of the variations.
b. Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.
c. Refer to other Sections for Samples to be returned to the Contractor for incorporation in the work. Such Samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of Sample Submittals.

4. Preliminary Submittals: Where Samples are for selection of color, pattern, texture, or similar characteristics from a range of standard choices, submit a full set of choices for the material or product.

a. Preliminary Submittals will be reviewed and returned with the Architect's mark indicating selection and other action.

5. Maintain sets of Samples, as returned, at the Project site for quality comparisons throughout the course of construction.

    a. Unless noncompliance with Contract Document provisions is observed, the Submittal may serve as the final Submittal.
    b. Sample sets may be used to obtain final acceptance of the construction associated with each set.

B. Distribution of Samples: Prepare and distribute additional sets to Subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the work.

1. Field Samples specified in individual Sections are special types of Samples. Field Samples are full-size examples erected on site to illustrate finishes, coatings, or finish materials and to establish the standard by which the work will be judged.

    a. Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

1.7 MANUALS

A. General: Where Manuals are required to be submitted covering items included in this work, prepare all such Manuals in durable plastic binders approximately 8-1/2 x 11 inches in size with at least the following:

1. Identification on or readable through the front cover stating the general nature of the Manual.

2. Neatly typewritten index near the front of the Manual furnishing immediate information as to location of all emergency data regarding the installation.

3. Complete instructions regarding operating and maintenance of all equipment involved.

4. Complete nomenclature of all replaceable parts, their part numbers, current cost, and name and address of nearest vendor of parts.

5. Copy of all guarantees and warranties issued.

6. Copy of approved Shop Drawing(s) with all data concerning all changes made during construction

1.8 INFORMATIONAL SUBMITTALS

A. Certificates

1. When specified in individual specification sections, submit certification by manufacturer to Associate Architect, in quantities specified for Product Data.

2. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

3. Certificates may be recent or previous test results on material or Product, but must be acceptable to Architect.

B. Manufacturer Installation Instructions

1. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing to Architect.

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

C. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

D. Inspection and Test Reports Not Performed by Owner: Classify each inspection and test report as being either "Shop Drawings" or "product data" depending on whether the report is specially prepared for the project or a standard publication of workmanship control testing at the point of production. Process inspection and test reports accordingly.

1. Comply with requirements specified in Section 01 45 00 "Quality Control"

E. Warranties (Guarantees):

1. Categories of Specific Warranties: Warranties on the work are in several categories, including those of "Standard Conditions of Contract for Construction", and including (but not necessarily limited to) the following specific categories related to individual units of work specified in sections of Divisions 2 through 16 of these Specifications.

a. Special Project Warranty (Guarantee): A warranty specifically written and signed by Contractor for a defined portion of the work and, where required, countersigned by Subcontractor, installer, manufacturer, or other entity engaged by Contractor.

F. Construction Photos: Email digital photos monthly, to the Architect.

1. Use minimum 8 mega-pixel type digital camera.

2. Provide necessary number of photographs, as required to document existing conditions to verify damage to adjacent property which may or may not have occurred during construction: Minimum 12 photos monthly.

3. When the Work is completed, Contractor shall arrange to take final photographs of the Project from a minimum of six (6) points of view.

4. Copyright of photos is property of Owner.

1.9 CONTRACTOR'S CONSTRUCTION SCHEDULE:

1. Comply with requirements specified in Section 01 32 16 "Construction Project Schedule".

1.10 DELEGATED DESIGN

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to the Associate Architect.

B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit the submittal, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.1 COORDINATION OF SUBMITTALS

A. General: Prior to submittal for Architect's review, use all means necessary to fully coordinate all material, including the following:

1. Secure all necessary approvals from public agencies and others. Signify by stamp or other means that all required approvals have been obtained.

2. Clearly indicate all deviations from the Contract Documents.

B. The Contractor shall submit a prioritized tabulation by date of Submittals required during the first 30 days of construction. List those Submittals required to maintain orderly progress of the work, and those required early because of long lead time for manufacture or fabrication.

1. These dates may be shown on Construction Project Schedule at Contractor's option.

3.2 TIMING OF SUBMITTALS

A. General:

1. Make all Submittals enough in advance of scheduled dates for installation to provide all required time for reviews for securing necessary approvals, for possible revision and Resubmittals, and for placing orders and securing delivery.

2. In scheduling, allow a minimum of twenty (20) full calendar days for the Architect’s initial review following receipt of the Submittals. Allow additional time if the Architect requires coordination with subsequent Submittals.

a. The Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until all related Submittals are received.
b. If an Intermediate Submittal is necessary, process the same as the initial Submittal. Allow fourteen (14) calendar days for reprocessing each Submittal.

3.3 ARCHITECT'S ACTION

A. Except for Submittals for record, information or similar purposes, where action and return is required or requested, the Architect will review each Submittal, mark to indicate action taken, and return promptly.

1. Compliance with specified characteristics is the Contractor's responsibility.

B. Action Stamp: The Architect will stamp each Submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:

1. Final Unrestricted Release: Where Submittals are marked "CONFORMS AS SUBMITTED", that part of the work covered by the Submittal may proceed, provided it complies with requirements of the Contract Documents. Final payment will depend upon that compliance.

2. Final-But-Restricted Release: When Submittals are marked "CONFORMS AS NOTED", that part of the work covered by the Submittal may proceed, provided it complies with notations or corrections on the Submittal and requirements of the Contract Documents. Final payment will depend on that compliance.

3. Returned for Resubmittal: When Submittal is marked "REVISE AND RESUBMIT", do not proceed with that part of the work covered by the Submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new Submittal in accordance with the notations. Resubmit without delay. Repeat, if necessary, to obtain a different action mark.

4. Do not permit submittals marked "REVISE AND RESUBMIT" to be used at the Project site or elsewhere where work is in progress.

5. Returned for Corrections and Resubmittal: When Submittal is marked “MAKE CORRECTIONS NOTED, RESUBMIT FOR RECORD”, revise or prepare a new resubmittal in accordance with the notations for record copy only.

6. Other Action: Where a Submittal is primarily for information or record purposes, special processing or other activity, the Submittal will be returned marked "ACTION NOT REQUIRED".

7. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300

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SECTION 013500 - SPECIAL REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. These Special Conditions contain changes and additions to the "Standard Conditions of Contract for Construction" and other Contract Documents. Where any Article or paragraph is modified or voided by these Special Conditions, the unaltered provisions shall remain in effect. In any case of conflict, these Special Conditions shall prevail.

2. Security

3. Use of Site

4. Existing Buildings

5. Grades, Lines, Levels, and Surveys

6. Fire Protection

7. Restoration

8. Removal

B. Related Documents:

1. Drawings and General Provisions of Contract, including "Standard Conditions of Contract for Construction", Supplementary Conditions and Division 01 Specification Sections, apply to work of this Section.

2. The Contractor, shall be governed by all applicable Sections of these Documents with reference to their respective areas of work. It shall be the responsibility of the Contractor to apprise their Subcontractors and their suppliers of these requirements.

3. Executive Order 83-1, "Buy Ohio":

a. All Contractors will comply with the Governor's Executive Order 83-1. Prime consideration will be given to material manufactured in the State of Ohio.

1.2 SECURITY

A. All construction personnel shall protect work, existing facilities, and Owner's operations from unauthorized entry, vandalism, and theft.

B. Adjacent buildings shall not be entered for any reason.

1. Contractors' personnel will be restricted to the project site.

2. Contractors found in other campus buildings after hours without permission will be treated as trespassers.

3. Contractors' personnel shall not fraternize with students.

4. Students will not be permitted within the project site work limits.

C. In those areas where work does occur, access and egress shall be as directed by the College, and working areas shall be confined to within a specific area as directed by the College.

