



# **MAYO CONCERT HALL STEP LIGHTING**

TCNJ Advertised Bid # AB230011

**COVER SHEET**

**INVITATION TO BID**

**MILESTONE SCHEDULE**

**CONSTRUCTION BID PROPOSAL FORM**

**GENERAL WORK DESCRIPTION**

**DRAWINGS**

**MANDATORY DOCUMENTS**

**CONTRACT**

**GENERAL CONDITIONS**

**January 27, 2023**



Please place the following advertisement in the Legal Section of Classified Advertising. Please ensure that the invoice for this advertisement is prepared and an affidavit forwarded to The College of New Jersey, Office of Finance and Business Services, Administrative Services Building, Room 201, P.O. Box 7718, Ewing, NJ 08628-0718.

To be published on **January 27, 2023 in the Trentonian**. Contact person regarding placement of ad is Lauren Manning (609) 771-2894.

**THE COLLEGE OF NEW JERSEY  
ADVERTISEMENT FOR BIDS  
BID #AB230011**

Under the provisions of the State College Contracts Law, Chapter 64 of Title 18-A, The College of New Jersey will receive sealed bids for the **Mayo Concert Hall Step Lighting** until **2:00 P.M. on the 24th day of February, 2023** at The College's Office of Finance and Business Services, Administrative Services Building, Second Floor, Room 201, Route 31 (Pennington Road), Ewing Township, New Jersey. At 2:00 P.M. all bids will be publicly opened and read in Room 203 of the Administrative Services Building.

The project will be bid as a Single Lump Sum with an add alternate.

No bidder may submit more than one bid.

Bid Documents may be obtained on/after **January 27, 2023 via our website** (<https://bids.tcnj.edu/home/construction-projects/>).

A **strongly encouraged pre-bid conference/on-site inspection** is scheduled on **February 2, 2023 at 10:00 A.M.** in Room 103 of the Administrative Services Building, located on The College's Ewing Township, New Jersey campus on Route 31 (Pennington Road).

Bidders are required to comply with the requirements of P.L. 1975 c. 127 (N.J.S.A. 10:5-31 et seq. and N.J.A.C. 17:27 - Affirmative Action); the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56.25 et seq.; N.J.S.A. 52:25-24.2, "Statement of Ownership Disclosure"; the Public Works Contractor Registration Act (N.J.S.A. 34:11-56.48 et seq.); the New Jersey Business Registration of Public Contractors provisions (N.J.S.A. 52:32-44); Executive Order 117 and P.L. 2005 Chapter 51 (N.J.S.A. 19:44a-1 et seq.) and all amendments thereto

**Bidders must have a New Jersey Department of Treasury, Division of Property Management and Construction (DPMC) C008, C009, or C047, General Construction or Electrical classification. No other bids will be accepted without this classification.**

A bid bond is required in the amount of 10% of the total bid. Bid bond shall consist of a certified check or cashiers check to the order of The College of New Jersey, or an individual or annual bid bond issued by an insurance company or surety company authorized to do business in the State of New Jersey. The successful Bidder(s) is required to provide a Performance and Payment Bond equal to 100% of the contract. A Surety Disclosure Statement and Certification form must accompany the performance bond.

The College will award the contract to the lowest responsible bidder who satisfies the qualification criteria as set forth in the contract documents.

The College of New Jersey reserves the right to reject all bids or to waive any minor informalities in the bidding in accordance with law. No bid shall be withdrawn for a period of sixty (60) days subsequent to the opening of bids without the consent of The College of New Jersey.



## Mayo Concert Hall Step Lighting TCNJ #'s KE 210

### Milestone Schedule

January 2023

Advertise for bidding	January 27, 2023
Pre-bid Meeting, ASB 103 @ 10 am	February 2, 2023
Cut off for questions	February 9, 2023
Addendum Issued	February 16, 2023
Bids Received by 2 PM	February 24, 2023
Notice of Intent to Award Issued	March 6, 2023
End of Protest Period	March 9, 2023
Notice to proceed issued by:	March 10, 2023
Light Submittals in and approved by	March 31, 2023
All materials ordered to ship for construction by	April 3, 2023
Start Construction in the field	June 5, 2023
Final Completion (project closed out w/ warranty, etc.)	September 1, 2023

#### **Bidding General Notes:**

1. Bidder must have the following DPMC ratings: C008, C009, or C047



## Bid # AB230011

### For: Mayo Concert Hall Step Lighting

Event	Date	Time
<b>Pre-bid Conference and Site Visit at The College of New Jersey's Administrative Services Building, Room 103</b>	2/2/2023	10:00 AM
<b>Question Cut Off Date</b> (Refer to Bid Section # 2 for more information.)	2/9/2023	4:00 PM
<b>Addendum Date</b> (Refer to Bid Section # 2 for more information.)	2/16/2023	11:00 AM
<b>Bid Submission Due Date</b> (Refer to Bid Section # 3 for more information.)	2/24/2023	2:00 PM

Dates are subject to change. All times contained in the Bid refer to Eastern Time.  
All changes will be reflected in Addendum to the Bid posted on the College's website.

Bid Issued By:

The College of New Jersey  
Office of Finance & Business Services  
Purchasing Department  
Administrative Services Building, Room 201  
2000 Pennington Road  
Ewing, NJ 08628  
Phone: (609) 771-2894  
<https://bids.tcnj.edu/home/construction-projects/>  
Assigned Purchasing Contact: Lauren Manning  
E-mail: [manningl@tcnj.edu](mailto:manningl@tcnj.edu)

Date Issued: 1/27/2023  
Fiscal Year: 2023

## Required Procurement Documents & Bidder's Checklist

This bid proposal MUST be received by The College of New Jersey, Purchasing Department before or at 2:00 p.m. on Friday, February 24, 2023 at which time responses will be publicly opened and read. Any proposal arriving at the Purchasing Department after the submission due date and time will not be accepted.

The following Bidder's Checklist is provided as an aid to the bidder. It does not in any way relieve the bidder of its responsibility to ensure that its bid proposal is complete. It is the bidder's responsibility to ensure documents are submitted and that all requirements of the bid solicitation have been met.

<b>Procurement Documentation &amp; Bidder's Checklist</b>		
<b>FORMS, REGISTRATIONS, AND CERTIFICATIONS THAT MUST BE SUBMITTED BY THE BIDDER AT THE TIME OF SUBMISSION. FAILURE TO INCLUDE THE BELOW REQUESTED DOCUMENTATION MAY RESULT IN REJECTION OF BIDDER'S SUBMISSION.</b>		
<b>Required</b>		<b>Vendor's Initials next to each item submitted with proposal</b>
X	Bidder Information	
X	General Agreement including Acknowledgement of Receipt of Addendum (if any issued)	
X	Cost Sheet	
X	Subcontractor Information Page	
X	Small Business, Minority and/or Female-owned Business Reporting	
X	Acknowledgement of Mandatory Equal Employment Opportunity Language for Construction Contracts (NJAC 17:27-1.1 et seq. - P.L. 1975 C.127)	
X	Completed Statement of Ownership Disclosure (N.J.S.A. 52:25-24.2)	
X	Completed Non-Collusion Affidavit	
X	Completed Disclosure of Investment Activities in Iran (N.J.S.A. 52:32-58)	
X	Completed Vendor Qualification Sheet	
X	Enclosed Certified Check or Bid Bond for ten percent (10%) of the amount of the bid	
X	Copy of Public Works Contractor Registration Certificate for the bidder and disclosed subcontractors (A completed copy of your Certification is not required at time of bid; however, the certificate must be valid at the time of bid.)	
X	Copy of Electrical License and any other licenses, certifications, and qualifications.	
X	Copy of DPMC Notice of Classification and Total Amount of Uncompleted Contracts	
	Copy of latest Experience Modification Rating (EMR Safety Rating). The College requires an average rating over the last 5 years of 1.25 or less.	
<b>FORMS, REGISTRATIONS, AND CERTIFICATIONS THAT MUST BE SUBMITTED BY THE BIDDER PRIOR TO AWARD.</b>		
X	Completed Two-year Chapter 51/Executive Order 117 Vendor Certification and Disclosure of Political Contributions	
X	Proof of Affirmative Action Compliance (Initial Project Workforce Report, AA-201)	
X	New Jersey Business Registration Certificate (N.J.S.A. 52:32-44)	
X	Taxpayer Identification Request (W-9 Form)	
X	Certificate of Insurance	

**THE COLLEGE OF NEW JERSEY**  
**Construction Bid Proposal Form**

**Office of Finance & Business Services**  
**Administrative Services Building, Rm. 201**  
**2000 Pennington Road**  
**Ewing, New Jersey 08628-0718**

**Bid Number: AB230011**  
**Bid Due Date: February 24, 2023**

**Project Name: Mayo Concert Hall Step Lighting**

**BIDDER INFORMATION**

Firm Name:	Telephone Number:
Contact Person:	Fax Number:
Address:	Email Address:
	Federal I.D. Number:

**SOLICITATION OF CONSTRUCTION BIDS**

**1. BID PROPOSALS ARE SOLICITED AS FOLLOWS:**

- A.** Single Bid (Lump Sum) which combines all trades.
  - 1. The total number and types of trades are set forth in the Specifications.
  - 2. Bidder enters the Bid Price on the line provided on the Cost Sheet.
  - 3. Pursuant to the requirements of N.J.S.A. 18A:64-76.1., bidder lists the names of the subcontractors on the Subcontractor Information page.

**2. THE SCOPE OF WORK INCLUDES:**

- A.** Furnish and install new supplemental step lighting at the Mayo Concert Hall inside the TCNJ Music Building. There is also an add alternate.
- B.** See Specifications and Drawings for Details (included in Bid package).
- C.** The College may issue Addenda or Clarifications which may include additions to or deletions from the scope of work; changes to the Specifications, Drawings, and proposal form; and clarifications of requirements. Bidder is advised to review all Addenda and/or clarifications carefully, and shall note the receipt of same with their bid package.

## GENERAL INSTRUCTIONS AND REQUIREMENTS

### 1. PRICES

- A. Bidder submits prices for the Base Bid and any Alternate Proposals and Unit Prices which are listed for the contract of the bid. If there is no cost associated with the Alternate or Unit Price, bidder is required to enter “0.00” or “no change”.
  - 1. Prevailing wage rates apply (Mercer County).
  - 2. Bid is to remain good for sixty (60) days after the Bid Due Date.

### 2. QUESTIONS

- A. Direct inquiries and correspondence relating to this proposal form and questions regarding the technical specifications and requests for clarification must be submitted in writing via **email to [manningl@tcnj.edu](mailto:manningl@tcnj.edu)** and must be received **prior to 4:00 pm on February 9, 2023**.
- B. Should any questions be received, a notice will be placed in the newspaper and the addendum or clarification will be available on **February 16, 2023 on the College’s website at <https://bids.tcnj.edu/>**. **If an addendum and/or clarification is posted, it SHOULD be noted in the General Agreement section of the bidder’s proposal. Failure to do so may subject Bidder to disqualification.**

### 3. HOW TO SUBMIT THE COMPLETED CONSTRUCTION BID PROPOSAL FORM

- A. Bidder places all pages of the completed form and the requisite additional documents in an envelope, seals the envelope, and labels it with his/her firm name, address, and “Sealed Bid Enclosed for (**Bid Number and Project Name**)”.
- B. Bidder mails or deliver by hand the sealed bid, no later than **2:00 p.m., February 24, 2023**, to The College of New Jersey, Attention: Lauren Manning for (specify the Bid Number), Office of Finance & Business Services, Room 201, 2000 Pennington Road, Ewing, New Jersey 08628-0718. **At 2:00 p.m., all bids will be publicly opened and read in Room 203 of the Administrative Services Building.**
- C. Contractors are advised that the U.S. Postal Service and all express mail companies deliver to The College’s Mail Room or Receiving Department, not directly to the Office of Budget & Finance. The College is not responsible for lost or misdirected bids.

### 4. BOND REQUIREMENTS AND SURETY STANDARDS

- A. Bidder must submit with its bid a Certified Check in the amount of ten percent (10%) of the total bid, or a Bid Bond in the amount of ten percent (10%) of the total bid.
- B. The successful bidder must submit a Performance and Payment Bond equal to 100% of the contract. A completed Surety Disclosure Statement and Certification must accompany the Performance and Payment Bond.
  - 1. The Performance and Payment Bond form and a sample Surety Disclosure Statement and Certification form are included at the end of this Construction Bid Proposal Form.
- C. All bid deposits shall be returned within three (3) days, Sunday and holidays excepted, after the awarding of the contract and the approval of the successful bidder’s performance bond, if any, the bid guaranty of the remaining bidders shall be returned to them.
- D. Should the successful bidder fail to enter into said contract after acceptance of bid by the College, then the check or security deposited by that bidder shall, at the option of the College, be retained as liquidated damages, or if Bid Bond has been supplied, principal and surety shall be liable to the amount of the Bid Bond.
- E. Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified copy of their Power of Attorney to sign said bonds.
- F. Contractor shall provide a Maintenance Bond at job completion for a period of one year for 100% of the final contract price.

**5. LICENSES, CERTIFICATIONS, REGISTRATIONS, QUALIFICATIONS**

- A. The bidder or, as applicable, its subcontractors shall at the time of bid have those required licenses, certifications, registrations, qualifications and the like (“LCRQ”) listed below and shall present satisfactory evidence thereof upon request of the College prior to the notice of intent to award.
  - 1. The electrical contractor or subcontractor as applicable shall have a valid electrical license. (An electrical license is not required when the work is below 110Volt)
- B. The selected bidder/contractor or, as applicable, its subcontractors shall have and shall present satisfactory evidence of all other required LCRQ noted in the Specifications after execution of contract during the submittal process and prior to the start of the applicable work, unless otherwise requested by the College or a date or event specified for that LCRQ in the Specifications.
- C. Bidders are required to be registered with the New Jersey Department of Property Management and Construction (DPMC) and possess a DPMC C008, C009, or C047 classification at the time of bid submission.

**6. SUBCONTRACTORS**

- A. Pursuant to New Jersey State Law (N.J.S.A. 18A-76.1), a Single Bid (Lump Sum) bidder discloses its subcontractors to whom the bidder intends to subcontract the work. The Subcontractor Information sheet is provided for this purpose.

**7. CERTIFICATE OF INSURANCE**

- A. The bidder is required to submit proof of liability insurance in accordance with The College’s contract.

**8. ACCEPTANCE/REJECTION OF BIDS**

- A. THE COLLEGE OF NEW JERSEY, pursuant to State College Contract Law, Contracts shall be awarded to the lowest responsible bidder whose bid, conforming to the invitation for bids, will be the most advantageous to the State college.
- B. The bid is irrevocable by the bidder or the bidder's representatives. The bid, and any award made to the bidder by the College, shall bind the bidder and the bidder's heirs, executors, administrators, successors or assigns.
- C. Award of contract shall be made to the lowest responsible bidder, whose bid, conforming to the invitation for bids, is the most advantageous to the College.
- D. The award of the contract or the rejection of the bids shall be made within sixty (60) days of the date of receiving bids, unless written extensions are requested by the College and accepted by the bidder(s). All bid securities shall be returned immediately if all bids are rejected. The successful bidder(s) to whom the award is to be made will be notified by receipt of a written "Intent to Award" from the College.
- E. When award of contract is made in one fiscal year with effective date in the next fiscal year, award shall be contingent upon the availability and appropriation of sufficient funds for that purpose for the year in which said contract takes effect. When a contract shall be awarded for a period in excess of one year, said contract shall be contingent upon the annual availability and appropriation of sufficient funds for that purpose for each year of the contract term.