D. Access and security of the Project Site is the responsibility of the Contractor, and not that of the College, the Architect, or the State of Ohio.

1. Keying for College access will be coordinated by the College during construction.

1.3 USE OF SITE

A. The College shall designate areas for parking, storage, and construction trailers (if applicable).

1. Parking shall be subject to current rules and regulations to the TRI-C Parking Operations, and City of Cleveland Parking & Traffic.

a. Parking and loading will be limited to the building site when space permits. Otherwise, parking will be as directed by the College

2. No contractor affiliated vehicle is to be operated on sidewalks at anytime without specific approval by the Architect and the College.

B. A minimum of two (2) weeks' notice to the College Representative shall be provided for all street blocking outside of the construction limits.

1. The Contractor will be required to post warning signs that comply with the Ohio Department of Transportation Highway Signage Manual. All temporary signs shall be removed immediately after need has been removed.

a. Coordinate all street & sidewalk interruptions with the City of Cleveland.
b. All associated fees are the responsibility of the Contractor that requires the interruption.

C. Material Delivery and Storage:

1. The primary delivery and staging area will be as directed by the College. Limited vehicular access as required by the phasing of construction and as approved by the College will be permitted on accessible sides of the building. The Contractor will restore all damaged items upon project completion.

a. Storage of materials within the building shall not obstruct any of the work, or entrances and exits of the building. Material storage within the building must be agreeable to all prime contractors.
b. Storage of College equipment will be required shortly before beneficial completion. The Contractors shall make available large rooms at or near grade level for this use.
c. Protection of College equipment stored on site is required of the Contractor, similar to the protection afforded the Contractor's materials and equipment.
d. It shall be the responsibility of Contractor to direct and address all deliveries to the construction site and not the College. The College will not sign for, pay for, or otherwise accept materials for the Contractor.
e. Temporary storage facilities shall be provided to protect equipment and/or materials delivered to the job site which may be damaged by exposure to weather. It shall be the Contractor's responsibility to provide all labor and materials necessary to provide such protection. The

College's Representative shall be consulted as to the "adequacy" of such temporary protection.

D. All Contractors shall exercise control over all trucks and equipment using public roads and College property to preclude spillage, tracking of dirt or debris thereon. Should spillage occur, that Contractor is held to promptly clean and remove same.

1. Mud from the construction site shall be removed from public and College roads daily. Failure to remove mud promptly could result in roads being cleaned by the City of Cleveland or the College at the responsible Contractor's expense.

2. Repair of damage to streets, roads, walks, or other facilities shall be the responsibility of the Contractor causing the damage, at no expense to the City of Cleveland, or the College. Work shall be performed to the satisfaction of the College's representative.

1.4 EXISTING BUILDINGS

A. The University will occupy adjacent buildings during the life of the project. All work shall be scheduled at such time and in such a manner to minimize interference and inconvenience to the College. Contractors shall obtain the approval of the College before starting any work that may affect any adjacent buildings.

1. Construction work shall not interfere with the College's operations. There will be no compromise on this requirement.

B. The Contractors shall include in their proposals the cost of all premium time required for work necessary to prevent interruption of building services or the disruption of the University's personnel during their working hours. Refer to "Standard Conditions of Contract for Construction" for additional requirements.

1. Where parts of the Project require interruption of electrical service, the Contractor shall make arrangements with the College's representative to establish times at which the work can be done.

2. Extra precautions shall be taken if interruption of service to occupied areas is necessary, including building power or any electrically operated system.

3. In order to ensure that the above requirement is met, the Contractor shall take positive steps to prevent dust, noise, disruption of utilities, and similar hazards resulting from construction work from either interfacing with or damaging the College's property.

4. The Contractors shall neither use, nor have access to any building, except as specifically required to complete construction work, and only as scheduled with the College.

5. All workmen shall clean their shoes before entering existing buildings.

6. Any damage to areas outside of the Project Area, resulting from the construction operation or caused by the Contractor's personnel, shall be restored at the Contractor's expense to the satisfaction of the Owner and the Architect.

1.5 FIRE PROTECTION

A. Free access shall be maintained at all times from the street to fire hydrants and to outside connections for standpipes.

B. The Contractor shall appoint one of his personnel who is continually employed on the job site (such as the Superintendent) whose additional duty it will be to act as Fire Warden for the project. The Fire Warden shall institute and vigorously enforce a program of fire safety for the Project as coordinated with the Contractor's Safety Plan.

C. Combustible materials shall not be stored in the building.

D. The use of wood scaffolding shall be kept to a minimum and entirely eliminated when possible, in order to eliminate fire hazards from this source. No part of the building where forms are in place shall be used for the storage of flammable materials of any kind. Temporary structures of combustible material shall be located not less than 30 feet from the building.

E. No smoking or use of tobacco in any form shall be permitted at any location within the Project Site.

F. Paints, varnishes, volatile oils, etc., shall be stored in a room having good ventilation and containing no other material, or in metal lockers or metal boxes with self-closing covers. Gasoline and other volatile and flammable liquids shall be stored in metal barrels well away from other structures or other combustible materials.

G. Special precautions shall be taken to reduce fire hazards where electric or gas welding or cutting work is done and suitable fire extinguishing equipment shall be maintained near such operations.

H. Refer to "Standard Conditions of Contract for Construction" for additional requirements.

1.6 RESTORATION

A. Where existing properties, streets, paving, curbs, etc., are damaged as a result of work operations, the responsible Contractor shall restore the foregoing items to match the original.

1.7 REMOVAL

A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion inspection.

B. Clean and repair damage caused by installation or use of temporary facilities.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION
Not Used

END OF SECTION 013500

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SECTION 013516 - ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Procedural Requirements
2. Rehabilitation and Renovations of Existing Materials
3. Installation of Products Removed in Section 02 41 19.

B. Related Sections

1. Section 01 30 00 - Project Management & Coordination
2. Section 01 73 29 - Cutting and Patching

PART 2 - PRODUCTS

2.1 PRODUCTS FOR PATCHING AND EXTENDING WORK

A. New Materials: As specified in individual Sections.

B. Match existing products and work for patching and extending work.

C. Determine type and quality of existing products by inspection and any necessary testing, and workmanship by use of existing as a standard. Presence of a product, finish, or type of work, requires that patching, extending, or matching shall be performed as necessary to make the work complete and consistent with Specifications.

PART 3 - EXECUTION

3.1 INSPECTION

A. Verify that demolition is complete and areas are ready for installation of new work.

B. Beginning of restoration work means acceptance of existing conditions.

3.2 PREPARATION

A. Cut, move, or remove items as necessary for access to alterations and renovations work; replace and restore at completion.

B. Remove unsuitable material not marked for salvage, such as rotted wood, rusted metals, and deteriorated masonry and concrete; replace materials as specified for finished work.

C. Remove debris and abandoned items from area and from concealed spaces.

D. Prepare surfaces and remove surface finishes to provide for proper installation of new work and new finishes.

E. Clean substrate surfaces prior to applying next material or substance.

F. Seal cracks or openings of substrate prior to applying next material or substance.

G. Apply any manufacturer's required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.3 INSTALLATION

A. Coordinate work of alterations and renovations to expedite completion.

B. Remove, cut, and patch work in a manner to minimize damage and to provide means of restoring products and finishes to specified condition.

C. Refinish visible existing surfaces to remain to specified condition for each material with a neat transition to adjacent new finishes.

D. Install products as specified in individual Sections.

3.4 TRANSITIONS

A. Where new work abut or aligns with existing, make a smooth and even transition. Patched work shall match existing adjacent work in texture and appearance.

B. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division as approved by Architect.

3.5 ADJUSTMENTS

A. Where removal results in adjacent surfaces forming a change of plane of ¼ inch or more occurs, submit recommendation for providing a smooth transition for Architect's review.

3.6 REPAIR OF DAMAGED SURFACES

A. Patch or replace portions of existing surfaces to remain which are damaged, lifted, discolored, or showing other imperfections where noted on Drawings.

B. Repair substrate prior to patching finish.

3.7 FINISHES

A. Finish surfaces as specified in individual Sections.

B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

END OF SECTION 013516

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Administrative and procedural requirements for quality assurance and quality control.

2. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve any Contractor of the responsibility for compliance with the Contract Document requirements.

   a. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
   b. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
   c. Requirements for Contractor to provide quality-assurance and -control services required by the University or authorities having jurisdiction are not limited by provisions of this Section.

B. Related Sections:

1. "Standard Conditions of Contract for Construction".

2. Divisions 02 through 33 Sections for specific test and inspection requirements.

1.2 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by the College’s Representative.

C. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.

D. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

E. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

F. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-Subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to trades people of the corresponding generic name.

G. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five (5) previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 CONFLICTING REQUIREMENTS

A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to the Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.4 SUBMITTALS

A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

B. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.

2. Description of test and inspection.

3. Identification of applicable standards.

4. Identification of test and inspection methods.

5. Number of tests and inspections required.

6. Time schedule or time span for tests and inspections.

7. Entity responsible for performing tests and inspections.

8. Requirements for obtaining samples.

9. Unique characteristics of each quality-control service.

C. Reports: Prepare and submit certified written reports that include the following:

1. Date of issue.

2. Project title and number.

3. Name, address, and telephone number of testing agency.

4. Dates and locations of samples and tests or inspections.

5. Names of individuals making tests and inspections.

6. Description of the Work and test and inspection method.

7. Identification of product and Specification Section.

8. Complete test or inspection data.

9. Test and inspection results and an interpretation of test results.

10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.

11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.

12. Name and signature of laboratory inspector.

13. Recommendations on retesting and reinspecting.

D. Permits, Licenses, and Certificates: For College's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.5 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 548; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.

2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

D. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

E. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

F. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.

G. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.6 QUALITY CONTROL

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

1. College will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.

2. Payment for these services will be made from testing and inspecting allowances, as authorized by Change Orders.

3. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to the Contractor.

B. Tests and inspections not explicitly assigned to College are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.

1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

a. Contractor shall not employ same entity engaged by College, unless agreed to in writing by College.

2. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.

3. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.

4. Submit additional copies of each written report directly to authorities having jurisdiction, the Architect and the College Representative.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 1 Section "Submittal Procedures."

D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Testing Agency Responsibilities: Cooperate with the Architect, the College’s Representative and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify the Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.

2. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.

3. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.

4. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.

5. Do not perform any duties of Contractor.

F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.

2. Incidental labor and facilities necessary to facilitate tests and inspections.

3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.

4. Facilities for storage and field curing of test samples.

5. Delivery of samples to testing agencies.

6. Preliminary design mix proposed for use for material mixes that require control by testing agency.

7. Security and protection for samples and for testing and inspecting equipment at Project site.

G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

H. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within ten (10) days of the Notice to Proceed.

1. Distribution: Distribute schedule to College, College Representative’s testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.

2. Description of the Work tested or inspected.

3. Date test or inspection results were transmitted to Architect.

4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for the Architect and the College Representative's reference during normal working hours.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014100 - REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 Summary

A. Section Includes:

1. This Section of the Specifications is intended to define the Regulatory Requirements applicable to the Work.

B. Related Sections:

1. "Standard Conditions of Contract for Construction"

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION

3.1 CERTIFICATE OF PLAN APPROVAL

A. The Certificate of Plan Approval for applicable types of Work as issued by the Ohio Department Commerce, Division of Industrial Compliance Inspections must be posted on the job site.

B. The Coordinating Contractor shall obtain the Certificate(s) of Plan Approval and associated Addendum from the Architect and post them as required as required by the Ohio Building Code.

3.2 INSPECTION

A. The various types of Work shall be inspected by the Ohio Department Commerce, Division of Industrial Compliance Inspection, by the applicable Inspector noted on the "Certificate of Plan Approval".

B. The Contractor is required to make application and pay all fees for permits.

C. Upon completion of the Work, the Contractor shall furnish to the Architect a Certification of Inspection and Approval from said Inspector(s) before final payment on Contract(s) will be allowed. Said Certificate to be forwarded to the OWNER by the Architect.

D. Fee for inspection when required shall be a part of the Contract, the cost of which shall be included in the bid of each Prime Contractor whose work required inspection.

3.3 ORDINANCES, REGULATIONS AND CODES

A. Install Work in strict compliance with the federal, state, and local ordinances and regulations in force at the time of execution of the Contract including the Ohio Building Code and any local codes or ordinances as interpreted by the local authorities having jurisdiction.

END OF SECTION 014100

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SECTION 014516 - FIELD QUALITY CONTROL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Intent

1. It is the intent of this section of the specifications to define the Field Engineering requirement for all Contractors.

B. Related Documents

1. Refer to Division 01, for related documents.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.1 SURVEYS AND MEASUREMENTS

A. Before bidding equipment, and again before submittal of Shop Drawings, the Contractor and their supplier shall verify that all conditions having bearing on the manner of installing the work are known to him and adequate space is available for entry and installation of the items of equipment and associated piping and accessories. Also, verify that adequate space is available for servicing of the equipment.

B. If changes in material or equipment layout are brought about by the use of equipment which is not compatible with the layout shown on the drawings, necessary changes shall be deemed to be included in the Contractor's bid.

C. The Contractor shall base all measurements, both horizontal and vertical from established bench marks and be responsible for correct setting out or work as indicated to agree with these established lines and levels.

D. The Contractor shall verify all measurements of their own or others at site and be responsible for correctness of same as related to his work.

E. Should the Contractor discover any discrepancy between actual measurements and those indicated, he shall notify the Architect in writing and shall not proceed with their work until he has received written instructions from the Architect. No extra charge or compensation will be allowed on account of differences between actual dimensions and those indicated.

3.2 MOVING OF EQUIPMENT

A. Investigate each space through which equipment must be moved. If necessary, equipment shall be shipped from manufacturer in crate sections of size suitable for moving through restricted spaces.

3.3 CONNECTIONS TO EXISTING WORK

A. Field verify all existing conditions which may affect new equipment requirements. Before Shop Drawing submittal, field verify items such as pipe connections, steam and water pressures, system voltages, etc. Immediately notify the A Architect in writing of any discrepancy between Contract Documents and field conditions. Should equipment be ordered without following the above procedure, no extra charge or compensation will be allowed.

B. Plan installation of new work and connections to existing work to ensure minimum interference with regular operation of existing facilities.

C. Connect new work to existing work in a neat and approved manner. Where existing work is disturbed, restore same to original condition.

END OF SECTION 014516

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Products

2. Transportation and Handling

3. Storage and Protection

4. General Product Requirements

B. Related Sections:

1. Section 01 33 00 - Submittal Procedures

2. Section 01 45 16 - Field Quality Control Procedures

1.2 DEFINITIONS

A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.

2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.

1.3 QUALITY ASSURANCE

A. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.

B. Provide interchangeable components of the same manufacturer, for components being replaced.

C. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.

1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.

2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. General:

1. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.

2. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.

3. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

4. Promptly inspect shipments to ensure that products comply with the Contract Documents, quantities are correct, products are undamaged, and properly protected.

5. Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

C. Storage and Protection

1. Store and protect Products in accordance with manufacturers' instructions, with seals and labels intact and legible.

a. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.

2. Protect stored products from damage and liquids from freezing.

3. Store sensitive Products in weather tight, climate-controlled enclosures.

4. For exterior storage of fabricated Products, place on sloped supports, above ground.

5. Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation or potential degradation of Product.

6. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

7. Store cementitious products and materials on elevated platforms.

8. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.

9. Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.

10. Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.

11. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.

1.5 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.

2. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.

2. Specified Form: When specified forms are included with the Specifications, prepare a written document using appropriate form properly executed.

3. Refer to Divisions 02 through 33 Sections for specific content requirements and particular requirements for submitting special warranties.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.

1. Visual Matching Specification: Where Specifications require matching an established Sample, select a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

PART 3 - EXECUTION

3.1 ORDERING OF EQUIPMENT

A. The Contractor is solely responsible for ordering material and equipment to allow a reasonable delivery time from the manufacturer. The Contractor will be considered responsible for all penalties incurred due to delays caused by his lack of action to order products on time. Substitutions from manufacturers not listed in the specification will not be considered for approval when the specified products are not ordered reasonably on time.

3.2 EQUIPMENT AND OPENING PROTECTION

A. In addition to the provisions and stipulations of "Standard Conditions of Contract for Construction", each Contractor and Sub-Contractor shall provide various types of protection as follows:

1. Protect equipment from welding and cutting spatters with baffles and spatter blankets.

2. Protect equipment and finished surfaces from paint droppings, insulation adhesive, etc., by the use of drop cloths.

B. All equipment to be stored at the site with openings, etc., to be covered to exclude dust and moisture. All stockpiled pipe or conduit shall be placed on dunnage and protected from weather and from entry of foreign material.

C. Conduit and construction openings and excavations required for Work to be covered when Work is not in progress as follows:

1. Cover wall and ceiling openings with plywood, or canvas covered flashing.

2. Cover floor openings and excavations with structural material of adequate strength to support traffic.

D. All motors, fans and other rotating equipment shall be stored at the site with openings, bearings, etc., covered to exclude dust and moisture.

E. Duct, pipe and construction openings and excavations required for mechanical Work shall be covered when work is not in progress as follows:

1. Cover duct openings with canvas.

2. Cap pipe openings with fittings or plugs.

3. Cover roof and ceiling openings with plywood, or canvas covered framing.

3.3 HOISTING AND RIGGING

A. Hoisting and rigging to be provided by the Contractor whose Work requires the same.

B. All equipment and materials required is to be received, unloaded, hoisted to proper elevation and moved into place by the Contractor responsible for the Work.

3.4 MATERIAL SAFETY DATA SHEETS

A. Two copies of Material Safety Data Sheets shall be furnished to the Owner and shall be posted at the site and available upon request of Contractor employees, government officials and University personnel. The MSDS's shall be forwarded to the Office of Environmental Health upon completion of the project.

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. General installation of products.
4. Coordination of College-installed products.
5. Progress cleaning.
6. Starting and adjusting.
7. Protection of installed construction.
8. Correction of the Work.

B. Related Sections:

1. "Standard Conditions of Contract for Construction"

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.

1. Before construction, verify the location and points of connection of utility services.

B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning investigate and verify the existence and location of utilities and other construction affecting the Work.

C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

    a. Description of the Work.
    b. List of detrimental conditions, including substrates.
    c. List of unacceptable installation tolerances.
    d. Recommended corrections.

2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.

4. Examine walls, deck, and underside of deck for suitable conditions where products and systems are to be installed.

5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to Architect that is necessary to adjust, move, or relocate existing utility services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to University’s Representative. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents. Requests for Information to be issued using Associate Architect's “RFI Form”.

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the existing building. If discrepancies are discovered, notify the College’s Representative promptly.

B. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work.

C. Existing conditions that deviate from the construction documents should be recorded and submitted as part of the As-Built submittal for Project Close-out.

3.4 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.

2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.

3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until the University has assumed ownership.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Tools and Equipment: Do not use tools or equipment that produces harmful noise levels.

F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by the College Representative.

2. Allow for building movement, including thermal expansion and contraction.

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

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

I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

1. If hazardous material are uncovered contact the College’s Representative immediately

3.5 UNIVERSITY-INSTALLED PRODUCTS

A. Coordination: Coordinate construction and operations of the Work with work performed by College's Facilities Department personnel and work performed by entities contracted by the College under a separate contract.

1. Construction Schedule: Inform College of Contractor's preferred construction schedule for College's portion of the Work. Adjust construction schedule based on a mutually agreeable

timetable. Notify College if changes to schedule are required due to differences in actual construction progress.

3.6 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully. Refer to Section 01 74 19 "Construction Waste Management and Disposal" for additional requirements.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.

2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.

3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

B. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.

2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

C. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

D. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

E. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time when the University assumes Universityship.

F. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration until the University assumes ownership.

G. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

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

3.7 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 01 Section "Quality Requirements."

3.8 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

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SECTION 017329 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and Procedural Requirements for Cutting and Patching

B. Related Documents:

1. Refer to other the "Standard Conditions of Contract for Construction" and other Sections of these Specifications, for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.2 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.3 SUBMITTALS

A. Cutting and Patching Proposal:

1. Where approval of procedures is required before proceeding, submit a proposal describing procedures in advance of the time cutting and patching will be performed. Include the following information, as applicable:

a. Describe the extent of cutting and patching required and how it is to be performed. Indicate why it cannot be avoided.
b. Describe anticipated results, include changes to structural elements and operating components and changes in the building's appearance and other visual elements.
c. List products to be used and entities that will perform work.
d. Indicate dates when cutting and patching is to be performed.
e. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
f. Ten (10) day advance notification is required for ALL utility outages.
g. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
h. Architect's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval to proceed does not waive the Architect's right to later require complete removal and replacement of work found to be unsatisfactory.

1.4 QUALITY ASSURANCE

A. Do not cut and patch operating elements or safety components in a manner that would reduce their capacity to perform as intended, or would increase maintenance, or decrease operational life or safety. Obtain approval of the cutting and patching proposal before cutting and patching operating elements or safety related systems.

B. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio. Structural elements include, but are not limited to:

   1. Structural concrete

C. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include, but are not limited to:

   1. Primary operational systems and equipment.

   2. Fire-suppression systems.

   3. Mechanical systems piping and ducts.

   4. Control systems.

   5. Communication systems.

   6. Electrical wiring systems.

D. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Miscellaneous elements include, but are not limited to:

   1. Membranes and flashings.

   2. Equipment supports.

   3. Piping, ductwork, vessels, and equipment.

E. Visual Requirements

1. Do not cut and patch construction exposed on the exterior or in occupied spaces, in a manner that would reduce the building's aesthetic qualities, or result in visual evidence, in the College Representative and Architect's opinion, of cutting and patching. Remove and replace Work cut and patched in a visually unsatisfactory manner.

F. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.5 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Use materials identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible. Use materials whose performance will equal or surpass of existing materials.

PART 3 - EXECUTION

3.1 Examination

A. Before cutting, examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed. Take corrective action before proceeding, if unsafe or unsatisfactory conditions are encountered.

3.2 TEMPORARY SUPPORT:

A. Provide temporary support of Work to be cut.

3.3 PROTECTION:

A. Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions that might be exposed during cutting and patching operations.

B. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

C. Take all precautions to avoid cutting existing pipe, conduit or ductwork serving the building, but scheduled to be removed or relocated until provisions have been made to bypass them.

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems, when possible, before cutting to minimize interruption to occupied areas.

3.4 PERFORMANCE

A. Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.

B. Cut existing construction to provide for the installation of other components or the performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.

3.5 CUTTING:

A. All cutting of areas shall be by contractor requiring cutting, except where noted otherwise in the Specifications and/or Drawings.

B. Cut existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible review procedures with the original installer; comply with the original installer's recommendations.

C. Where cutting is required, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.

D. Cut through concrete and masonry using a cutting machine such as a carborundum saw or diamond core drill.

E. Proceed with patching after construction operations requiring cutting are complete.

3.6 PATCHING:

A. All patching shall be by contractor doing cutting work, and shall be performed by trade who would be customarily performing that type of work.