**9. WITHDRAWAL OF BIDS**

- A. A written request for the withdrawal of a bid, or any part thereof, will be granted if the request is received by the College prior to the specified time of the bid opening.
- B. Should the bidder refuse to perform the work for the price provided, they will forfeit their bid security and will be held liable for the difference between their low bid and the next highest/responsive bidder.

**10. BID COMPLIANCE**

- A. Any bid not prepared and submitted in accordance with the provisions described herein may be rejected by the College. Any bid received after the time and date specified will not be considered. No bidder shall withdraw a bid within sixty (60) days after the date of the bid opening. Contracts shall be awarded



to the lowest responsible bidder whose bid, conforming to the invitation for bids, will be the most advantageous to the State college

- B. Any bidder who has defaulted on any contract with the College or any other State Agency may be considered as not responsible and their bid may be rejected. THE COLLEGE OF NEW JERSEY reserves the right to exercise this option, as the College deems proper and/or necessary in accordance with applicable law.
- C. Bids shall include all costs of any nature necessary to complete the project in the manner and within the time required by the contract.
- D. The College reserves the right to require bidders to provide a schedule of values of their lump sum bid price upon request.
- E. The College is exempt from all taxes including Federal Excise Tax, Transportation Taxes, State Excise, Sales Tax and local taxes. Rentals of equipment for 28 days or less is not exempt from any tax under the State sales tax act.
- F. Before submitting a bid, the bidder shall be familiar with the Drawings, Specifications, and other Documents that will form part of the contract and shall have visited the site of the project to confirm for themselves the character and amount of work involved.
- G. No bidder shall be allowed to offer more than one price on each item even though he/she may feel that he/she has two or more types or styles that will meet specifications. Bidders must determine for themselves which to offer. This may be cause for automatic rejection of bid.
- H. It is understood and agreed that all prices quoted are firm and not subject to any increase during the life of the contract.
- I. Should any difference arise between the contracting parties as to the meaning or intent of these instructions or specifications, the College's decision shall be final and conclusive.
- J. Should the bidder discover discrepancies in this Request for Bids, the matter shall be at once brought to the attention of the College, and the discrepancies corrected by written agreement before submission of bid. The correction will be issued by addendum.

#### **11. OSHA COMPLIANCE:**

- A. The Contractor shall guarantee that all materials, supplies and equipment to be provided under his contract shall meet all applicable requirements, Specifications and standards of the Federal Occupational Safety and Health Act (OSHA) of 1970 as amended to date of acceptance by the College, and shall also apply to Contractors Construction procedures.

#### **12. EXAMINATION OF SITE, DRAWINGS AND SPECIFICATIONS**

- A. Each Bidder shall visit the site of the proposed work and fully acquaint themselves with the conditions as they exist so that they may fully understand the facilities, difficulties, and restrictions attending the execution of the work under this Contract.
- B. Bidders shall also thoroughly examine and be familiar with the Drawings and Specifications. The failure to receive or examine any form, instrument or document, or to visit the site and acquaint himself with conditions there existing shall in no way relieve any bidder from obligation with respect to his bid. By submitting a bid, the bidder agrees and warrants that he has examined the site, the Drawings and Specifications and, that the Specifications and Drawings are adequate and the required result can be produced under the Drawings and Specifications. No claim for any extra will be allowed because of alleged impossibilities in the productions of the results specified or because of unintentional errors or conflicts in the Drawings and Specifications. No change orders will be issued for items, materials or issues that existed on or with respect to the site prior to bidding.

#### **13. DRAWINGS AND SPECIFICATIONS**

- A. The project shall be performed in accordance with the requirements of the Drawings and Specifications, subject to modification as provided in General Conditions. The Drawings and Specifications are intended to complement and supplement each other.
- B. Any work required by either of them and not by the other shall be performed as if denoted in both. Should any work be required which is not also denoted in the Specifications or on the Drawings

because of an obvious omission, but which is, nevertheless, necessary for the proper performance of the project, such work shall be performed as fully as if it were described and delineated.

#### **14. FORM OF AGREEMENT**

- A. Every successful bidder shall be required to sign the standard form contract, a copy of which is attached. Any proposed language or form changes which in any way modifies the contractor's responsibilities as set forth in the Contract Documents will not be acceptable and will be deemed to constitute a bid exception.

#### **15. MULTIPLE BIDS NOT ALLOWED:**

- A. No bidder is allowed to submit more than one bid from an individual, firm, partnership, corporation or association under the same or different name. This will be cause for automatic rejection of each bid.

#### **16. SUBSTITUTIONS:**

- A. The bidder may include in their bid substitute materials or equipment or methods in lieu of those specified in the contract documents, but they do so at their own risk. Any substitution must be equivalent in type, function and quality to the item required in the contract. The successful bidder must submit all information required within 20 days of contract award to determine if the proposed substitute is equal to the contract requirements, and any substitution must be approved by the architect and the College.
- B. The College shall have complete discretion to decide whether it will accept any substitution. No substitution shall result in any increase in the contract price or times. The successful bidder in its application for the substitution must certify in writing that the substitution is equal to what is specified in the contract documents in all material respects and will not increase the time or price of the contract work.
- C. Should the substitution be rejected, the contractor will then be required to provide the specified product, material or method at no additional cost to the College and no change in the project schedule.

**17. APPLICABLE LAWS:** The following list of statutes and regulations, which may be applicable in whole or in part, is provided for the benefit of the Contractor and is not meant to be all-inclusive. In the event that other laws are applicable, it shall be the responsibility and obligation of the Contractor to ascertain and comply with them.

- A. **EXECUTIVE ORDER #34 – MINORITY AND WOMEN BUSINESS ENTERPRISES:** On September 15, 2006, Governor Corzine signed Executive Order 34 establishing a Division of Minority and Women Business Development. The Division is charged with administering and monitoring policies, practices, and programs to ensure that minority and women business enterprises (MWBE) are afforded an equal opportunity to participate in New Jersey's purchasing and procurement processes. State entities are required to report to the Division the ethnic and gender composition of the vendors with which those state entities do business.
- B. **STATEMENT OF OWNERSHIP DISCLOSURE:** Pursuant to N.J.S.A. 52:25-24.2, in the event the Bidder is a corporation, partnership or limited liability company, the Bidder must disclose their ownership. Bidder completes and submits the form along with bid proposal.
- C. **NON-COLLUSION AFFIDAVIT:** Bidder completes and submits the form along with bid proposal.
- D. **SET ASIDE PROGRAM FOR SMALL BUSINESS ENTERPRISE (SBE) – CONSTRUCTION:** In accordance to N.J.A.C., 17:14-1.2 et seq. and Executive Order 71, signed by Governor James E. McGreevey in 2003, the College requires bidders to make a good faith effort to provide opportunities for Small Business Enterprises (SBE) to participate in the performance of this contract as subcontractors consistent with the overall goals established for construction services by the New Jersey Commerce and Economic Growth Commission (NJ Commerce). SBE subcontracting goals are not applicable if the bidder is currently registered with NJ Commerce as an SBE firm.
- E. **PREVAILING WAGE (N.J.S.A. 34:11-56.25 et seq.) AND PUBLIC WORKS CONTRACTOR REGISTRATION ACTS (N.J.S.A. 34:11-56.48 et seq.):**

1. The work described in this project is subject to the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56.25 et seq. and the Public Works Contractor Registration Act, N.J.S.A. 34:11-56.48 et seq.
2. The Public Works Contractor Registration Act requires the bidder and any subcontractors listed in the bid to be registered with the New Jersey Department of Labor and Workforce Development at the time the bid is submitted. The contractor must submit registration certificates for all listed subcontractors prior to award of the contract.
3. The Contractor must comply with the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56.25 through 56.47. Workers employed by the Contractor or any subcontractor or sub-subcontractor in the performance of services directly on the project must be paid prevailing wages. As required by N.J.S.A. 34:11-56.27 and 56.28, this contract cannot become effective until the College obtains from the New Jersey Department of Labor and Workforce Development a determination of the prevailing wage rates applicable to the project as of the contract award date and attaches a copy to the contract. As required by N.J.S.A. 34:11-56.27, the Contractor or any subcontractor may be terminated if any covered worker is not paid prevailing wages on the project, and the Contractor and its surety shall be liable for any additional costs which result. The Contractor and its subcontractors must be registered with the New Jersey Department of Labor and Workforce Development (N.J.S.A. 34:11-56.51 et seq.), and the prevailing wage rates must be posted at the job site (N.J.S.A. 34:11-56.32). The Contractor and its subcontractors must prepare accurate certified records of wages paid for each worker on the project (N.J.S.A. 34:11-56.29), and copies for the period covered by each invoice must be attached to the invoice submitted under the contract. In accordance with N.J.S.A. 34:11-56.33, the Contractor's final invoice must include a statement of all amounts still then due to workers on the project. The Contractor is also cautioned that it must use job titles and worker classifications consistent with those approved by the Department of Labor and Workforce development, and that, if it intends to pay apprentice rates, it must comply with the Department of Labor and Workforce Development regulations at N.J.A.C. 12:60,
4. Please refer to [http://lwd.dol.state.nj.us/labor/wagehour/wagerate/wage\\_rates.html](http://lwd.dol.state.nj.us/labor/wagehour/wagerate/wage_rates.html) for official wage rate determinations for Mercer County, NJ.

#### **F. NEW JERSEY EQUAL PAY ACT:**

1. On April 24, 2018, Governor Phil Murphy signed into law New Jersey's Diane B. Allen Equal Pay Act (P.L. 2018, c. 9) The law provides in pertinent part that as of July 1, 2018, any employer entering into a contract with the State of New Jersey or an instrumentality of the State for "qualifying services" or "public works" must provide to the Department of Labor and Workforce Development – upon commencement of the contract – wage and demographic data for all employees who are employed in connection with the contract (for public works) and for all employees (for qualifying services). This requirement DOES NOT apply to employers who are contracting with local governments (for example: municipalities and counties). The report must contain the gender, race, ethnicity, job category, compensation, and number of hours worked by each employee.
2. The extent of the Department of Labor and Workforce Development's responsibilities under the Equal Pay Act is the collection of data regarding compensation, hours worked, job/occupational category, job title, gender, race, and ethnicity for State contactors and making that data available to the Division on Civil Rights (DCR), within the Department of Law and Public Safety, and upon request to certain individuals. Complaints of unlawful discrimination under the Equal Pay Act should be directed to the DCR, as should any questions regarding the filing of such a complaint.
3. The Department of Labor and Workforce Development has issued two forms, as required by the law, to be completed by employers. The forms should be used to report the employee's wage and demographic data and can be found on the LWD website (<http://www.nj.gov/labor/equalpayact>). **A completed copy of the forms is not required at time of bid; however, it will be required of the bidder who receives the notice to proceed from the College. Completed forms should be emailed to: [equalpayact@dol.nj.gov](mailto:equalpayact@dol.nj.gov)**

- G. Two-year Chapter 51/Executive Order 117 Vendor Certification and Disclosure of Political Contributions:** In order for your proposal to be accepted and deemed valid, your company/firm will be required to comply with the requirements of N.J.S.A. 19:44A-1 et seq/P.L. 2005 Ch. 51 (“Chapter 51”) and Executive Order 117. Enclosed are the requirements of Chapter 51 and Executive Order 117, the forms for Certification and Disclosure. The contract that will be generated based on this bid proposal cannot be awarded without approval of the Certification and Disclosure forms by the State of New Jersey, Department of Treasury. **A completed copy of your Certification form is not required at time of bid; however, it will be required from the bidder who receives the notice of intent to award from the College prior to the execution of the contract.**
- H. N.J.S.A. 10:5-31 et seq. and N.J.A.C. 17:27-1 et seq., AFFIRMATIVE ACTION:** The bidder is required to complete and submit a copy of Initial Project Workforce Report (AA-201) to the College and the Division of Public Contracts Equal Employment Opportunity Compliance verifying that the bidder is operating under a federally approved or sanctioned Affirmative Action program. The bidder also agrees to submit a copy of the Monthly Project Workforce Report once a month thereafter for the duration of this contract to The College and the Division.
- I. New Jersey Business Registration Certificate, N.J.S.A. 52:32-44:**
1. Pursuant to N.J.S.A. 52:32-44, The College of New Jersey (“Contracting Agency”) is prohibited from entering into a contract with an entity unless the bidder/proposer/contractor, and each subcontractor that is required by law to be named in a bid/proposal/contract has a valid Business Registration Certificate on file with the Division of Revenue and Enterprise Services within the Department of the Treasury.
  2. Prior to contract award or authorization, the contractor shall provide the Contracting Agency with its proof of business registration and that of any named subcontractor(s).
  3. Subcontractors named in a bid or other proposal shall provide proof of business registration to the bidder, who in turn, shall provide it to the Contracting Agency prior to the time a contract, purchase order, or other contracting document is awarded or authorized.
  4. During the course of contract performance:
    - (a) the contractor shall not enter into a contract with a subcontractor unless the subcontractor first provides the contractor with a valid proof of business registration.
    - (b) the contractor shall maintain and submit to the Contracting Agency a list of subcontractors and their addresses that may be updated from time to time.
    - (c) the contractor and any subcontractor providing goods or performing services under the contract, and each of their affiliates, shall collect and remit to the Director of the Division of Taxation in the Department of the Treasury, the use tax due pursuant to the Sales and Use Tax Act, (N.J.S.A. 54:32B-1 et seq.) on all sales of tangible personal property delivered into the State. Any questions in this regard can be directed to the Division of Taxation at (609)292-6400. Form NJ-REG can be filed online at <http://www.state.nj.us/treasury/revenue/busregcert.shtml>.
  5. Before final payment is made under the contract, the contractor shall submit to the Contracting Agency a complete and accurate list of all subcontractors used and their addresses.
  6. Pursuant to N.J.S.A. 54:49-4.1, a business organization that fails to provide a copy of a business registration as required, or that provides false business registration information, shall be liable for a penalty of \$25 for each day of violation, not to exceed \$50,000, for each proof of business registration not properly provided under a contract with a contracting agency.
- J. RECORD RETENTION:** Pursuant to N.J.A.C. 17:44-2.2, the vendor shall maintain all documentation related to products, transactions or services under this contract for a period of five years from the date of final payment. Such records shall be made available to the New Jersey Office of the State Comptroller upon request.
- K. ENERGY STAR ENERGY EFFICIENT PRODUCTS:** Under Executive Order #11 (Corzine), the College is required to select ENERGY STAR energy-efficient products when acquiring new energy-using products or replacing existing equipment. For products that do not have ENERGY STAR labels, vendors shall follow guidelines established by the New Jersey Clean Energy Program.

L. The following list of statutes and regulations, which may be applicable in whole or in part, is provided for the benefit of the Contractor and is not meant to be all-inclusive. In the event that other laws are applicable, it shall be the responsibility and obligation of the Contractor to ascertain and comply with them.