B. Patch with durable seams that are as invisible as possible. Comply with specified tolerances.

C. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

1. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken containing the patch, after the patched area has received primer and second coat.

a. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.

3.7 CLEANING:

A. Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Remove paint, mortar, oils, putty and similar items. Thoroughly clean piping, conduit and similar features before painting or finishing is applied. Restore damaged pipe covering to its original condition.

END OF SECTION 017329

SECTION 017400 - CONSTRUCTION CLEANING

PART 1 - GENERAL

1.1 RELATED WORK

A. The Work of this Section shall be included as a part of the Contract Documents of the Contractor on this Project.

1.2 SUMMARY

A. The Contractor is responsible for cleaning all Work. Clean up shall occur on a daily basis.

B. If Contractor fails to perform these clean up responsibilities, the Owner will give notice to the Contractor. If the deficiency is not corrected within three (3) days, the Owner will cause the clean-up responsibilities that are a part of the Contractor's Work to be completed by others and all costs will be deducted from sums due the offending Contractor. Refer to General Conditions Article 2.11 "Progress Cleaning" and Article 5.3 "State's Right to Perform Work and Back-charge Contractor".

C. Contractor shall clean on a daily basis (throughout this project) all affected public roads and walks and College roads and walks using mechanical sweeping equipment.

1.3 PURPOSE – DAILY CLEANING

A. Define and emphasize the responsibility of each Sub-Contractor to remove his rubbish and debris from the construction site to guard against fire and safety hazards as well as to provide a more efficient construction operation for all Sub-Contractors. The trades shall remove rubbish and debris from the building site to the rubbish collection location promptly upon its accumulation. If this cleaning is not performed to the satisfaction of the Owner and Architect, it will be performed for the Contractor at his expense, cost of which will be deducted by Change Order prior to final payment.

1.4 RUBBISH CONTAINMENT

A. The Contractor is required to clean up their rubbish and debris, utilizing their own manpower, equipment and supplies (i.e. brooms, mops, sweeping compound, waste containers, etc.) along with transporting waste to and deposit it into dumpsters.

1.5 SAFETY REQUIREMENTS

A. Hazards Control

1. Store volatile wastes in covered metal containers, and remove from premises daily.

2. Prevent accumulation of wastes, which create hazardous conditions.

3. Provide adequate ventilation during use of volatile or noxious substances.

B. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

1. Do not burn or bury rubbish and waste materials on project site.

2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains

3. Do not dispose of wastes into streams or waterways.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.

1. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finish surface.

B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

C. Sweeping compound to be used with all clean up operations.

PART 3 - EXECUTION

3.1 GENERAL SITE CLEANING

A. Daily cleaning of public streets leading to the project site, from dust, debris, and mud is the responsibility of the Site Development Contractor. The street shall be dry-swept, and if required by the College or the Construction Manager, sprayed with water to further clean the street of construction dust/dirt.

B. Contractors shall execute cleaning to ensure that building, grounds, and public properties are maintained free from accumulations of waste materials and rubbish.

C. Each Friday, and more often if necessary, the Contractor shall perform an overall clean-up of the entire site, including policing for litter, and removal of all unnecessary materials. The Contractor shall remove its rubbish and debris from the entire building site by transporting it to and placement into the dumpster(s). In conditions of large debris accumulation from construction operations or deliveries this clean-up is to occur immediately on the same day.

D. On a weekly-basis the Contractor shall perform trash pick-up around the perimeter of the project both inside and outside of the construction fence.

3.2 FINAL CLEANING

A. The following are examples, but not by way of limitation, of cleaning levels required:

1. Clean project site (yard and grounds), including landscape development areas of litter and foreign substances. Sweep paved areas to a broom-clean condition; remove stains, petro-chemical spills, and other foreign deposits. Rake grounds, which are neither planted nor paved, to a smooth, even textured surface.

2. All underground storm outlets beneath garage level shall be clear of any loose debris resulting from construction work. Survey each of the underground storm outlet’s condition prior to performing construction work and immediately after the cleaning of the pipes. Project closeout will only be approved after a survey comparison after storm cleanout against the substantial completion of the project to reveal evidence that it is clean.

3. Sweep paved areas broom clean. Rake grounds that are neither planted nor paved to a smooth, even textured surface.

4. Remove petrochemical spills, stains, and other foreign deposits.

5. Remove tools, construction equipment, machinery, and surplus material from the site.

B. Compliances: Comply with governing regulations and safety standards for cleaning operations. Remove waste materials from the site and dispose of lawfully. Do not burn waste materials at site, or bury debris or excess materials on Owner's property, or discharge volatile or other harmful or dangerous materials into drainage systems.

END OF SECTION 017400

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SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Closeout Procedures
2. Inspection Procedures
3. Warranties
4. Final Cleaning

B. Related Sections:

1. "Standard Conditions of Contract for Construction"
2. Section 01 78 23 – Operating and Maintenance Data
3. Section 01 78 39 – Project Record Documents
4. Section 01 79 00 - Demonstration and Training
5. Divisions 02 through 33 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.2 DEFINITIONS:

A. Closeout is hereby defined to include general requirements near end of Contract Time, in preparation for final acceptance, final payment, normal termination of Contract, occupancy by the Owner, and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in Sections of Divisions 02 through 33. Time of closeout is directly related to “Substantial Completion” and, therefore, may be either a single time period for entire work or a series of time periods for individual parts of the work which have been certified as substantially complete at different dates. That time variation (if any) shall be applicable to other provisions of this Section.

1. Refer to "Standard Conditions of Contract for Construction" for additional requirements.

1.3 PREREQUISITES TO SUBSTANTIAL COMPLETION

A. General: Prior to requesting Architect's inspection for certification of Substantial Completion (for either entire work or portions thereof), each Prime Contractor shall complete the following and list known exceptions in request:

1. In progress payment request, coincident with or first following date claimed, show either 100 percent completion for portion of work claimed as "substantially complete", or list incomplete items, value of incompletion, and reason for being incomplete.
2. Include supporting documentation for completion as indicated in these Contract Documents.

3. Submit a statement showing accounting of changes to Contract Sum.

4. Prepare, submit, and complete a Punch List in accordance with "Standard Conditions of Contract for Construction". This must be completed before the Architect will schedule inspection. This list will be known as the “Contractor’s Punch list”.

5. Advise the Owner of pending insurance changeover requirements.

6. Submit specific warranties, workmanship/maintenance bonds, maintenance agreements, final certifications, and similar Documents.

7. Obtain and submit releases enabling the College’s full and unrestricted use of the Work and access to services and utilities including, where required, Occupancy Permits, Operating Certificates, Waivers of Lien, and similar releases.

8. Submit record Drawings, maintenance manuals, and similar final record information.

9. Deliver tools, spare parts, extra stocks of materials, and similar physical items to the location designated by University. Label with manufacturer's name and model number where applicable

10. Discontinue (or change over) and remove from project site, temporary facilities and services, along with construction tools and facilities, mock-ups, and similar elements.

11. Make final changeover of permanent locks and return construction core keys to the University.

12. Complete startup testing of systems.

13. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.

14. Complete final cleaning-up requirements, including touch-up painting of marred surfaces.

15. Touch-up and otherwise repair and restore marred, exposed finishes.

1.4 INSPECTION PROCEDURES

A. Upon receipt of the Contractor's written request for inspection, the Associate Architect will either proceed with inspection or advise Contractor of prerequisites not fulfilled. Following initial inspection, the Associate Architect will either prepare a Certificate of Substantial Completion, or advise Contractor of work which must be performed prior to issuance of certificate, and repeat inspection when requested and assured that work has been substantially completed. Results of completed inspection will form initial "Punch-List" for final acceptance.

1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

2. Results of completed inspection will form the basis of requirements for Final Completion.

a. This list of remaining deficiencies will be known as the “Associate Architect’s Punch list”

1.5 PREREQUISITES TO FINAL ACCEPTANCE

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Refer to Article 11 of the "Standard Conditions of Contract for Construction" for Contract Completion requirements.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, University's Representative will either proceed with inspection or notify Contractor of unfulfilled requirements.

1. Re-inspection of items contained within the "Associate Architect's Punch List" will be requested in writing.

a. If items are not complete, additional re-inspections will be at the expense of the Contractor

1.6 RECORD DOCUMENT SUBMITTALS

A. General: Specific requirements submittals of record Documents are indicated in individual Sections of these Specifications. Other requirements are indicated in "Standard Conditions of Contract for Construction" and Section 01 78 39 "Project Record Documents". Do not use record Documents for construction purposes. Protect from deterioration and loss in a secure, fire-resistive location.

1.7 WARRANTIES

A. Submittal Time: Submit written warranties on request of the University's Representative for designated portions of the Work where commencement of warranties other than date of Contract Completion is indicated.

1. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 CLOSEOUT PROCEDURES

A. General Operating/Maintenance Instruction: The Contractor shall arrange for each installer of work requiring continuing maintenance to meet with Owner personnel at proper site to provide basic instruction needed for proper maintenance of entire work. Include instructions by manufacturer's representatives where installers are not expert in the required procedures. Review maintenance manuals, record documentation, tools, spare parts and materials, identification system, hazards, cleaning, and similar procedures and facilities. Review maintenance and operations in relation with applicable warranties, agreements to maintain, bonds, and similar continuing commitments.

1. Refer to Section 01 79 00 "Demonstration and Training" for additional requirements.

3.2 FINAL CLEANING

A. General: Special cleaning for specific units of work is specified in sections of Divisions 02 through 33. General cleaning during progress of work and Final Cleaning is specified in the "Standard Conditions of Contract for Construction". Provide final cleaning of the work, at time indicated, consisting of cleaning each surface or unit of work to normal "clean" condition expected for a first-class building cleaning and maintenance program. Comply with manufacturer's instructions for cleaning operations.

1. Refer to Article 11 of the "Standard Conditions of Contract for Construction" for Final Cleaning requirements.

2. Where extra materials of value remain after completion of associated work and have become the Owner's property, dispose of these to the Owner's best advantage as directed.

END OF SECTION 017700

SECTION 017823 - OPERATING AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation and Maintenance Documentation Directory.

2. Record Product Data, Record Shop Drawings and Sub-Contractor / Supplier/ Manufacturer Contact Information including, but not limited to the following:

a. Instruction Manuals Covering the Care, Preservation and Maintenance of Architectural Products and Finishes
b. Schedule of Finishes and Colors of Architectural Products
c. Warranties and Guarantees for Products Provided by General Contractor

3. Operation Manuals for Systems, Subsystems, and Equipment.

B. Related Sections:

1. "Standard Conditions of Contract for Construction"

2. Section 01 33 00 - Submittal Procedures

3. Section 01 77 00 - Closeout Procedures

4. Section 01 78 39 - Project Record Documents

5. Divisions 02 through 33 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.2 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.3 SUBMITTALS

A. Operating and Maintenance Manuals:

1. Submittal Schedule: Comply with the following schedule for submittal of operating and maintenance manuals:

a. Before Substantial Completion, when each installation that requires submittal of operating and maintenance manuals is nominally complete, submit two draft copies of each manual to the Architect for review. Include a complete index or table of contents of each manual.
b. After final inspection, make corrections or modifications to comply with the Architect's comments. Submit the specified number of copies of each approved manual to the Architect within fifteen days of receipt of the Associate Architect's comments.

i. Operations and maintenance manuals will be required to be submitted prior to the processing of the final application for payment.

2. Form of Submittal: Prepare operating and maintenance manuals in the form of an instructional manual for use by the Owner's operating personnel. Organize into suitable sets of manageable size. Where possible, assemble instructions for similar equipment into a single binder.

a. Final Submittal: Submit six (2) of each manual in hard copy final form.
b. Submit one copy in electronic Adobe “Portable Document Format” (PDF) contained on one or more labeled CD-Rom or DVD-ROM.

3. Drawings: Where Drawings or diagrams are required as part of the manual, provide reinforced punched binder tabs on the Drawings and bind in with the text.

a. Where oversize Drawings are necessary, fold the Drawings to the same size as the text pages and use as a fold-out.
i. If Drawings are too large to be used practically as a fold-out, place the Drawing, neatly folded, in the front or rear pocket of the binder. Insert a typewritten page indicating the Drawing title, description of contents and Drawing location at the appropriate location in the manual.

1.4 COORDINATION

A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

A. Organization: Include a section in the directory for each of the following:

1. List all products, systems and equipment organized by their specification section number.

2. Table of contents.

B. List of Systems and Subsystems: List systems as categorized by the specifications section numbering. Systems are to be listed as a system only when the system has single source responsibility, otherwise individual components of that system will be categorized within their respective specification section. Include references to operation and maintenance manuals that contain information about each system.

C. List of Equipment: List equipment for each system, organized by specification section number.

D. Tables of Contents: Include a table of contents for all manuals.

E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 MANUALS, GENERAL

A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

   1. Title page.

   2. Table of contents.

   3. Manual contents.

B. Title Page: Enclose title page in transparent plastic sleeve within the binder or affix to the front face of the binder. Include the following information:

   1. Subject matter included in manual.

   2. Name, number and address of Project.

   3. Name and address of Owner.

   4. Date of submittal.

   5. Name, address, and telephone number of Contractor.

   6. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

   1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents according to their specifications section number.

1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, (color: white) in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

   a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
   b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets. Refer to Title Page information (section 01782.2.2.B) for complete requirements

2. Dividers: Heavy-paper dividers (color: white) with plastic-covered tabs for each specification section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.

3. Sub-dividers: Each divided specification section will contain sub dividers for each product listed within the section.

   a. Each sub-divider will be of a heavy weight type paper (color: dark green).
   b. Each sub-divider will contain the following:
      i. The product name
      ii. The specification section
      iii. The sub-contractors / installer name, address and contact numbers

      and/or

      iv. The material suppliers name, address and contact numbers

      and/or

      v. The manufactures name, address and contact numbers

4. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.

5. Supplementary Text: Prepared on 8-1/2-by-11-inch white bond paper.

6. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

   a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
   b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and Drawing locations.

2.3 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. Copies of Applicable Shop Drawings and Product Data
2. System, subsystem, and equipment descriptions.
3. Performance and design criteria if Contractor is delegated design responsibility.
4. Operating standards.
5. Operating procedures.
6. Operating logs.
7. Wiring diagrams.
8. Control diagrams.
9. Piped system diagrams.
10. Precautions against improper use.
11. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name and model number.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.
10. Sources of Required Maintenance Materials and Related Services

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures and certifications.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.

6. Normal shutdown instructions.

7. Seasonal and weekend operating instructions.

8. Required sequences for electric or electronic systems.

9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.4 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:

1. Standard printed maintenance instructions and bulletins.

2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.

3. Identification and nomenclature of parts and components.

4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.

2. Troubleshooting guide.

3. Precautions against improper maintenance.

4. Disassembly; component removal, repair, and replacement; and reassembly instructions.

5. Aligning, adjusting, and checking instructions.

6. Demonstration and training videotape, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.

2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

2.5 PRODUCT MAINTENANCE MANUAL

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

1. All content should be “As-built” or record content.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Product Information: Include the following, as applicable:

1. Product name and model number.

2. Manufacturer's, supplier's and installer's name, address and contact numbers located on sub-divider.

3. Size

4. Color, pattern, and texture.

a. Color Schedules: Provide information showing manufacturer's color name and catalog number for all exposed finishes, including paint, carpet, wallcoverings, and other finish materials.