1. Federal Statutes:

Immigration Control and Reform Act (1986) – 8 U.S.C.A. Section 1324(a) *et seq.*

Civil Rights Act of 1964 – 42 U.S.C.A. Section 1971 *et seq.*

The Americans with Disabilities Act of 1990

**GENERAL AGREEMENT**

1. Having examined the plans and specifications with related documents and the site of the proposed work and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, the undersigned hereby proposes to furnish all labor, materials, and supplies, and to construct the project in accordance with the Contract Documents, within the time set forth therein, and at the price stated. This price covers all expenses incurred in performing the work required under the Contract Documents, of which this proposal is a part.
  
2. Bidder acknowledges receipt of the following Addendums/Clarifications:  
  
Addendum Number \_\_\_\_\_ Date \_\_\_\_\_ Addendum Number \_\_\_\_\_ Date \_\_\_\_\_  
Addendum Number \_\_\_\_\_ Date \_\_\_\_\_ Addendum Number \_\_\_\_\_ Date \_\_\_\_\_  
Addendum Number \_\_\_\_\_ Date \_\_\_\_\_ Addendum Number \_\_\_\_\_ Date \_\_\_\_\_
  
3. Bidder acknowledges and affirms that he/she has personal knowledge of or has obtained and reviewed a copy of the valid prevailing wage rates at the time of the bid and for the duration of the contract for all trades involved in the project for the geographical location of the project as issued by the Commissioner of the Department of Labor & Workforce Development, Trenton, NJ 08625 (609) 292-2259 or visiting the Department of Labor website at ([http://lwd.dol.state.nj.us/labor/wagehour/wagerate/wage\\_rates.html](http://lwd.dol.state.nj.us/labor/wagehour/wagerate/wage_rates.html)).
  
4. Bidder agrees that its price is good and the bid shall not be withdrawn for a period of 60 calendar days after the scheduled Bid Due Date and Time.
  
5. The attached bid security is to become the Property of the Owner in the event that the Contract and bond are not executed within the time set forth, as liquidated damages for the delay and additional expense (including the difference between the price provided with said bond and the next lowest responsive bidder) to the Owner caused thereby.
  
6. Upon conclusion of the 5-business day protest period, Bidder will execute the formal contract for the stated work and compensation on the Standard Form of Agreement Between Owner and Contractor within 5 business days and deliver as required in the General Conditions: a Performance and Payment Bond; Surety Disclosure and Certification Statement; and certificates of insurance for general liability, automobile and worker's compensation.
  
7. Bidder acknowledges work to commence on site not later than ten (10) calendar days after receipt of a Notice to Proceed.

(Seal if bid is by Corporation)

Respectfully submitted,

\_\_\_\_\_  
(Signature of Principal)

\_\_\_\_\_  
(Printed Name of Principal)

\_\_\_\_\_  
(Title of Principal)

**COST SHEET  
SINGLE BID (LUMP SUM):  
BASE BID, ALTERNATE PROPOSALS, AND UNIT PRICES**

To: **The College of New Jersey**

for: **Construction of Mayo Concert Hall Step Lighting**

Date \_\_\_\_\_

**A. BID:**

1. **Base:** We, \_\_\_\_\_, the Undersigned, in accordance with the published advertisement inviting proposals, will furnish all labor, material, equipment and services necessary for the complete construction, as defined in the advertisement, specimen contract, specifications, addendums/clarifications/bulletins, drawings, and proposal, for the Contract amount indicated below for the **above noted project** in strict accordance with the Contract Documents and Addenda thereto for the total sum of:

\_\_\_\_\_ Dollars \$ \_\_\_\_\_  
(words)

**General Construction (Single overall Prime Contract)**

2. **Add Alternate:**

**ARM REST LIGHTING (B1 and B2 Light Types):**

**State amount to be "ADDED TO" the base bid to provide all work and cost associated with removal of the existing surface mounted light fixtures at the aisle seating for the procurement and complete installation of new light fixtures as indicated in the Drawings. The scope of this alternate shall include all necessary demolition, preparation, labor, materials, accessories, and features for complete and warranted installation of work.**

\_\_\_\_\_ Dollars \$ \_\_\_\_\_  
(words)

**Note: Failure to provide Add Alternate may result in rejection of bid.**

3. **Check List for Bidders:** A check list has been provided in these specifications for the use in completing this proposal. Bidders are encouraged to reference said list to minimize the opportunity for errors by the bidder.

**B. STATEMENT:**

We, the Undersigned, acting through its authorized officers and intending to be legally bound, agree that this bid proposal shall constitute an offer by the Undersigned to enter into a Contract with the acts and things therein provided and accept this offer at any time during said period by notifying the Undersigned of the acceptance of said offer.

Dated \_\_\_\_\_

Firm Name \_\_\_\_\_ Phone Number: \_\_\_\_\_

Address \_\_\_\_\_

\*\*If a corporation, give the State of Incorporation, using the phrase:  
"A corporation organized under the laws of \_\_\_\_\_."  
If a partnership, give names of the partners, using also the phrase:

"Co-partners trading and doing business under the firm name and style of \_\_\_\_\_:

If an individual using a trade name, give individual name, also using the phrase:

"An individual doing business under the firm name and style of \_\_\_\_\_.

Dated: \_\_\_\_\_

STATE OF \_\_\_\_\_

SS.

COUNTY OF \_\_\_\_\_

\_\_\_\_\_ being duly sworn say that the several matters stated in this proposal are in all respects true, and that no member of the State or employee of the College are interested in any way in this proposal.

Sworn and subscribed before me \_\_\_\_\_

Bidder signs above line

this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_

\_\_\_\_\_

Print Name

\_\_\_\_\_

and

\_\_\_\_\_

Title



**SUBCONTRACTOR INFORMATION FOR SINGLE BID (LUMP SUM)**

Pursuant to the State Colleges Contract Law, N.J.S.A. 18A:64-76.1, all bids submitted shall set forth the names and license numbers of all subcontractors to whom the bidder intends to subcontract the plumbing and gas fitting work; the refrigeration, the heating and ventilating systems and equipment; the electrical work, including any electrical power plants; tele-data, fire alarm, or security systems; the structural steel and ornamental iron work (individually, the “Trade” or collectively, the “Trades”).

For each Trade listed below for which the work will be completed by a subcontractor you must list for each such subcontractor at a minimum the name and, where applicable, license number (or in lieu thereof enclose a copy of the license with this form) and preferably you will also list the subcontractor’s address, telephone number, and fax number. If the work will be self-performed by the bidder, you may indicate that by inserting the name of the bidder (next to “Name”). If work by that Trade is not required per the scope of work of the project, you may indicate that by inserting “Not required” (next to “Name”). If the name of a subcontractor is not provided on this form for any one or more of the Trades, the bidder, in submitting its bid, certifies that, for such Trades, either the work will be self-performed by the bidder, or the work is not required per the scope of work.

**Failure to complete this form as required may result in your bid being disqualified.**

**Plumbing and Gas Fitting Work**

**List information for Subcontractor, if any:**

Name: \_\_\_\_\_  
License Number: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
Telephone: \_\_\_\_\_  
Fax: \_\_\_\_\_

**Refrigeration, Heating and Ventilating Systems and Equipment**

**List information for Subcontractor, if any:**

Name: \_\_\_\_\_  
License Number: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
Telephone: \_\_\_\_\_  
Fax: \_\_\_\_\_

**Electrical Work, including any Electrical Power Plants, Tele-data, Fire Alarm, or Security Systems**

**List information for Subcontractor, if any:**

Name: \_\_\_\_\_  
License Number: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
Telephone: \_\_\_\_\_  
Fax: \_\_\_\_\_

**Structural Steel Work and Ornamental Iron Work**

**List information for Subcontractor, if any:**

Name: \_\_\_\_\_  
License Number: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
Telephone: \_\_\_\_\_  
Fax: \_\_\_\_\_

\_\_\_\_\_  
Bidder Name

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

\_\_\_\_\_  
Printed Name of Signing Individual

\_\_\_\_\_  
Date

**DEMOGRAPHIC INFORMATION**

Under Executive Order 34, the College is responsible for soliciting demographic information from its vendors. The College is required to seek the following information from each firm under contract with the College:

1. Is more than fifty percent (50%) of your company minority owned? (circle one) YES NO  
(African-American, Hispanic, Asian, and/or Native American)
  
2. Is more than fifty percent (50%) of your company woman owned? (circle one) YES NO
  
3. What is the ethnicity of the owner of your company: (check applicable according to 51% ownership)
  - Asian American
  - Multiple Ethnicities
  - Non-Minority
  - Hispanic American
  - African American
  - Caucasian American Female
  - Native American
  - Unspecified

The College is required to solicit the foregoing information. Your response, however, is **strictly voluntary**. Please be advised that any contracting decisions made by the College will **not** be influenced in any way by your decision to provide the above information.

\_\_\_\_\_  
Bidder Name

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

\_\_\_\_\_  
Printed Name of Signing Individual

\_\_\_\_\_  
Date

**SMALL BUSINESS, MINORITY AND/OR WOMEN, VETERAN AND DISABLED VETERAN OWNED BUSINESS REPORTING**

1. Contractor and sub-contractors are requested to check all of the following that apply to their company and, if applicable, submit a copy of their certificate(s):

A. My company is certified by the NJ Department of Treasury, Division of Revenue and Enterprise Services as a:

- Small Business Enterprise, SBE
- Minority-owned Business Enterprise, MBE
- Women-owned Business Enterprise, WBE
- Veteran-owned Business, VOB
- Disabled Veteran-owned Business, DVOB

B. My company is not certified by either NJ Department, but is:

- Small Business, SBE
- Minority-owned Business, MBE
- Women-owned Business, WBE
- Veteran-owned Business, VOB
- Disabled Veteran-owned Business, DVOB

C.  My company is not certified as one of the categories listed above.

\_\_\_\_\_  
Bidder Name

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

\_\_\_\_\_  
Printed Name of Signing Individual

\_\_\_\_\_  
Date



PERFORMANCE BOND & PAYMENT BOND

BOND NO. \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned \_\_\_\_\_ as Principal, and \_\_\_\_\_, a corporation of the State of \_\_\_\_\_, duly authorized to do business in the State of New Jersey, having an office at \_\_\_\_\_, are hereby held and firmly bound unto The College of New Jersey in the Penal Sum of \_\_\_\_\_ DOLLARS, for payment of which well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

SIGNED this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT, WHEREAS, the above named Principal did on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_, enter into a written contract with The College of New Jersey for \_\_\_\_\_ which said contract is made a part of this bond as set forth herein;

NOW, if the said \_\_\_\_\_ shall well and faithfully do and perform the things agreed by \_\_\_\_\_ to be done and performed according to the terms of the said contract; shall pay all lawful claims of sub-contractors, materialmen, laborers, persons, forms of other suppliers or teams. fuel, oils, implements or machinery furnished, used or consumed in the carrying forward, performing, or completing of said contract, we agreeing and assenting that this undertaking shall be for the benefit of any subcontractor, materialman, laborer, person, firm or corporation having a just claim, as well as for the obligee herein; then this obligation shall be void, otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

The said surety hereby stipulated and agrees that no modifications, omissions, or additions in or to the terms of the said contract, or in or to the plans and specifications therefore shall in any wise effect the obligation of said surety on its bond.

This bond is given in compliance with the requirements of the statutes of the State of New Jersey including N.J.S.A. 18A:64-68 and any amendments thereof.

SIGNED, SEALED AND DELIVERED IN THE PRESENCE OF

\_\_\_\_\_  
Witness

BY: \_\_\_\_\_

\_\_\_\_\_  
Witness as to Surety

BY: \_\_\_\_\_  
ATTORNEY-IN-FACT

Countersigned

this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

BY: \_\_\_\_\_

NOTE: General Power of Attorney and the current financial statement of the bonding company must be attached to each copy (a total of three) of the Performance Bond.

## SURETY DISCLOSURE STATEMENT AND CERTIFICATION

\_\_\_\_\_, surety(ies) on the attached bond, hereby certifies(y) the following:

(1) The surety meets the applicable capital and surplus requirements of R.S. 17:17-6 or R.S. 17:17-7 as of the surety's most current annual filing with the New Jersey Department of Insurance.

(2) The capital (where applicable) and surplus, as determined in accordance with the applicable laws of the State of New Jersey, of the surety(ies) participating in the issuance of the attached bond is (are) in the following amount(s) as of the calendar year ending December 31, \_\_\_\_, (insert most recent calendar year for which capital and surplus amounts are available), which amounts have been certified as indicated by certified public accountants (indicating separately for each surety that surety's capital and surplus amounts, together with the name and address of the firm of certified public accountants that shall have certified those amounts):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(3) (a) With respect to each surety participating in the issuance of the attached bond that has received from the United States Secretary of the Treasury a certificate of authority pursuant to 31 U.S.C. 9305, the underwriting limitation established therein and the date as of which that limitation was effective is as follows (indicating for each surety that surety's underwriting limitation and the effective date thereof):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(b) With respect to each surety participating in the issuance of the attached bond that has not received such a certificate of authority from the United States Secretary of the Treasury, the underwriting limitation of that surety as established pursuant to R.S. 17:18-9 as of date on which such limitation was so established, is as follows (indicating for each such surety that surety's underwriting limitation and the date on which that limitation was established):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(4) The amount of the bond to which this statement and certification is attached is \$\_\_\_\_\_.

(5) If, by virtue of one or more contracts of reinsurance, the amount of the bond indicated under item (4) above exceeds the total underwriting limitation of all sureties on the bond as set forth in items (3) (a) or (3) (b) above, or both, then for each such contract of reinsurance:

(a) The name and address of each such re-insurer under that contract and the amount of that re-insurer's participation in the contract is as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(b) Each surety that is party to any such contract of reinsurance certifies that each reinsurer listed under item (5) (a) satisfies the credit for reinsurance requirement established under P.L. 1993, c. 243 (C. 17:51B-1 *et seq.*) and any applicable regulations in effect as of the date on which the bond to which this statement certification is attached shall have been filed with the appropriate public agency.

## CERTIFICATION

(to be completed by an authorized certifying agent for each surety on the bond)

I, \_\_\_\_\_ (name of agent), as \_\_\_\_\_ (title of agent)

for \_\_\_\_\_ (name of surety),

a corporation/mutual insurance company/other (indicate type of business organization by circling one) domiciled in \_\_\_\_\_  
\_\_\_\_\_ (state of domicile), DO HEREBY CERTIFY that, to the best of my knowledge, the foregoing statements made by  
me are true, and ACKNOWLEDGE that, if any of those statements are false, this bond is VOID and I am subject to  
punishment.