5. Material and chemical composition.

6. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.

2. Types of cleaning agents to be used and methods of cleaning.

3. List of cleaning agents and methods of cleaning detrimental to product.

4. Schedule for routine cleaning and maintenance.

5. Repair instructions.

6. Parts list if available

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

A. Operation and Maintenance Documentation Directory: will be included within the respective Operations and Maintenance manual.

B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

C. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.

2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

D. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

E. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.

1. Do not use original Project Record Documents as part of operation and maintenance manuals.

2. Drawings should be sized to fit within the manuals as a bound insert. Either 8 ½” x 11” or 11” x 17”.

3. Comply with requirements of newly prepared Record Drawings in Division 1 Section "Project Record Documents."

F. Comply with Section 01 77 00 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

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SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 Summary

A. This Section specifies administrative and procedural requirements for Project Record Documents to be prepared and submitted by the Contractor.

B. Project Record Documents required include:

1. Marked-Up Copies of Contract Drawings

2. Marked-Up Copies of Final Conforming Shop Drawings

3. Newly Prepared Drawings

4. Marked-Up Copies of Specifications, Addenda, and Change Orders

5. Marked-Up Final Conforming Product Data Submittals

6. Record Samples

7. Field Records for Variable and Concealed Conditions

8. Record Information on Work that is Recorded only Schematically

C. Related Sections

1. "Standard Conditions of Contract for Construction"

2. Section 01 78 23 - Operating and Maintenance Data: for operating and maintenance manual requirements.

3. Section 01 33 00 - Submittal Procedures: General requirements for submittal of Shop Drawings, Product Data, and Project Record Documents

4. Section 01 77 00 - Closeout Procedures: General project closeout requirements.

5. Divisions 02 through 33 Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.2 SUBMITTALS

A. Record Drawings (As-Builts): Comply with the following:

1. Number of Copies: Submit one (1) field set(s) of marked-up Record Prints and collective scanned pdf.

B. Record Specifications (As-Builts):

1. Submit one (1) field set of Project's Specifications, including addenda and contract modifications and scanned collective pdf.

C. Record Product Data

1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in manual instead of submittal as Record Product Data.

a. Provide electronic scanned copy in Adobe PDF format.

1.3 COORDINATION

A. The Contractor is responsible for obtaining, maintaining, and recording Project Record Document information for its own part of the Work. The Contractor is responsible for coordination of Project Record Document information.

1.4 MAINTENANCE OF DOCUMENTS AND SAMPLES:

A. Store Record Documents and Samples in the field office apart from Contract Documents used for construction. Do not permit Project Record Documents to be used for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition. Protect from deterioration and loss in a secure, fire-resistive location. Make Documents and Samples available at all times for inspection by the Architect.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. General: Refer to "Standard Conditions of Contract for Construction" for requirements.

B. Record Drawings: The Contractor shall maintain in white-print set (blue-line or black-line) Contract Drawings and Shop Drawings in clean, undamaged condition, with mark-up of actual installations which vary substantially from the work as originally shown. Mark whichever Drawing is most capable of showing "field" condition fully and accurately. However, where Shop Drawings are used for mark-up, record a cross-reference at corresponding location on working Drawings. Mark with red erasable pencil and, where feasible, use other colors to distinguish between variations in separate categories of work. Mark-up new information which is recognized to be of importance to the Owner, but was, for some reason, not shown on either Contract Drawings or Shop Drawings. Give particular attention to concealed work that would be difficult to measure and record at a later date. Note related change order numbers where applicable. Organize record Drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates, and other identification on cover of each set.

1. Content: Types of items requiring marking include, but are not limited to, the following:

a. Dimensional changes to Drawings.
b. Revisions to details shown on Drawings.
c. Depths of foundations below first floor.
d. Locations and depths of underground utilities.
e. Complete installed irrigation system.
f. Revisions to routing of piping and conduits.
g. Revisions to electrical circuitry.
h. Actual equipment locations.
i. Duct size and routing.
j. Locations of concealed internal utilities.
k. Changes made by Change Order and/or Field Work Order.
l. Changes made following the College’s written orders.

m. Details not on the original Contract Drawings.
n. Field records for variable and concealed conditions.

2. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

a. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
b. Identification: As follows:
i. Project name.
ii. Project number
iii. Date.
iv. Designation "PROJECT RECORD DRAWINGS."
v. Name of University
vi. Name of Associate Architect
vii. Name of Contractor.

3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.

4. Record information on the Work that is shown only schematically. Responsibility for Markup: Where feasible, the individual or entity who obtained record data, whether the individual or entity is the installer, Subcontractor, or similar entity, is required to prepare the mark-up on Record Drawings.

a. Note Field Work Order numbers, alternate numbers, RFI numbers, Change Order numbers, and similar identification, where applicable.

C. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing Record Drawings where the Associate Architect determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.

1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.

2. Consult the Architect for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared Record Drawings into Record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.

D. At time of Substantial Completion, submit As-Built Drawings and Specifications to Architect for Owner's records. Organize into sets, bind and label sets for Owner's continued use.

1. One (1) field copy and digital scan of the field copy will be required.

2.2 RECORD SPECIFICATIONS

A. General: Refer to "Standard Conditions of Contract for Construction" for requirements.

B. Record Specifications: The Contractor shall maintain one copy of Specifications, including addenda, change orders, and similar modifications issued in printed form during construction, and mark-up variations (of substance) in actual work in comparison with text of Specifications and modifications as issued. Give particular attention to substitutions, selection of option, and similar information on work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Note related record Drawing information and product data, where applicable. Upon completion of mark-up, submit to Architect for the Owner's records.

2.3 RECORD PRODUCT DATA

A. During the construction period, maintain one copy of each Product Data submittal for Project Record Document purposes.

1. Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submitted. Include significant changes in the product delivered to the site and changes in manufacturer's instructions and recommendations for installation.

2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

3. Note related Change Orders and mark-up of Record Drawings, where applicable.

4. Upon completion of mark-up, submit a complete set of record Product Data to the Architect for the Owner's records.

5. Where record Product Data is required as part of maintenance manuals, submit marked-up Product Data as an insert in the manual instead of submittal as record Product Data.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Refer to other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to the Architect for the Owner's records.

1. Categories of requirements resulting in miscellaneous records include, but are not limited to, the following:

a. Field Records on Excavations and Foundations
b. Field Records on Underground Construction and Similar Work
c. Survey Showing Locations and Elevations of Underground Lines
d. Invert Elevations of Drainage Piping
e. Surveys Establishing Building Lines and Levels
f. Authorized Measurements Utilizing Unit Prices or Allowances
g. Batch Mixing and Bulk Delivery Records
h. Load and Performance Testing
i. Inspections and Certifications by Governing Authorities
j. Leakage and Water-Penetration Tests
k. Fire Resistance and Flame Spread Test Results

l. Final Inspection and Correction Procedures

PART 3 - EXECUTION

3.1 RECORDING

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples: Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for the University's reference during normal working hours.

3.2 RECORD SAMPLE SUBMITTAL

A. Immediately prior to date of Substantial Completion, the Contractor shall meet with the Architect and, if desired, the Owner's personnel at the site to determine which of the Samples maintained during the construction period shall be transmitted to the Owner for record purposes. Comply with the Architect's instructions for packaging, identification marking, and delivery to Owner's Sample storage space. Dispose of other Samples in manner specified for disposal of surplus and waste materials.

END OF SECTION 017839

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SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 Summary

A. Section Includes:

1. This Section of the specification is intended to define the requirements for Equipment and System Demonstrations to show compliance with the Contract Documents.