\_\_\_\_\_  
(Signature of certifying agent)

\_\_\_\_\_  
(Printed name of certifying agent)

\_\_\_\_\_  
(Title of certifying agent)

\_\_\_\_\_  
(Date of Certification)

# TECHNICAL SPECIFICATIONS



## SUPPLEMENTAL STEP LIGHTING AT MAYO CONCERT HALL

FOR

**THE COLLEGE OF NEW JERSEY**  
2000 PENNINGTON ROAD  
EWING, NJ 08628

### ISSUED FOR CONSTRUCTION

TCNJ Project Number KE210  
Commission Number: 22U018

**Date: December 15, 2022**

**SPIEZLE ARCHITECTURAL GROUP, INC.**





# PROJECT MANUAL

## SUPPLEMENTAL STEP LIGHTING AT MAYO CONCERT HALL

FOR

### THE COLLEGE OF NEW JERSEY

2000 PENNINGTON ROAD

EWING, NJ 08628

#### ARCHITECT:

SPIEZLE ARCHITECTURAL GROUP, INC.  
1395 YARDVILLE-HAMILTON SQUARE ROAD  
SUITE 2A  
HAMILTON, NEW JERSEY 08691  
TELEPHONE NUMBER: (609) 695-7400  
FAX NUMBER: (609) 394-2274

NEW JERSEY LICENSED ARCHITECT  
21AC00063000  
21AI01294900  
21AI01505400  
21AI01439400  
21AI01674400  
21AI01784200

SEAL & SIGNATURE

COMMISSION NO. 22U018

**ELECTRICAL ENGINEER:**

<p>SPIEZLE ARCHITECTURAL GROUP, INC. 1395 YARDVILLE-HAMILTON SQUARE ROAD SUITE 2A HAMILTON, NEW JERSEY 08691 TELEPHONE NUMBER: (609) 695-7400 FAX NUMBER: (609) 394-2274</p>	
<p><u>NEW JERSEY PROFESSIONAL ENGINEER</u> PE# 24GE04346700</p>	<p>SEAL &amp; SIGNATURE</p>

**COMMISSION NO. 22U018**

# **PROJECT MANUAL**

## **EXTERIOR RENOVATIONS FOR KENDALL HALL**

FOR

THE COLLEGE OF NEW JERSEY  
2000 PENNINGTON ROAD  
EWING, NJ 08628

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED

**DIVISION 32 EXTERIOR IMPROVEMENTS**

NOT USED

**DIVISION 33 UTILITIES**

NOT USED

**END OF TABLE OF CONTENTS**

## SECTION 000115 - CONTRACT DRAWINGS

Drawings listed below provide for complete construction of this Project and are part of the Contract Documents.

<b><u>DWG. NO.</u></b>	<b><u>TITLE</u></b>
CS.1	COVER SHEET
CS.2	NOTES, ABBREVIATIONS AND LIST OF DRAWINGS
E1.0	ELECTRICAL FLOOR PLAN – BASE BID
E1.1	ELECTRICAL FLOOR PLAN ALTERNATE BID

The Architect may furnish additional drawings as may be required for further explanation of details for work under this Contract, but these drawings will not include shop drawings. Shop Drawings shall be completed and submitted for Architect's review for compliance with the contract documents prior to the starting of work by the Contractor, as specified herein.

END OF SECTION 000115

**SECTION 01010  
SUMMARY OF WORK**

**PART 1- GENERAL**

**1.01 RELATED DOCUMENTS**

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

**1.02 WORK COVERED BY CONTRACT DOCUMENTS**

- A. The Project consists of all work noted on the drawings and in these specifications
  - 1. Project Location: The College of New Jersey, Ewing New Jersey
  - 2. Owner: The College of New Jersey, State of New Jersey

**1.03 CONTRACTS**

- A. The project contract is between The College of New Jersey and the single prime contractor performing the work specified.
- B. Definition of Extent of Contract Work: The contract documents, specifications, project drawings, manufacturer's installation handbooks, TCNJ form of agreement, and the contractors response to the RFP represent the extent of the construction contract.

**1.04 CONTRACTORS USE OF PREMISES**

- A. General: During the construction period the Contractor shall have full use of the premises for construction operations, including use of the site. The contractor's use of the premises is limited only by the Owner's right to perform work, retain other contractors on portions of associated projects, or to access the building for the occupants.
  - 1. Contractor is to coordinate their work with the activities for each work location.
- B. Use of the Site: Limit use of the premises to areas required for equipment and material storage and access to the roof area. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas immediately adjacent to the building where the work is being performed.
  - 1. Owner Occupancy: Allow for Owner occupancy and use by the public.
  - 2. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials unless previously approved by the owner. Schedule deliveries to minimize space and time requirements or storage of materials and equipment on -site.
  - 3. Burial of Waste Materials: Disposal of organic and hazardous materials on-site either by burial or burning, will not be permitted.
  - 3. Parking is allowed with in the construction fence only. If more parking is needed, there is additional parking provided at the colleges Carlton Avenue parking lot. The contractor is responsible to shuttle workers back and forth as needed.
- C. Use of the Existing Building: Maintain any existing building in a weathertight condition

SUMMARY OF WORK

throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building, its contents, components, and systems and its occupants during the construction period.

PART 2 - PRODUCTS (Not Applicable)

PART 3- EXECUTION (Not Applicable)

END OF SECTION 01010



1 **SECTION 01025 – MEASUREMENT AND PAYMENT**

2  
3 PART 1 - GENERAL

4  
5 1.01 SCHEDULE OF VALUES

6  
7 A. Each Contractor shall prepare a schedule of values in coordination with the preparation of progress schedule.  
8 Correlate line items with other administrative schedules and forms required for the work, including progress  
9 schedule, payment request form, listing of subcontractors, schedule of allowances if any, schedule of  
10 alternates if any, listing of products and principal suppliers and fabricators, and schedule of submittals. Break  
11 down principal subcontract amounts into multiple line items for each entity of work. Round off to nearest  
12 whole dollar, but with total equal to Contract Sum. Submit 4 copies of schedule of values to the Owner and  
13 Architect for review and approval.

- 14  
15 • **Upon Owner/Architect approval, Owner will return the Schedule of Values to the Contractor for**  
16 **the Contractor to submit to the bonding company for their acceptance. Payments will not be**  
17 **made to the Contractor until the bonding company has provided a written acceptance to the**  
18 **Owner.**

19  
20 B. The schedule of values shall be tabulated into subcontracts and trades with the Quantity, Labor, Material, and  
21 Total Cost indicated. The Schedule of Values shall include such items as bonds, insurance, allowances and  
22 alternates, punchlist/close out documents and shall enclose copies of invoices and/or cancelled checks from  
23 bonding and insurance agents.

24  
25 C. Schedule of values shall be submitted on AIA Form G703 or similar form approved by the Architect and  
26 Owner.

27  
28 D. Each Contractor's monthly application for payment shall be in the same schedule form, reflecting the same  
29 items from above. Unit costs shall be realistic for their part of the Work.

30  
31 1.02 CHANGES IN THE WORK

32  
33 A. When a change in the Work includes a category or categories of Work both added to and deducted from the  
34 Contract, the total quantities of added Work and of deleted Work shall be determined separately for each  
35 category and the appropriate unit price or net cost of the Work shall be applied to the difference between the  
36 two total quantities.

37  
38 B. Unit prices shall be inclusive of all costs and shall be applied to units of measure as defined in the  
39 Specifications for each category of Work.

40  
41 C. For all extra Work performed by the Contractor, the gross cost to the Owner shall include the net cost of the  
42 Work to the Contractor plus an allowance for overhead and profit not to exceed 15% of the net cost.

43  
44 D. For all extra Work performed by a Subcontractor, the gross cost to the Owner shall include the net cost of the  
45 Work to the Subcontractor plus an allowance for overhead and profit not to exceed 15% of the net cost, plus  
46 the Prime Contractor's overhead and profit not to exceed 5% of the Subcontractor's cost.

47  
48 E. Net cost of extra Work shall be the actual or pro-rated cost of:

- 49  
50 1. Labor, including foreman, at the prevailing rate of wages, contributions and taxes.
  - 51  
52 2. Materials entering permanently into the Work, including delivery to the site.
  - 53  
54 3. The ownership or rental cost of construction equipment and expendable tools, pro-rated for the time  
55 necessary for the Work.
- 56

1 4. Power and consumable supplies for the operation of power equipment, pro-rated for the time necessary  
2 for the Work.

3  
4 5. Insurance and Bonds.

5  
6 F. Gross costs shall be net costs plus the mark up allowances described above, such mark up allowances being  
7 inclusive, of all cost of superintendence, supervision, engineering, overhead, profit, administrative and site  
8 office expenses and all other general expenses.  
9

10 1.03 APPLICATIONS FOR PAYMENT

11 A. Except as otherwise indicated, sequence of progress payments for the Contractor shall be regular, and each  
12 shall be consistent with previous applications and payments. It is recognized that certain applications involve  
13 extra requirements, including initial applications, applications at times of substantial completion, and final  
14 payment applications.  
15

16 B. Payment Application Forms: Use AIA Document G702 and G703 Continuation Sheets; available from  
17 Publications Distribution Div., The American Institute of Architects, 1735 New York Ave., N.W.,  
18 Washington, D.C. 20006 (also available at most local AIA chapter offices).  
19

20 C. Except as otherwise indicated, complete every entry provided on the form, including notarization and execu-  
21 tion by authorized persons. Incomplete applications will be returned by Architect and Owner without action.  
22 Entries shall match current data of schedule of values, progress schedules and reports. Listing shall include  
23 amounts of fully executed change orders issued prior to first day of the period of construction covered by  
24 application. Applications for payment shall include weekly payroll report. Contractor shall furnish to the  
25 Owner certified payroll reports for each payroll period with pay request, indicating name craft, social security  
26 number and actual hourly rate of wages paid to each workman employed on the project. A certified payroll  
27 record is defined as "a payroll record which is attested to by the employer, or corporate officer of such  
28 company, or an authorized agent of the employer." A payment request will not be paid until the Owner  
29 receives the certified payrolls.  
30

31 D. Submit one "pencil" copy of each proposed payment application to the architect and owner, for review, not  
32 less than seven days prior to formal submissions of application.  
33

34 E. Submit 4 executed copies of each payment application. Transmit with a transmittal form listing attachments,  
35 and recording appropriate information related to application.  
36

37 F. Breakdown may include a line item for General Conditions. General Conditions shall include the cost of  
38 general supervision, trailers, temporary utilities and other general expenses directly related to the project and  
39 not considered overhead. The general conditions item shall be billed on monthly progress payments on a  
40 percentage of work completed.  
41

42  
43 1.04 INITIAL PAYMENT APPLICATION

44 A. The principal administrative actions and submittals which shall precede or coincide with submittal of the  
45 Contractor's first payment application can be summarized as follows, but not necessarily by way of  
46 limitation.  
47

48 1. Listing of subcontractors and principal suppliers and fabricators.

49 2. Schedule of values.

50 3. Schedule of principal products.

51 4. Schedule of submittals (preliminary if not final).  
52  
53  
54  
55  
56

5. Copies of acquired building permits and similar authorizations and licenses from governing authorities for current performance of the work.
6. Data needed by Owner to secure related insurance coverages.
7. Performance and Payment Bond.
8. Insurance Certificates.

1.05 PROGRESS PAYMENTS

A. Based upon application for payments submitted to the Architect and the Owner, by the Contractor, on or about the 25th day of each month for the period ending the last day of the previous second month, and Certificate of Payment issued by the Architect and the Owner, the Owner will make progress payments on account of the Contract Sum to the Contractor as follows:

1. On or after the 20th day of each month, the Contractor shall submit to the Architect and Owner a "pencil copy" indicating the previous payment and the proposed amounts for each line item for the current period. After review and approval or changes, the Contractor shall prepare the final billing for presentation to the Architect and Owner.
2. a. Whenever any contract, the total price of which exceeds \$100,000, entered into by a State college, for the construction, reconstruction, alteration or repair of any building, structure, facility or other improvement to real property, requires the withholding of payment of a percentage of the amount of the contract, the contractor may agree to the withholding of payments in the manner prescribed in the contract, or may deposit with the State college registered book bonds, entry municipal bonds, State bonds or other appropriate bonds of the State of New Jersey, or negotiable bearer bonds or notes of any political subdivision of the State, the value of which is equal to the amount necessary to satisfy the amount that otherwise would be withheld pursuant to the terms of the contract. The nature and amount of the bonds or notes to be deposited shall be subject to approval by the State college. For purposes of this section, "value" shall mean par value or current market value, whichever is lower.

If the contractor agrees to the withholding of payments, the amount withheld shall be deposited, with a banking institution or savings and loan association insured by an agency of the Federal government, in an account bearing interest at the rate currently paid by such institutions or associations on time or savings deposits. The amount withheld, or the bonds or notes deposited, and any interest accruing on such bonds or notes, shall be returned to the contractor upon fulfillment of the terms of the contract relating to such withholding. Any interest accruing on cash payments withheld shall be credited to the State college.

b. Any contract, the total price of which exceeds \$100,000, entered into by a State college involving the construction, reconstruction, alteration, repair or maintenance of any building, structure, facility or other improvement to real property, shall provide for partial payments to be made at least once each month as the work progresses, unless the contractor shall agree to deposit bonds with the State college pursuant to section 1.

c. 1. With respect to any contract entered into by a State college pursuant to section 2 for which the contractor shall agree to the withholding of payments pursuant to section 1, 2% of the amount due on each partial payment shall be withheld by the State college pending completion of the contract.

2. Upon acceptance of the work performed pursuant to the contract for which the contractor has agreed to the withholding of payments pursuant to subsection a. of this section, all amounts being withheld by the State college shall be released and paid in full to the contractor within 45 days of the final acceptance date agreed upon by the contractor and the State college, without further withholding of any amounts for any purpose whatsoever,

1 provided that the contract has been completed as indicated. If the State college requires  
2 maintenance security after acceptance of the work performed pursuant to the contract, such  
3 security shall be obtained in the form of a maintenance bond. The maintenance bond shall  
4 be no longer than two years and shall be no more than 100% of the project costs.  
5

6 d. This act shall take effect immediately. This bill supplements the "State College Contracts Law,"  
7 P.L.1986, c.43 (C.18A:64-52 et seq.), and applies to any State college contract for over \$100,000 which  
8 involves the construction, reconstruction, alteration or repair of any building, structure, facility or other  
9 improvement to real property. Under the provisions of this bill, whenever a contract of this type requires  
10 the withholding of payment of a percentage of the amount of the contract, the contractor would have the  
11 choice of either agreeing to a retainage deduction from each monthly progress payment, or the contractor  
12 could choose to deposit bonds in the amount necessary to satisfy the amount that otherwise would be  
13 withheld under the contract. If a contractor chooses a retainage deduction from each monthly payment,  
14 then the retainage would be limited to 2% of the amount due on each partial payment. Upon acceptance  
15 of the work performed pursuant to the contract for which the contractor has agreed to a retainage  
16 deduction, all amounts being withheld by the State college must be paid in full to the contractor within  
17 45 days of the final acceptance date agreed upon by the contractor and the State college. The bill  
18 provides that if the State college requires maintenance security after acceptance of the work performed  
19 under the contract, the security must be obtained in the form of a maintenance bond, which is required to  
20 be no longer than two years and no more than 100% of the project costs. The provisions of this bill are  
21 similar to provisions in the "Local Public Contracts Law," P.L.1971, c.198 (C.40A:11-1 et seq.) and the  
22 "Public School Contracts Law," P.L.1977, c.114 (C.18A:18A-1 47 et seq.).  
23

- 24 3. Upon substantial completion, the retainage shall, upon the Architect/Owner's approval, remain at 2% of  
25 the value of work completed. Final release of retained monies will occur only upon the total completion  
26 of all punch list and closeout documentation to the satisfaction of the Architect and Owner.  
27  
28 4. For each day's delay in the Contractor's submission of an application for payment acceptable to the Ar-  
29 chitect and Owner, the Owner may delay one day in making his progress payment.  
30  
31 5. Owner shall make payments within 30 days of receipt of said monthly pay requisition.  
32

33 1.06 APPLICATION AT TIME OF SUBSTANTIAL COMPLETION

- 34 A. Following issuance of certificate of substantial completion on each Contractor's work, and also in part as  
35 applicable to prior certificates on portions of completed work as designated, a "special" payment application  
36 may be prepared and submitted by Contractor. The principal administrative actions and submittals which  
37 shall precede or coincide with such special applications can be summarized as follows, but not necessarily by  
38 way of limitation:  
39  
40 1. Occupancy permits and similar approvals or certifications by governing authorities and franchised  
41 services, assuring Owner's full access and use of completed work.  
42  
43 2. Warranties, guarantees, maintenance agreements and similar provisions of Contract Documents.  
44  
45 3. Test/adjust/balance records, maintenance instructions, meter readings, start up performance reports, and  
46 similar change over information germane to Owner's occupancy, use, operation and maintenance of  
47 completed work.  
48  
49 4. Final cleaning of the work.  
50  
51 5. Application for reduction (if any) of retainage, with consent of surety.  
52  
53 6. Advice to Owner on coordination of shifting insurance coverages, including proof of extended coverage  
54 as required.  
55  
56

1 7. Listing of Contractor's incomplete work, recognized as exceptions to certificate of substantial comple-  
2 tion.  
3

4 1.07 FINAL PAYMENT APPLICATION  
5

6 A. The administrative actions and submittals which shall precede or coincide with submittal of the Contractor's  
7 final payment application can be summarized as follows, but not necessarily by way of limitation.  
8

9 1. Completion of project closeout requirements.  
10

11 2. Completion of items specified for completion beyond time of substantial completion, regardless of  
12 whether special payment application was previously made.  
13

14 3. Assurance, satisfactory to Owner and Owner, that unsettled claims will be settled and that work not  
15 actually completed and accepted will be completed without undue delay.  
16

17 4. Transmittal of required project construction records to Owner via the Owner.  
18

19 5. Proof, satisfactory to Owner and Owner, that taxes, fees and similar obligations of Contractor have been  
20 paid.  
21

22 6. Removal of temporary facilities, services, surplus materials, rubbish and similar elements.  
23

24 7. Notarized consent of surety for final payment.  
25

26 1.08 WAIVER OF LIENS  
27

28 A. Each Contractor, for himself, and for all Subcontractors and material men, agrees that no mechanic's lien or  
29 other claim shall be filed or maintained by the Contractor or by any Subcontractor, materialmen, laborer or  
30 any other person whatsoever for, or on account of any work performed or materials furnished under this  
31 Contract. This agreement shall be an independent contract, and the Contractor shall execute and deliver a  
32 separate Waiver of Liens in form and substance satisfactory to the Architect and Owner contemporaneously  
33 with the execution of the Owner-Contractor Agreement and before any work is begun at the site.  
34

35 B. In every subcontract entered into by each Contractor after execution of this Contract or in connection  
36 herewith, the Contractor shall incorporate a provision, similar to the foregoing paragraph, to the effect that  
37 neither the Subcontractor nor any party acting through or under him shall file or maintain any mechanic's lien  
38 or other claim against the Architect or Owner in connection with the Work.  
39

40 **END OF SECTION 01025**

1 **SECTION 01100 - PROJECT PROCEDURES**

2  
3 PART 1 - GENERAL

4  
5 1.01 SPECIAL REQUIREMENTS

- 6  
7 A. Schedule: Contractor shall provide a master schedule showing sequencing of work utilizing the CPM  
8 method. The Contractor shall supply a schedule with all subcontractor activities, relationships, and durations,  
9 utilizing the CPM method via SureTrak/Primavera, Version 3.0, or a Microsoft scheduling software to the  
10 Owner on a working version CDrom and coordinate their schedule with the Owner.  
11 • The Contractor is required to update at the end of each month the CPM Schedule based on the  
12 percentage completed for each activity on the approved schedule (in concert with the submission of the  
13 percentage completed in the monthly proposed schedule of values).  
14 • **The contractor in their bid includes a cost of \$500.00 per month for this schedule submission, for**  
15 **the duration of construction (per the milestone schedule in the bidding documents). This only**  
16 **applies to projects in excess of 2 million dollars in base price price. The contractors schedule of**  
17 **values shall include this cost, and can only be billed for upon TCNJ's successful receipt of said**  
18 **schedule. Should any schedule not be received at the end of any month during construction, TCNJ**  
19 **will issue a deduct change order in the amount of \$500.00 to the contractor.**  
20  
21 B. Each Contractor shall take all necessary precautions to ensure the safety of all structural elements during all  
22 phases of all work. No materials, cranes, trucks or any other construction loads shall be placed on any part of  
23 the structure until the Contractor has determined the adequacy of that structure to carry the intended load  
24 without damage or overstress.  
25  
26 C. Entrance into, or other use of the building will not be permitted except as may be necessary for the execution  
27 of the Work, and shall be subject to the restrictions and instructions of the Owner.  
28  
29 D. Routes of ingress and egress to areas where work is being performed shall be subject to the restrictions and  
30 instructions of the Owner.  
31  
32 E. Materials shall be moved through the Building using rubber tired vehicles which shall be properly controlled  
33 at all times to avoid damage to existing wall, floor or ceiling surfaces.  
34  
35 F. Water damage cannot be tolerated and it is incumbent upon Contractors to take any steps necessary to keep  
36 the existing premises dry at all times.  
37  
38 G. Any damage to the new building from heavy equipment, striking the Building or any other damage to any  
39 part of the premises shall be repaired at the expense of the Contractors.  
40  
41 H. All welding and cutting shall be performed by qualified and certified welders. Certificates shall be on file  
42 with the Contractor prior to commencement of any welding.  
43  
44 I. No work shall start before 8:30am.unless agreed to in advance with the College.

45  
46  
47 PART 2 - PRODUCTS

48 NOT APPLICABLE

49  
50  
51 PART 3 - EXECUTION

52  
53 3.01 GENERAL

- 54  
55 A. Contractors shall perform the work on or about the premises in a careful manner with full consideration to  
56 fire protection as required by the National Fire Protection Association Standards, National Board of Fire

- 1 Underwriters and State and Local Departments having jurisdiction. Fire resistant materials shall be used for  
2 temporary enclosures.  
3
- 4 B. Chemical extinguishers approved by the Owner shall be provided by the General Contractor during the  
5 progress of the work where and as required by the Owner, the State Fire Marshal and the National Board of  
6 Fire Underwriters.  
7
- 8 C. The Contractor shall maintain an active program of fire prevention to keep workmen fire conscious during  
9 the entire life of the Contract. Designate one member of the organization to execute and coordinate fire  
10 control measures of his own organization and that of all subcontractors under his jurisdiction.  
11
- 12 D. All sub-contractors shall cooperate with the Contractor in carrying out the above program.  
13
- 14 E. Storage of flammable materials will not be permitted in the Building unless written permission is obtained  
15 from the Owner. Storage of all such materials shall be the Contractors' responsibility.  
16
- 17 F. On-site open burning of rubbish, garbage, trade waste, leaves or plant life is prohibited.  
18
- 19 G. Safety Program: The Contractor shall institute a safety program in accordance with OSHA and any local,  
20 state, or federal guidelines. The contractor shall name a safety officer to monitor this program and shall  
21 submit a safety report at job meetings.  
22
- 23 H. Stockpiling: Stockpiling of materials on site will be allowed (but limited due to the limited space on this  
24 site). Such materials shall not impair or impede the functioning of the facility. Materials stored on site shall  
25 be secured to prevent loss from theft, damage, vandalism or fire. By stockpiling materials on site, the  
26 contractor assumes full responsibility for said materials, and shall protect them to the fullest extent possible.  
27 Specific locations for stockpiling materials shall be coordinated with the Architect, and Owner.  
28
- 29 I. Safety Barriers: The Contractor shall erect safety barriers to deter and prohibit unauthorized access to the  
30 construction site; such barriers may take the form of fences and shall be clearly marked with signage  
31 prohibiting unauthorized access. The Contractor shall be responsible for safety barriers within the building.  
32 The contractor shall be liable for damages to persons or property due to the construction process if adequate  
33 safety measures are not undertaken. The Owner and Architect shall review safety precautions for their  
34 adequacy but shall not be held liable for Contractors failure to maintain or provide adequate protection.  
35
- 36 J. Sequencing: The Contractor will work with the Sub-Contractors to sequence the work during the submission  
37 of monthly project schedules. Contractors shall endeavor to coordinate their work efforts with the Owner's  
38 requirements. Interruptions of utility services shall be coordinated with the Architect, and Owner, but in no  
39 instance shall last longer than 2 hours.  
40
- 41 K. Limited staging and on site parking will be provided by General Contractor. The Contractor will coordinate  
42 parking areas with all the subcontractors and TCNJ.  
43
- 44 1. Parking will be available at Carlton Avenue. Contractor will provide shuttle service to and from the  
45 site.  
46
- 47 2. Contractor will be permitted to have vehicles on site with in the construction fencing only. Contractor  
48 is to provide stone in all parking areas on site to prevent the buildup of ruts and mud, thus minimizing the  
49 amount of mud leaving the site and being left behind on TCNJ roads.  
50
- 51 L. Site Utilities: Electric power and water are available on site. Toilet facilities will be made available by the  
52 Contractor. These facilities shall remain clean by the Contractors throughout the course of the project. The  
53 Contractors shall repair and/or replace any damaged fixtures, partitions, etc. The Electrical Sub-Contractor  
54 shall tie in a temporary power panel (or panels as required) for all trades to use during construction.  
55 Interruption of building services shall not occur without prior consent and coordination by the Owner and  
56 Owner.

1  
2 1. Provide portable toilets for all construction personnel.  
3

4 M. Construction Lighting: The Electrical Sub-Contractor shall run sufficient strings and fixtures to maintain a  
5 50 foot-candle/sq.ft.intensity of light throughout the project areas.  
6

7 N. Dumpster Location and Cleanup: The Architect and Owner shall coordinate the dumpster location with the  
8 Contractors. The Contractor shall be responsible for obtaining, maintaining, and disposing of dumpsters, and  
9 shall maintain clean work areas throughout the course of the project.

- 10 • Contractor is to provide adequate manpower during the entire course of the project to maintain the site  
11 in a clean, neat and professional manner. At a minimum the contractor is to clean the entire site  
12 twice per week (on different days) by picking up all debris in and around the site. Sweeping the  
13 entire building daily is required once the floor slabs are in place. Contractor is to place garbage cans  
14 on each floor minimum 3 per floor in designated locations to assist in keeping the site clean. The  
15 owner will not tolerate a building project that is not maintained in a professional manner at all  
16 times.  
17

18  
19  
20 3.02 PROGRESS MEETINGS  
21

22 A. Progress Meetings shall be held bi-weekly at the job site at a regular time and day mutually agreed upon.  
23 The frequency may be changed by the Architect or Owner to reflect current conditions. The Contractors,  
24 those of his/their subcontractors concerned with current progress or with scheduling of future progress, the  
25 Architect, the Owner, and the Owner shall each be represented at these job meetings by persons familiar with  
26 the details of the work and authorized to conclude matters relative to work progress, establishment of  
27 progress schedules, etc., as may be necessary to expedite completion of the work.  
28

29 B. The Contractors and his/their subcontractors attending these meetings shall present complete and definite  
30 reports as to the status of their respective work, conditions of product and equipment manufacturer, labor  
31 availability, productivity and cooperation, shipping data, time of completion, sequence of the work, safety  
32 program, and any other information bearing upon the execution of the Contract or subcontract. For the  
33 Owner's convenience the Owner will chair the meetings.  
34

35 3.03 MONTHLY REPORTS

36 A. The Contractor is to provide TCNJ a brief monthly status report on the last working day of each month dividing  
37 the status of the project into the following categories (report must be complete in all respects, piece meal  
38 submissions will not be accepted):

- 39 a. Project overview
- 40 b. Financial status
- 41 c. Updated project schedule
- 42 d. Change order request log
- 43 e. Submittal log
- 44 f. RFI log
- 45 g. Owner/Architect issues that need immediate resolution
- 46 h. Order/delivery issues  
47

48  
49 **B. The Contractor is to provide TCNJ with this monthly report, and include in their bid a cost of \$500.00**  
50 **per month for all projects in excess of 2 million dollars base bid price for the duration of the construction**  
51 **period as noted in the bidding milestone schedule. This total cost will be listed in the contractor's**  
52 **schedule of values and can be billed for on a monthly basis only if said report is received in whole as**  
53 **noted above. Should TCNJ not receive said complete report a deduct change order will be issued to the**  
54 **contractor for \$500.00 for that month.**  
55  
56



1    **END OF SECTION 01100**

1 **SECTION 01300 – SUBMITTALS AND SUBSTITUTIONS**

2  
3 PART 1 – GENERAL

4  
5 1.1 PROGRESS SCHEDULE / COORDINATION DRAWINGS

- 6  
7 A. The Contractor's schedule, shall coordinate with all trades to produce a coordinated CPM via  
8 Suretrak/Primavera version 3.0 or a Microsoft scheduling program schedule indicating the start and  
9 completion dates for each portion of the work as defined by the schedule of values, with the total time as  
10 defined by the contract time and milestone dates as set forth in these specifications. The Contractor's CPM  
11 schedule shall be submitted in electronic format (Suretrak 3.0 or a Microsoft Scheduling program) to and  
12 reviewed by the Owner and Architect prior to first application for payment. Any revisions or additional  
13 information requested by the Owner or Architect shall be provided. (No payment shall be made to any  
14 Contractor not providing a schedule that reflects their entire work).  
15 • Also refer to Section 01100-1 – Project Procedures.  
16  
17 B. The Contractor shall revise the progress schedule on a monthly basis as the work progresses reflecting therein  
18 any delays, including those not within the Contractor's control, or accelerations in the progress of the work.  
19 The progress schedule, as revised for any weekly period, shall be discussed at the bi-weekly job meetings  
20 with the, Owner, the Architect, and the Contractor and the major trades in order to insure that the percentage  
21 of actual completion of any portion of the work as called for in the progress schedule for that bi-weekly  
22 period is attained. Monthly updates to the progress schedule shall be made prior to application for payment.  
23  
24 C. Should any delay occur in the progress of the work or any portion thereof, the Contractor shall be required to  
25 implement all necessary measures to accelerate the construction, to meet the percentages of completion  
26 dictated by the progress schedule on the applicable dates, without additional cost to the Owner.  
27