PART 2 - PRODUCTS
Not Applicable

PART 3 - EXECUTION

3.1 TESTING AND ACCEPTANCE OF THE SYSTEMS

A. Contractor shall, at the time of Substantial Completion and prior to final acceptance, demonstrate to The University's representative that systems are performing in a satisfactory manner and that all equipment is operating at specified and designed capacity. All tools and instruments required for this demonstration shall be furnished by this Contractor.

B. Make all necessary repairs or adjustments prior to final acceptance, for all equipment furnished under this contract.

C. Before requesting final acceptance of each system for which he is responsible, Contractor shall:

1. Inspect his Work for completion and operation.

2. Certify in writing that the system is completed, installed, and operable in compliance with the Contract Drawings and Specifications.

3.2 DEMONSTRATION AND INSTRUCTIONS

A. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with the College's personnel in detail to explain all aspects of operation and maintenance.

B. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled times, at designated location.

C. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

3.3 CERTIFICATE OF EQUIPMENT DEMONSTRATION

A. The Certificates of Equipment Demonstration are to be executed by Contractor as indicated for each separate program.

B. These documents properly completed and signed must be forwarded to the Architect with or before Final Payment Request.

C. Specific systems or equipment demonstrations are as noted below.

3.4 AUTOMATIC SUPPRESSION SYSTEM

A. Automatic Suppression System

3.5 HVAC CONTRACT SYSTEMS

A. HVAC exhaust system

3.6 ELECTRICAL CONTRACT SYSTEMS

A. NO2 and CO sensors

B. Heat trace system

C. LED light fixtures.

END OF SECTION 017900

CERTIFICATE OF EQUIPMENT DEMONSTRATION

MONTH _____ DAY _____ YEAR _____ TIME _____

PROJECT NUMBER _____

PROJECT NAME _____

CONTRACT (GENERAL, PLUMBING, FIRE PROTECTION, HVAC, ELECTRICAL, OTHER) _____

CONTRACTOR NAME _____

EQUIPMENT ITEM OR SYSTEM _____

_____

_____

NAME OF DEMONSTRATOR AND COMPANY _____

_____

_____

I, _____ AS AN AUTHORIZED AGENT FOR THE UNIVERSITY

of the above named project do hereby certify that on _____ (date) the above named equipment item or system operation was demonstrated in my presence, and that the operating procedures of same was explained and demonstrated.

List unusual workings _____

_____

_____

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SIGNATURE OF THE UNIVERSITY'S AGENT

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SECTION 101419 - DIMENSIONAL LETTER SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Illuminated, fabricated channel dimensional characters and Logo;
   2. Illuminated, fabricated boxed Logo;

1.3 DEFINITIONS

A. Illuminated: Illuminated by lighting source integrally constructed as part of the sign unit.

1.4 COORDINATION

A. Furnish templates for placement of electrical service embedded in permanent construction by other installers.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For signs.

   1. Include fabrication and installation details and attachments to other work.
   2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
   3. Show message list, typestyles, graphic elements, and layout for each sign at least half size.
   4. Show locations of electrical service connections.
   5. Include diagrams for power, signal, and control wiring.

C. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.

   1. Include representative Samples of available typestyles and graphic symbols.

D. Samples for Verification: For each type of sign assembly showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:

1. Dimensional Characters: Half-size Sample dimensional character.
2. Exposed Accessories: Full-size Sample of each accessory type.
3. Full-size Samples, if approved, will be returned to Contractor for use in the Project.

E. Product Schedule: For dimensional letter signs. Use same designations indicated on Drawings or specified.

F. Delegated-Design Submittal: For signs indicated in "Performance Requirements" Article.

1. Include structural analysis calculations for signs indicated to comply with design loads; signed and sealed by the qualified professional engineer responsible for their preparation.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturer.

B. Sample Warranty: For special warranty.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For signs to include in maintenance manuals.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.9 FIELD CONDITIONS

A. Field Measurements: Verify locations of electrical service embedded in permanent construction by other installers by field measurements before fabrication, and indicate measurements on Shop Drawings.

1.10 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.

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

a. Deterioration of finishes beyond normal weathering.
b. Separation or delamination of sheet materials and components.

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

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design sign structure and anchorage of dimensional character sign type according to structural performance requirements.

B. Thermal Movements: For exterior fabricated channel dimensional characters, allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: [120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 DIMENSIONAL CHARACTERS

A. Fabricated Channel Characters: Translucent face with metal side returns, formed free from warp and distortion; with uniform faces, sharp corners, and precisely formed lines and profiles; internally braced for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners; and as follows.

1. Illuminated Characters (where applicable): Front-lighted character construction with LED lighting, including transformers, insulators, and other accessories for operability, with provision for servicing and concealing connections to building electrical system. Use tight or sealed joint construction to prevent unintentional light leakage. Space lamps apart from each other and away from character surfaces as needed to illuminate evenly.

    a. Power: As indicated on electrical drawings.
    b. Weeps: Provide weep holes to drain water at lowest part of exterior characters.

2. Character Material: Sheet or plate aluminum
3. Material Thickness: Manufacturer's standard for size and design of character
4. Translucent Face Sheet: Acrylic sheet with integral color or applied colored vinyl film as described in the Architectural drawings

    a. Sheet Thickness: Manufacturer's standard thickness for size of character

5. Character Height: As indicated on Drawings.
6. Character Depth: As indicated on Drawings.
7. Finishes:
    a. Baked-Enamel or Powder-Coat Finish: Manufacturer's standard, in color as indicated on the drawings

8. Mounting: Manufacturer's standard for size and design of character, concealed, butt against back panel;

    a. Hold characters at manufacturer's recommended distance from wall surface.

9. Typeface: Tri-C System official font.

2.3 DIMENSIONAL CHARACTER MATERIALS

A. Acrylic Sheet: ASTM D4802, category as standard with manufacturer for each sign, Type UVF (UV filtering).

B. Paints and Coatings for Sheet Materials: Inks, dyes, and paints that are recommended by manufacturer for optimum adherence to surface and are UV and water resistant for colors and exposure indicated.

2.4 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following:

1. Use concealed fasteners and anchors unless indicated to be exposed.
2. For exterior exposure, furnish nonferrous-metal or stainless-steel devices unless otherwise indicated.
3. Exposed Metal-Fastener Components, General:

    a. Fabricated from same basic metal and finish of fastened metal unless otherwise indicated.
    b. Fastener Heads: For nonstructural connections, use flathead or oval countersunk screws and bolts with tamper-resistant slots unless otherwise indicated.

4. Sign Mounting Fasteners:

    a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of sign material, screwed into back of sign assembly, or screwed into tapped lugs cast integrally into back of cast sign material, unless otherwise indicated.

2.5 FABRICATION

A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

1. Preassemble signs and assemblies in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.

4. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
5. Internally brace dimensional characters for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.
6. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.

B. Brackets: Fabricate brackets, fittings, and hardware for bracket-mounted signs to suit sign construction and mounting conditions indicated. Modify manufacturer's standard brackets as required.

1. Aluminum Brackets: Factory finish brackets with baked-enamel or powder-coat finish to match sign-background color unless otherwise indicated.

2.6 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

C. Directional Finishes: Run grain with long dimension of each piece and perpendicular to long dimension of finished trim or border surface unless otherwise indicated.

2.7 ALUMINUM FINISHES

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

PART 3 - EXECUTION

3.1 EXAMINATION

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

B. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.

C. Verify that electrical service is correctly sized and located to accommodate signs.

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

3.2 INSTALLATION

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
3. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

B. Mounting Methods:
1. Back Bar and Brackets: Remove loose debris from substrate surface and install backbar or bracket supports in position, so that signage is correctly located and aligned.

3.3 ADJUSTING AND CLEANING

A. Remove and replace damaged or deformed characters and signs that do not comply with specified requirements. Replace characters with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.

B. Remove temporary protective coverings and strippable films as signs are installed.

C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 101419