28 1.2 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- 29  
30 A. Shop drawings, product data and samples will not be processed by the Owner and/or Architect until the list of  
31 subcontractors, material suppliers and fabricators is submitted as required under Paragraph 3.12 of the General  
32 Conditions.  
33 • The successful Contractor shall submit their list of proposed substitutions with in 20 calendar  
34 days of the Contract Award.  
35 • The Architect shall be compensated on an hourly basis for review of all shop drawings or samples  
36 that do not meet the requirements of the contract documents after two submissions. The  
37 compensation shall be deducted from the contractors contract via a deduct change order, or other  
38 means that both parties agree to.  
39  
40 B. Coordinate preparation and processing of submittals with performance of the work so that work will not be  
41 delayed by submittals. Allow two weeks for review/approval by the Architect for the approval process, one  
42 additional week for TCNJ staff to review the submittal before it is returned to the contractor. Allow additional  
43 time if processing must be delayed to permit coordination with subsequent submittals with others.  
44 a. **Contractor is to provide a submittal schedule identifying the critical path submittals to assist the**  
45 **design team in prioritizing their review and subsequent return to the contractor prior to the**  
46 **first requisition for payment being processed. Every submittal is to have a required return date**  
47 **associated with it so the design team can schedule their reviews accordingly.**  
48  
49 C. Provide permanent marking on each submittal to identify Project, date, Contractor, subcontractor, submittal  
50 name, Specification section, drawing reference, and similar information to distinguish it from other  
51 submittals. Show Contractor's executed review and approval marking and provide space (5" x 7") for  
52 Architect's Action marking and space for Owner's review marking. Package each submittal appropriately for  
53 transmittal and handling. Submittals received, which are lacking the above information, will be returned  
54 without action. Submittals, which are received from sources other than through Contractor's office, will be  
55 returned without action.  
56

- 1 D. Each submission shall be complete, with all options clearly marked and with all components required for the  
2 assembly fully described and detailed. Submissions missing important information will be returned  
3 unchecked.  
4
- 5 E. Transmittal Form: Submittals shall be accompanied by a transmittal form. Provide Contractor's certification  
6 on form, ready for execution, stating that information submitted complies with requirements of contract  
7 documents.  
8 • Transmit all submittals and shop drawings to the Architect or Engineer with a copy of the transmittal to  
9 the Owner.
- 10
- 11 F. Except as otherwise indicated in individual work sections, comply with requirements specified herein for  
12 each indicated category of submittal. Provide and process intermediate submittals, where required between  
13 initial and final, similar to initial submittals.  
14
- 15 G. Maintain returned final set of samples at project site, in suitable condition and available for quality control  
16 comparisons by Architect, and by Owner.  
17
- 18 H. Do not proceed with installation of materials, products or systems until final copy of applicable shop  
19 drawings, product data and samples are in possession of Installer.  
20
- 21 I. Provide newly prepared shop drawings, on reproducible sheets, with graphic information at accurate scale,  
22 with company name of preparer indicated. Show dimensions and note which are based on field  
23 measurement. Identify materials and products in the work shown. Indicate compliance with standards, and  
24 special coordination requirements. Do not allow shop drawing copies without appropriate final Action  
25 markings by Architect to be used in connection with the work.  
26
- 27 1. Initial and Intermediate Submittals: One correctable translucent reproducible print and 5 blue line or  
28 black line prints; reproducible will be returned.  
29 2. Final Submittal: 6 prints, plus 3 additional prints where required for maintenance manuals; 4 will be  
30 retained and remainder will be returned, one of which shall be marked up and maintained by  
31 Contractor as "Record Document".  
32 3. Electronic submittals are acceptable in AutoCad format only. Contractor shall be responsible for  
33 printing and distribution of multiple copies as required.  
34
- 35 J. Collect required product data into one submittal for each unit of work or system; and mark each copy to show  
36 which choices and options are applicable to the project. Include manufacturer's standard printed  
37 recommendations for application and use, compliance with standards, application of labels and seals, notation  
38 of field measurements that have been checked, and special coordination requirements. Maintain one set of  
39 product data for each submittal at project site, available for reference by Architect and others.  
40
- 41 K. Submittals will be accepted from the Contractor only. Submittals received from other entities will be  
42 returned without review or action.  
43 1. Submittals received without a transmittal form will be returned without review or action.  
44 2. Transmittal form: Use a form matching the sample form attached to this section. Include the  
45 following:  
46 a. List of deviations.  
47 b. The Contractor's certification signature.  
48 3. Fill out a separate transmittal form for each submittal; also include the following:  
49 a. Other relevant information.  
50 b. Request for additional information.  
51
- 52 L. Do not submit product data, or allow its use on the project, until compliance with requirements of Contract  
53 Documents has been confirmed by Contractor. Submittal is for information and record unless otherwise  
54 indicated. Initial submittal is final submittal unless returned promptly by Architect marked with an Action  
55 that indicates and observed noncompliance. Submit 6 copies, plus 3 additional copies, which will be  
56 returned, where required for maintenance manuals.

1           1.     Electronic submittals are acceptable in 8 ½" x 11" format only.  
2  
3  
4

5           M.     Provide three (3) samples identical with final condition of proposed materials or products for the work.  
6           Include range samples, not less than 3 units, where unavoidable variations between units of each set. Provide  
7           full set of optional samples where Architect's selection is required. Prepare samples to match Architect's  
8           sample where so indicated. Include information with sample to show generic description, source or products  
9           name and manufacturer, limitations, and compliance with standards. Samples are submitted for review and  
10          confirmation of color, pattern, texture and kind by Architect. Architect will not test samples, except as  
11          otherwise indicated, for compliance with other requirements, which are therefore the exclusive responsibility  
12          of the Contractor.  
13

14          N.     Upon receipt of a signed copy of the Architects' Waiver form, electronic copies of CAD drawings of the  
15          Contract Documents will be provided by the Architect for Contractor's use in preparing submittals. Copy of  
16          Waiver form is attached.  
17

18          O.     Product Selection Procedures: Procedures for product selection include the following:  
19

20           1.     Product: Where Specification paragraphs or subparagraphs titled "Product" name a single product and  
21           manufacturer, provide the named product or an equivalent.  
22

23           2.     Manufacturer/Source: Where Specification paragraphs or subparagraphs titled "Manufacturer" or  
24           "Source" name single manufacturers or sources, provide a product of the manufacturer or source that  
25           complies with requirements, or an equivalent.  
26

27           3.     Products: Where Specification paragraphs or subparagraphs titled "Products" introduce a list of  
28           names of both products and manufacturers, provide one of the products listed that complies with  
29           requirements, or an equivalent. Comply with provisions of "Product Options and Substitutions,"  
30           Section 1.4 of Division 1300 of these specifications when submitting an equivalent product.  
31

32           4.     Manufacturers: Where specification paragraphs or subparagraphs titled "Manufacturers" introduce a  
33           list of manufacturers' names, provide a product by one of the manufacturers listed, or an equivalent,  
34           that complies with requirements. Comply with provisions of "Product Options and Substitutions,"  
35           Section 1.4 of Division 1300 of these specifications when submitting an equivalent product.  
36

37           5.     Product Options: Where Specification paragraphs or subparagraphs refer to "Product Options and  
38           Substitutions," indicate that size, profiles, and dimensional requirements on Drawings are based on a  
39           specific product or system; provide the specific product or system or an equivalent product or system  
40           by another manufacturer. Comply with provisions of "Product Options and Substitutions," Section 1.4  
41           of Division 1300 of these specifications when submitting an equivalent product.  
42

43           6.     Basis of Design Products: Where Specification paragraphs or subparagraphs titled "Basis-of-Design  
44           Products" introduce or refer to a list of manufacturers' names, provide either the specified product or  
45           an equivalent. Drawings and Specifications indicate sizes, profiles, dimensions and other  
46           characteristics that are based on the product names. Comply with the provisions of "Product Options  
47           and Substitutions," Section 1.4 of Division 1300 of these specifications when submitting an equivalent  
48           product.  
49

50  
51    1.3     MISCELLANEOUS SUBMITTALS  
52

53          A.     Miscellaneous submittals related directly to the work include warranties, maintenance agreements,  
54          workmanship bonds, survey data and reports, physical work records, quality testing and certifying reports,  
55          copies of industry standards, record drawings, field measurement data, operating and maintenance materials,  
56          overrun stock, and similar information, devices and materials applicable to the work and not processed as

1 shop drawings, product data or samples.

2  
3 B. Refer to sections for specific general requirements on warranties, product/workmanship bonds, and  
4 maintenance agreements. In addition to copies desired for Contractor's use, furnish 2 executed copies, except  
5 furnish 3 additional copies where required for maintenance manuals.

6  
7 C. For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases,  
8 jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents,  
9 correspondence and records established in conjunction with compliance with standards and regulations  
10 bearing upon performance of the work.

11  
12 1.4 PRODUCT OPTIONS AND SUBSTITUTIONS

13  
14 A. DEFINITIONS

15  
16 1. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken  
17 from previously purchased stock. The term "product" includes the terms "material," "equipment,"  
18 "system," and terms of similar intent.

19  
20 a. Named Products: Items identified by manufacturer's product name, including make or model  
21 number or other designation, shown or listed in manufacturer's published product literature,  
22 that is current as of date of the Contract Documents.

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

27 c. Equivalent Product: Product that is demonstrated and approved through submittal process, or  
28 where indicated as a product substitution, to have the indicated qualities related to type,  
29 function, dimension, in-service performance, physical properties, appearance, and other  
30 characteristics that equal or exceed those of specified product.

31  
32 2. Substitutions: Changes in products, materials, equipment, and methods of construction from those  
33 required by the Contract Documents and proposed by Contractor.

34 3. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and  
35 accompanied by the words "basis of design," including make or model number or other designation, to  
36 establish the significant qualities related to type, function, dimension, in-service performance, physical  
37 properties, appearance, and other characteristics for purposes of evaluating comparable products of  
38 other named manufacturers.

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

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

43 6. **Buy American Requirement: the Contractor shall comply with N.J.S.A 52:32-1 and N.J.S.A.**  
44 **52:33-1 et seq., which prohibits the use by the Contractor or subcontractors of**  
45 **materials or farm products produced and manufactured outside of the United States**  
46 **on any public work.**

47  
48 B. General Requirements:

49  
50 1. The requirements for substitutions do not apply to specified Contractor options on products and  
51 construction methods. Revisions to Contract Documents, where requested by Owner or Architect are  
52 changes, not substitutions. Contractor's determination of and compliance with governing regulations  
53 and orders issued by governing authorities do not constitute substitutions and do not constitute a basis  
54 for change orders. Otherwise, Contractor's requests for changes in products, materials, and methods of  
55 construction required by Contract Documents are considered requests for substitutions, and are subject  
56 to requirements hereto.

- 1 2. To the greatest extent possible, provide products, materials and equipment of a singular generic kind  
2 and from a single source.
- 3 3. Where more than one choice is available as options for Contractor's selection of a product or material,  
4 select an option that is compatible with other products and materials already selected. Total  
5 compatibility among options is not assured by limitations within Contract Documents, but shall be  
6 provided by Contractor. Compatibility is a basic general requirement of product/material selections.
- 7 4. Any and all contractor substitutions that require additional work by other trades not specifically called  
8 for in the documents shall be paid for by the contractor requesting the substitution if any other trade  
9 increase is required.
- 10 5. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or  
11 other considerations, after deducting additional responsibilities Owner must assume. Owner's  
12 additional responsibilities may include compensation to Architect for redesign and evaluation  
13 services, increased cost of other construction by Owner, and similar considerations.
- 14
- 15 C. Submittals: Submit 6 copies, utilizing Substitution Request Form, CSI Form 13.1.A, fully identified for  
16 product or method being requested for substitution, including related specification section and drawing  
17 numbers, and fully documented to show compliance with requirements for substitutions. Include product  
18 data/drawings, description of methods, samples where applicable, Contractor's details comparison of  
19 significant qualities between specified item and proposed substitution, statement of effect on construction  
20 time and coordination with other affected work and contractors, cost information or proposal, warranty  
21 information, compatibility with other work, approval of all authorities having jurisdiction, and Contractor's  
22 statement to the effect that proposed substitution will result in overall work equal to or better than work  
23 originally indicated.
- 24
- 25 D. Contractor's options for selecting products are limited by Contract Documents requirements, and governing  
26 regulations. Required procedures include, but are not necessarily limited to, the following for various  
27 indicated methods or specifying:  
28
  - 29 1. Single product/manufacturer name; provide product indicated or equivalent, except advise Architect  
30 before proceeding, where known that named product is not a feasible or acceptable selection.
  - 31 2. Two or more product/manufacturer names; provide one of the named products or equivalent, at  
32 Contractor's option; but excluding products which do not comply with requirements. Advise Architect  
33 before proceeding.
  - 34 3. Equivalent; where named products in Specifications text are accompanied by the term "or  
35 equivalent", or other language of similar effect, comply with those Contract Documents provisions  
36 concerning substitutions for obtaining Architect's approval of equivalent product.
  - 37 4. Named, except as otherwise indicated, is defined to mean manufacturer's name for product, as  
38 recorded in published product literature, of latest issue as of date of Contract Documents. Refer  
39 requests to use products of a later or earlier model to Architect for acceptance before proceeding.
  - 40 5. Where compliance with an imposed standard, code or regulation is required, selection from among  
41 products that comply with requirements including those standards, codes and regulations, is  
42 Contractor's option.
  - 43 6. Provide products which comply with specific performances indicated, and which are recommended by  
44 manufacturer, in published product literature or by individual certification, for application indicated.  
45 Overall performance of a product is implied where product is specified for specific performance.
  - 46 7. Provide products that have been produced in accordance with prescriptive requirements, using  
47 specified ingredients and components, and complying with specified requirements for mixing,  
48 fabricating, curing, finishing, testing and similar operations in manufacturing process.
  - 49 8. Where matching of an established sample is required, final judgment of whether a product proposed  
50 by Contractor matches sample satisfactorily is Architect's judgment. Where no product within  
51 specified cost category is available, which matches sample satisfactorily and complies with  
52 requirements, comply with Contract Document provisions concerning substitutions for selection of a  
53 matching product outside established cost category or not complying with requirements.
  - 54 9. Where specified product requirements include "...as selected from manufacturer's full range of colors,  
55 patterns, textures..." or words of similar effect, the selection of manufacturer and basic product data is  
56 to comply with requirements of the Contract, and selection shall be from the full range of products

1 within the requirements. Where specified product requirements include "... as the industry...", or  
2 words to that effect, selection of product complying with requirements, is Architect's selection,  
3 including designation of manufacturer, where necessary to obtain desired color, pattern or texture.  
4

5 E. Substitutions may be permitted by the Architect, if, in his opinion, the requirements of the proposed  
6 substitution comply with the requirements specified for the material, article or piece of equipment; however,  
7 the Architect is not required to permit substitution pursuant to the case of Whitten Corporation vs. Paddock,  
8 Incorporated, United States District Court, Massachusetts, April 12, 1974, affirmed by the Federal First  
9 Circuit Court, December 14, 1974.

10 F. After award of contract, the Contractor may submit substitutes to the Architect for review, fully documented  
11 and certified, and accompanied by a proposal for a reduction in the Contract Sum.  
12

13 G. Contractor's request for substitution will be received and considered when extensive revisions to Contract  
14 Documents are not required and changes are in keeping with general intent of Contract Documents; when  
15 timely, fully documented and properly submitted; and when one or more of following conditions is satisfied,  
16 all as judged by Architect. Otherwise, requests will be returned without action except to record  
17 noncompliance with these requirements.  
18

- 19 1. Where request is directly related to an "equivalent" clause or other language of same effect in Contract  
20 Documents.
- 21 2. Where required product, material or method cannot be provided within Contract Time, but not as a  
22 result of Contractor's failure to pursue the work promptly or coordinate various activities properly.
- 23 3. Where required product, material or method cannot be provided in a manner which is compatible with  
24 other materials of the work, or cannot be properly coordinated therewith, or cannot be warranted  
25 (guaranteed) as required, or cannot be used without adversely affecting Owner's insurance coverage  
26 on completed work, or will encounter other substantial noncompliances which are not possible to  
27 otherwise overcome except by making requested substitution, which Contractor thereby certifies to  
28 overcome such incompatibility, uncoordination, nonwarranty, noninsurability or other noncompliance  
29 as claimed.
- 30 4. Where substantial advantage is offered Owner, in terms of cost, time or other valuable considerations,  
31 after deducting offsetting responsibilities Owner may be required to bear, including additional  
32 compensation to Architect for redesign and evaluation services, increased cost of other work by  
33 Owner or separate Contractors, and similar considerations.  
34

35 H. Contractor's submittal of, and Architect's acceptance of, shop drawings, product data or samples which  
36 indicate work not complying with requirements of Contract Documents, does not constitute an acceptable  
37 and valid request for, nor approval of, a substitution.  
38

#### 39 I. QUALITY ASSURANCE 40

41 Compatibility of Options: If Contractor is given option of selecting between two or more products for use on  
42 Project, product selected shall be compatible with products previously selected, even if previously selected  
43 products were also options.  
44

- 45 1. Each contractor is responsible for providing products and construction methods compatible with  
46 products and construction methods of other contractors.
- 47 2. If a dispute arises between contractors over concurrently selectable but incompatible products,  
48 Architect will determine which products shall be used.  
49

#### 50 J. EQUIVALENT PRODUCTS 51

52 Where products or manufacturers are specified by name, Contractor must submit the following, in addition to  
53 other required submittals, to obtain approval of an unnamed product proposed as an equivalent:  
54

- 55 1. Evidence that the proposed product does not require extensive revisions to the Contract Documents,  
56

- 1 that it is consistent with the Contract Documents and will produce the indicated results, and that it is  
2 compatible with other portions of the Work.
- 3 2. Detailed comparison of significant qualities of proposed product with those named in the  
4 specifications. Significant qualities include attributes such as performance, weight, size, durability,  
5 visual effect, and specific features and requirements indicated.
- 6 3. Evidence that proposed product provides specified warranty.
- 7 4. List of similar installations for completed projects with project names and addresses and names and  
8 addresses of architects and owners, if requested.
- 9 5. Samples, if requested.

10  
11 1.5 OPERATION AND MAINTENANCE INSTRUCTIONS AND EQUIPMENT WARRANTIES

- 12  
13 A. The Contractor shall orient and instruct the responsible maintenance personnel designated by the Owner in  
14 the Operation of all equipment and shall provide the maintenance personnel with pertinent literature and  
15 operational manuals for all equipment. Date and time of demonstrations shall be mutually agreed upon with  
16 the Owner. Provide qualified personnel for as long as necessary to fully orient and instruct the Owner.  
17 Contractor shall videotape instruction session and provide owner with completed video.
- 18  
19 B. The manuals shall be submitted in (quadruplicate) 3-ring loose-leaf type binders **and electronically in PDF**  
20 **format and be able to be TEXT SEARCHABLE** to the Architect for approval with all additional  
21 information that the Architect may request and considers necessary for the proper servicing and maintenance  
22 of all equipment. Manuals are to include plain paper copies of approved shop drawings and catalog cuts.  
23 The quality of the copies may be subject to approval by the Architect. Upon completion and approval, 3  
24 copies will be forwarded to the Owner and one copy retained by the Architect.
- 25  
26 C. Manuals shall include no less than the following:
- 27 1. Operating Procedures:
- 28 a. Typewritten procedures indicating each mode of operation of each piece of equipment or  
29 system. Procedures shall indicate the status of each component of a system in each operating  
30 mode.
- 31 b. Procedures shall indicate names, symbol numbers, valve tags, circuit numbers, schematic  
32 control and wiring diagrams, locations of thermostats, manual starters, control cabinets, and  
33 other controls of each system.
- 34 c. Emergency shutdown procedures for each piece of equipment or system, both automatic and  
35 manual as appropriate.
- 36 2. Maintenance Schedule: Typewritten schedule describing manufacturer's recommended schedule of  
37 maintenance and maintenance procedures.
- 38 3. Catalog cuts and shop drawings:
- 39 a. Catalog cuts shall clearly indicate the exact model and type of each piece of equipment  
40 installed in the Project, including all options provided.
- 41 b. Catalog cuts shall fully describe equipment including physical, electrical, mechanical and other  
42 characteristics, performance characteristics and installation or erection diagrams.
- 43 c. Catalog cuts shall indicate spare part numbers and name, address and telephone number of  
44 local representative or service department.
- 45 4. Typewritten list of all subcontractors on the Project including name, address, telephone number and  
46 responsibility on the Project.
- 47 5. Manuals shall be indexed with dividers indicating each system or piece of equipment.
- 48 6. Warranties, permits, inspection stickers/approvals and Certificate of Occupancy are to be included.
- 49  
50 D. Required equipment warranties shall be submitted in three copies **and electronically in PDF format** to the  
51 Architect.
- 52  
53 E. The Contractor shall video tape all instructional sessions and demonstrations and provide the Owner with a  
54 copy of the videotape at the end of all demonstrations.



1  
2 PART 2 - PRODUCTS  
3 NOT APPLICABLE  
4 PART 3 - EXECUTION

5  
6 3.1 ACTION ON SUBMITTALS  
7

- 8 A. One copy of all submissions will be returned to the Contractor for his files. The Contractor shall mark up  
9 other copies so as to conform with the copy returned to him and forward them to all interested Contractors,  
10 Subcontractors, and Suppliers.  
11  
12 B. The Architect will review and stamp submitted shop drawings in one of the following ways (the actual stamp  
13 may be different; below language is shown for an example only)  
14 1. "No Exceptions Taken": Approved.  
15 2. "Make Corrections Noted": Approved, provided the work complies with corrections marked on the  
16 submittal.  
17 3. "Revise and Resubmit": Do not commence work of this submittal. Revise and resubmit or prepare a  
18 new submittal; comply with notations marked on submittal.  
19 4. "Rejected": Fundamentally not in compliance. Prepare a new submittal. No notations or comments  
20 made.  
21  
22 C. Work shall be executed in accordance with "Approved", "Approved As Noted", or "Resubmit for Record"  
23 stamp only.  
24  
25 D. Architect's review of shop drawings/submittals will constitute checking for general arrangement only, and  
26 shall not relieve the Contractor of responsibility for complete compliance with Drawings and Specifications.  
27 Contractor shall be responsible for quantities and dimensions to assure a proper fit under field conditions.  
28

29 3.2 DISTRIBUTION  
30

- 31 A. Provide additional distribution of submittals, not included in foregoing copy submittal requirements, to  
32 subcontractors, suppliers, fabricators, installers, governing authorities and others as necessary for proper  
33 performance of the work. Include such additional copies in transmittal to Architect where required to receive  
34 Action marking before final distribution. Show such distributions on transmittal forms.  
35

36 3.3 COLOR SELECTIONS  
37

- 38 A. All colors for all finished surfaces and materials will be selected or approved by the Architect. The color  
39 selections will be made at **one time** to provide a complete and coordinated color schedule which, upon  
40 acceptance of the Owner, will be provided to the Contractor. Any and all specific color selections for  
41 materials not noted on drawings or in specification shall be chosen by Architect after submittal of samples.  
42  
43 B. It is imperative that **all** color information be submitted to the Architect by the Contractor before color  
44 selections can be made. If any color selection information is not available when colors are needed to meet  
45 the project schedule, the Architect will select colors from one of the named manufacturers in the  
46 Specifications, and the Contractor will be required to exactly match that color. A claim for delay will not be  
47 accepted if the color schedule is late due to the failure of the Contractor to provide the Architect with all  
48 required color information, nor will an extra be entertained if the selected color is not available from the  
49 manufacturer the Contractor intended to use but neglected to submit.  
50  
51 C. The Contractors are reminded of the requirement to declare all substitutions within 20 days of execution of  
52 their Contract as specified.  
53

**END OF SECTION 01300**

1 **SECTION 01310 - QUALITY CONTROL**

2  
3 **PART 1 - GENERAL**

4  
5 1.01 TRADESMEN AND WORKMANSHIP

- 6  
7 A. Each Contractor shall ensure that tradesmen performing work at site are skilled and knowledgeable in  
8 methods and craftsmanship needed to produce required quality levels for workmanship in completed work.  
9 Remove and replace work which does not comply with workmanship standards as specified and as  
10 recognized in the construction industry for applications indicated. Remove and replace other work damaged  
11 or deteriorated by faulty workmanship or its replacement.  
12  
13 B. In certain instances, specification text requires that specific work be assigned to specialists or expert entities,  
14 who shall be engaged for performance of those units of work. These shall be recognized as special  
15 requirements over which Contractor has no choice or option. These assignments shall not be confused with,  
16 and are not intended to interfere with, normal application of regulations, union jurisdictions and similar  
17 conventions. One purpose of such assignments is to establish which party or entity involved in a specific unit  
18 of work is recognized as "expert" for indicated construction processes or operations. Nevertheless, final  
19 responsibility for fulfillment of entire set of requirements remains with Contractor.  
20

21 1.02 INSPECTION, TESTS AND REPORTS

- 22  
23 A. Required inspection and testing services are intended to assist in determination of probable compliances of  
24 the work with requirements, but do not relieve any Contractor of responsibility for those compliances, or for  
25 general fulfillment of requirements of Contract Documents. Specified inspections and tests are not intended  
26 to limit any Contractor's quality control program. Afford reasonable access to agencies performing tests and  
27 inspections.  
28  
29 B. Contractors are responsible for all testing associated with their work (foundations, soils compaction,  
30 concrete, steel, roof material testing etc.) and shall submit the name of their proposed testing agency within  
31 15 days of Notice-to-Proceed. Each Contractor is responsible to coordinate the activities of the testing agency  
32 to assure that work is tested prior to being covered up or other activities associated to the work begin.  
33

34 1.03 ROOF DRAIN TESTING

- 35 A. Pre-Construction Testing: Prior to the start of any work on the roof, the Contractor shall water-flow test all  
36 roof drains (5 minutes at each drain), to determine if any full or partial drain clogs exist in the drainage  
37 system.  
38  
39 1. The Owner shall have a representative at the test.  
40 2. The results of the testing shall be reported to the Owner, in writing, prior to the start of work.  
41 3. The Owner will be responsible for correction of any drain-age problems reported by the Contractor  
42 prior to the start of work.  
43 4. Any drains, piping or other components, whether exposed, concealed, below grade, etc., found to be  
44 clogged after the start of construction, and not reported to the Owner prior to the start of construction,  
45 shall be cleared, repaired or replaced as required to restore full drainage capacity. All work shall be  
46 performed by the Contractor at no additional cost to the Owner, including patching, repair or re-  
47 placement of any materials, finishes, landscaping, etc., disturbed in gaining access to drainage  
48 components.

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B. Post-Construction Testing: When all work reaches substantial completion, the Contractor shall water-flow test all roof drains (5 minutes at each drain), to determine if any full or partial drain clogs exist in the drainage system.

1. The Owner shall have a representative at the test.
2. Report the results of testing to the Owner in writing prior to preparation of the final punchlist inspection.
3. Any drains, piping or other components, whether exposed, concealed, below grade, etc., found to be clogged shall be cleared, repaired or replaced as required to restore full drainage capacity. All work shall be performed by the Contractor at no additional cost to the Owner, including patching, repair or replacement of any materials, finishes, landscaping, etc., disturbed in gaining access to drainage components.

1.04 ROOF DRAIN PROTECTION

- A. Contractor is to make every effort to prevent materials from entering roof drains. Contractor is to install roof rain filters prior to removal of any roof materials.
- B. All debris is to be cleaned away from drains at the end of each day.

PART 2 - PRODUCTS

2.01 ROOF DRAIN FILTERS

- A. Tiddy Gutter DF100001 Roof Drain Foam Filter or Equal.

PART 3 - EXECUTION

3.01 REPLACEMENT OF WORK

- A. The Contractor shall, within 24 hours after rejection of Work, remove all materials and equipment so rejected and immediately replace said Work, at his cost, to the satisfaction of the Architect. Should the Work of the Owner or other Contractors be damaged by such removal or replacement, the Contractor shall reimburse the Owner or other Contractors for all cost incurred for correcting said damage.

1 3.02 EXAMINATION

2  
3 A. Existing Conditions: The existence and location of site improvements, utilities, and other construction  
4 indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and  
5 location of mechanical and electrical systems and other construction affecting the Work.

6  
7 1. Before construction, verify the location and points of connection of utility services.

8  
9 B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as  
10 existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of  
11 underground utilities and other construction affecting the Work.

12  
13 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer,  
14 storm sewer, and water-service piping; and underground electrical services.

15 2. Furnish location data for work related to Project that must be performed by public utilities serving  
16 Project site.

17  
18 C. Acceptance of Conditions prior to work starting: Examine substrates, areas, and conditions, with Installer or  
19 Applicator present where indicated, for compliance with requirements for installation tolerances and other  
20 conditions affecting performance. Record observations.

21  
22 1. Written Report: Where a written report listing conditions detrimental to performance of the Work is  
23 required by other Sections, include the following:

- 24  
25 a. Description of the Work.  
26 b. List of detrimental conditions, including substrates.  
27 c. List of unacceptable installation tolerances.  
28 d. Recommended corrections.

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

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

33 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be  
34 installed.

35 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with  
36 the Work indicates acceptance of surfaces and conditions.

37  
38 3.03 PREPARATION

39  
40 A. Existing Utility Information: Furnish information to local utility and Owner that is necessary to adjust, move,  
41 or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or  
42 affected by construction. Coordinate with authorities having jurisdiction.

43  
44 B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless  
45 permitted under the following conditions and then only after arranging to provide temporary utility services  
46 according to requirements indicated:

47  
48 1. Notify Owner not less than two days in advance of proposed utility interruptions.

49 2. Do not proceed with utility interruptions without Owner's/Owner's written permission.

50  
51 C. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements  
52 before installing each product. Where portions of the Work are indicated to fit to other construction, verify  
53 dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule  
54 with construction progress to avoid delaying the Work.  
55

1 D. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on  
2 Drawings.

3  
4 E. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification  
5 of the Contract Documents, submit a request for information to Architect. Include a detailed description of  
6 problem encountered, together with recommendations for changing the Contract Documents.

7  
8 3.04 CONSTRUCTION LAYOUT

9  
10 A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in  
11 relation to existing conditions and dimensions. If discrepancies are discovered, notify Architect and Owner  
12 promptly.

13  
14 3.05 INSTALLATION

15  
16 A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as  
17 indicated.

- 18  
19 1. Make vertical work plumb and make horizontal work level.  
20 2. Where space is limited, install components to maximize space available for maintenance and ease of  
21 removal for replacement.

22  
23 B. Comply with manufacturer's written instructions and recommendations for installing products in applications  
24 indicated.

25  
26 C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions  
27 required for product performance until Substantial Completion.

28  
29 D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in  
30 excess of that expected during normal conditions of occupancy.

31  
32 E. Tools and Equipment: Only use the best quality tools and equipment with proper attenuations for the latest  
33 acceptable sound levels.

34  
35 F. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place,  
36 accurately located and aligned with other portions of the Work.

- 37  
38 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed  
39 by Architect.  
40 2. Allow for building movement, including thermal expansion and contraction.

41  
42 G. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints  
43 for the best visual effect. Fit exposed connections together to form hairline joints.

44  
45 H. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

46  
47 **END OF SECTION 01310**

1 **SECTION 01320 - TEMPORARY FACILITIES**

2  
3 PART 1 - GENERAL

4  
5 1.01 DESCRIPTION OF REQUIREMENTS

- 6  
7 A. Specific administrative and procedural minimum actions are specified in this section, as extensions of provisions in General Conditions and other Contract Documents. Nothing in this section is intended to limit types and amounts of temporary work required, and no omission from this section will be recognized as an indication that such temporary activity is not required for successful completion of the work and compliance with requirements of Contract Documents.
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12  
13 B. Each Contractor is specifically assigned certain responsibilities for temporary facilities to be used by all Contractors, other entities at the site, the Owner's work forces and other personnel including occupants of the project, the Owner, the Architect, test agencies, personnel of governing authorities, and similar entities and personnel authorized to be at the project site during construction. In general, each Contractor is assigned the responsibilities for installation, operation and removal of each temporary facility which is related by recognized trades to its scope of contract work; and, except as otherwise indicated, each is responsible for costs and use charges associated therewith, including fuel, power usage, water usage and similar usage costs. The Contractor is responsible for temporary facilities not related to any other Contractor's scope of contract work and not otherwise specifically assigned, as designated by the Architect.
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23 C. No costs or usage charges for temporary facilities are chargeable to the Owner, nor can any Contractor's cost or usage charges for temporary facilities be accepted as the basis for a change order extra. The total costs and usage charges for temporary facilities are included, collectively, in the Contract Amounts.

24  
25  
26  
27 1.02 GENERAL REQUIREMENTS

- 28  
29 A. Each Contractor shall provide and operate all hoists, cranes, helicopters and furnish and erect all ladders and scaffolding required by him and his subcontractors, constructed to afford proper protection to craftsmen, their Work and other Work in progress and previously executed.

30  
31  
32  
33 1.03 JOB CONDITIONS

- 34  
35 A. Each Contractor shall establish and initiate use of each temporary facility at time first reasonably required for proper performance of the total work of project. Terminate use and remove facilities at earliest reasonable time, when no longer needed or when permanent facilities have, with authorized use, replaced the need.
- 36  
37  
38  
39 B. Each Contractor shall install, operate, maintain and protect temporary facilities in a manner and at locations that will be safe, nonhazardous, sanitary, protective of persons and property, and free of deleterious effects.

40  
41  
42 1.04 ENVIRONMENTAL PROTECTION

- 43  
44 A. Each Contractor shall provide facilities, establish procedures, and conduct construction activities in a manner that will ensure compliance with environmental and other regulations controlling construction activities at project site. The Contractor shall designate one person, the Construction Superintendent or other, to enforce strict discipline on activities related to generation of wastes, pollution of air/water/soil, generation of noise, and similar harmful or deleterious effects which might violate regulations or reasonably irritate persons at or in vicinity of project site. Anti-pollution measures required by D.E.P., as applicable are to be followed.

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51 1.05 SECURITY

- 52  
53 A. The Contractor shall maintain complete security on the site at all times during and outside of normal working hours to protect the Work and all field offices, and to secure the area of construction by restricting all trespassers.
- 54 • This means locking the doors and/or gates. A guard is not required.
- 55  
56

- 1 B. Provide a six foot chain link fence around any compounds and/or dumpsters related to this project.  
2

3 1.06 TEMPORARY CONSTRUCTION FACILITIES  
4

- 5 A. Where mud, snow, ice or other hazardous conditions exist in the purview (Scope of Work) of any Sub  
6 Contractor, the Contractor shall remove the hazards immediately and replace with suitable material for the  
7 other contractors use. If the Owner is compelled to remove the hazards with their own forces due to inaction  
8 by the Contractor, then that Contractor will be back-charged for the work performed by the Owner.  
9

- 10 B. No welding, cutting by torch, or Work utilizing or causing flammable waste shall be done unless adequate  
11 fire protection is provided and maintained for the duration of the Work in the area of operations.  
12

- 13 C. **Contractor is to provide road safety and traffic controls when working on or near any roadway or**  
14 **sidewalk on campus. Including flag personnel, signage, cones and all necessary safety measures to**  
15 **assure the safety of the pedestrians and vehicles at all times. This includes escorting deliveries using**  
16 **equipment other than a truck or car on roadways and walkways with a flag person. Backhoes can be**  
17 **run without an escort.**  
18

19 1.07 DEBRIS CONTROL (Refer to Section 01524 for further delineation)  
20

- 21 A. The Contractor shall be responsible for daily cleaning up of spillages and debris resulting from his operations  
22 and from those of his Subcontractors; and shall be responsible for complete removal and disposition of  
23 hazardous and toxic waste materials. The Contractor shall provide containers at grade, sufficient for the  
24 depositing of nonhazardous/nontoxic waste materials, and shall remove such waste materials from project  
25 site at least weekly during cold weather (daily high temperatures below 50°F) and at least twice weekly  
26 during mild and warm weather.

- 27 • Contractor is responsible to provide and pay for all dumpsters.  
28

- 29 B. The Contractor shall daily clean all mud, dirt and debris resulting from all trades operations from the adjacent  
30 streets, sidewalks, drives and parking areas and shall repair all damage caused by the cleaning to the  
31 satisfaction of the Owner.  
32

- 33 C. The Contractor is to provide and maintain appropriate means of trash disposal (i.e., chutes) to  
34 grade/dumpster. Multiple units may be required and shall be figured for in the bid.  
35

36 PART 2 - EXECUTION  
37

38 2.01 ENCLOSURES  
39

- 40 A. At earliest possible date, the Contractor shall secure project area against unauthorized entrance at times when  
41 personnel are not working. Provide secure temporary enclosure at ground floor and other locations of  
42 possible entry, with locked entrances.  
43

- 44 B. Where any form of demolition will expose the interior of the building to weather, demolition shall follow the  
45 erection of weatherproof walls by the Contractor installed inside the demolition line, sealed and flashed, as  
46 required, to keep all water from the building interior. Keep temporary weatherproofing in place until new  
47 construction has been completed to the stage where water will not enter the building.  
48

- 49 C. The Contractor shall provide constant protection against rain, wind, storms, frost or heat to maintain the  
50 work, materials, apparatus and fixtures free from damage. At the end of each day's work, cover work likely  
51 to be damaged. During cold weather, protect work from damage by freezing and provide such enclosures  
52 and heating apparatus as may be necessary diligently to prosecute the Work without stoppage for reason of  
53 unfavorable weather.  
54

- 1 D. Wherever a Contractor provides openings through walls or slabs, each location shall be adequately protected  
2 at the end of each working day with temporary enclosures to make these areas tight. Openings through  
3 exterior walls shall be watertight.  
4
- 5 E. Install an 8 foot high fence around the entire site with wind screening. Provide gates as needed to properly  
6 access the site to complete the work. Remove the fence once the project is substantially completed. Fence is  
7 to have poles into the ground where the fence will be untouched per a period of time, and can have feet with  
8 sand bags in areas that the fence may have to be moved occasionally to not interfere with the work.  
9
- 10 F. **For renovation projects: Contractor is to maintain the building in a water tight condition during all**  
11 **construction activities by whatever means necessary. Contractor is to never do any more removal work**  
12 **during any given day than that contractor can replace in the same day in order to make sure the occupants of**  
13 **the building will be protected from the possibility of water leakage into the building. Should any leakage**  
14 **occur, the contractor is to immediately make the building water tight (on a 24 hour basis) and repair any**  
15 **damage caused by the leakage or replace any equipment damaged by the leakage.**  
16
- 17 2.02 TEMPORARY ELECTRICITY  
18
- 19 A. Power is available on site.  
20
- 21 2.03 TEMPORARY VENTILATION  
22
- 23 A. A trade requiring ventilation for Work shall provide fans to induce circulation of air.  
24
- 25 2.04 TEMPORARY TELEPHONES  
26
- 27 A. Each Contractor is responsible for their own telephone service and for payment of all charges relating to that  
28 service.  
29
- 30 2.05 TEMPORARY WATER  
31
- 32 A. Water is available on site.  
33
- 34 2.06 TEMPORARY SANITARY FACILITIES  
35
- 36 A. Starting at time of start of work at project site, the Contractor shall provide and maintain self-contained toilet  
37 units of type acceptable to governing authorities, adequate, at all stages of construction, for use of personnel  
38 at project site. Provide separate facilities for male and female personnel when both sexes are working, in  
39 any capacity, at project site. Facilities shall remain in use until completion of project. Use of permanent  
40 facilities will not be permitted.  
41
- 42 2.07 REMOVAL AND RESTORATION  
43
- 44 A. Prior to acceptance of the Project, each contractor shall remove temporary work for which he has been  
45 responsible.  
46
- 47 2.08 OWNER'S RIGHTS  
48
- 49 A. If any Contractor fails to carry out his responsibilities in providing temporary facilities, as set forth above, the  
50 Owner shall have the right to take such action as he deems proper for the protection and conduct of the Work,  
51 and to deduct the cost thereof from the amount due the Contractor at fault.  
52  
53
- 54 B. Extended work days, hours, shifts, weekend work, etc. may be allowed upon coordination and approval by  
55 Architect, Owner at no additional cost to the Owner.



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- Should the schedule begin to slip, for any reason, each contractor will be required to work additional shifts or weekends to recover the lost time. Should there be a cost to the College for this overtime work, the contractor will be required to reimburse the owner for said costs.

2.09 Parking: parking is allowed for two vehicles only. All other parking is to be at the TCNJ Carlton Avenue parking lot. The contractor is responsible to shuttle workers back and forth as needed.

**END OF SECTION 01320**

1 **SECTION 01322 – PHOTOGRAPHIC DOCUMENTATION**

2  
3 PART 1 – GENERAL

4  
5 1.01 RELATED DOCUMENTS

- 6  
7 A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other  
8 Division 1 Specification Sections, apply to this Section.  
9

10 1.02 SUMMARY

- 11  
12 A. This Section includes administrative and procedural requirements for the following work by the General  
13 Contractor (other primes are encouraged to document the site and construction, but not required):  
14

15 1. Preconstruction video or photographs

- 16  
17 B. Related Sections include the following:

18  
19 1. All of Division 1.  
20

21 1.03 SUBMITTALS

- 22  
23 A. Qualification Data: For photographer.

- 24  
25 B. Videotapes: video the existing conditions prior to start of the project and provide TCNJ with a copy of the  
26 video.  
27

28 1.04 QUALITY ASSURANCE

- 29  
30 A. Job Project Manager or Superintendent  
31

32 1.05 Not used.

33  
34 1.06 USAGE RIGHTS

- 35  
36 A. Obtain and transfer copyright usage rights to the Owner for unlimited reproduction of photographic  
37 documentation.  
38

39 PART 2 – PRODUCTS

40  
41 2.01 PHOTOGRAPHIC MEDIA

- 42  
43 A. Digital format as agreed to at the project kick off meeting.  
44

45 PART 3 – EXECUTION

46  
47 3.01 CONSTRUCTION VIDEOTAPES

- 48  
49 A. Preconstruction: Before starting demolition or construction record, videotape (digital) of Project site, interior  
50 and exterior.  
51

52 1. Show protection efforts by the Contractor.

53 2. Show as many existing conditions as possible prior to the start of the work.  
54

55 **END OF SECTION 01322**

1 **SECTION 01330 – CONTRACT CLOSEOUT**

2  
3 PART 1 – GENERAL

4  
5 1.01 DEFINITION

- 6  
7 A. Closeout is hereby defined to include general requirements near end of Contract Time, in preparation for  
8 final acceptance, final payment, normal termination of Contract, occupancy by Owner and similar actions  
9 evidencing completion of the work. Specific requirements for individual units of work are specified in  
10 sections of Divisions 2 through 16. Time of closeout is directly related to Substantial Completion, and  
11 therefore may be either a single time period for entire work or a series of time periods for individual parts of  
12 the work which have been certified as substantially complete at different dates. That time variation, if any,  
13 shall be applicable to other provisions of this section.  
14  
15 B. Substantial completion shall be defined that every material item has been installed. Nothing is missing and  
16 therefore, the punch list can begin.

17  
18 1.02 PREREQUISITES TO SUBSTANTIAL COMPLETION

- 19  
20 A. Prior to requesting the Architect's inspection for certification of substantial completion, for either entire work  
21 or portions thereof, complete the following and list known exceptions in request:  
22  
23 1. In progress payment request coincident with or first following date claimed, show either 100%  
24 completion for portion of work claimed as substantially complete, or list incomplete items, value of  
25 incomplete items, and reasons for being incomplete.  
26  
27 2. Include supporting documentation for completion as indicated in these Contract Documents.  
28  
29 a. Prepare a list of items to be completed and corrected (punch list), the value of items on the  
30 list, and reasons why the Work is not complete.  
31  
32 3. Submit statement showing accounting of changes to the Contract Sum.  
33  
34 4. Advise Owner of pending insurance change over requirements.  
35  
36 5. Submit specific warranties, workmanship/maintenance bonds, maintenance agreements, final  
37 certifications and similar documents.  
38  
39 6. All fire sprinklers, devices, alarm system, roofing system, doors, insulation, etc. requiring FM  
40 Research approval to submit certification from Factory Mutual.  
41  
42 7. Obtain and submit releases enabling Owner's full and unrestricted use of the work and access to  
43 services and utilities, including occupancy permits, operating certificates, and similar releases.  
44  
45 8. Deliver tools, spare parts, extra stocks of materials, and similar physical items to Owner obtaining a  
46 signed receipt of materials delivered. Refer to individual work sections for required quantities of spare  
47 parts, extra and overrun stock, maintenance tools and devices, keys, and similar physical units to be  
48 submitted.  
49  
50 9. Complete start up testing of systems, and instructions of Owner's operating/maintenance personnel.  
51 Discontinue, or change over, and remove from project site temporary facilities and services, along  
52 with construction tools and facilities, mockups, and similar elements.  
53  
54 10. Complete final clean up requirements.  
55  
56 11. Touch up and otherwise repair and restore marred exposed finishes.  
57  
58 12. Inspection: Submit a written request for inspection for Substantial Completion to Project Manager.  
59 On receipt of request, Architect and Project Manager will either proceed with inspection or notify  
60 Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial  
61 Completion after inspection, the Project Manager will notify Contractor of items, either on  
62 Contractor's list or additional items identified by Architect that must be completed or corrected before  
63 certificate will be issued.  
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1 incomplete is completed or corrected.

2 2. Results of completed inspection will form the basis of requirements for Final Completion.

3  
4 B. Upon receipt of Contractor's request, the Project Manager and Architect will proceed with substantial  
5 completion inspection. Following inspection, the Architect will either prepare the certificate of substantial  
6 completion, or advise the Contractor of work which shall be performed prior to issuance of certificate. The  
7 work remaining to be performed shall be completed prior to the punch list for final acceptance.

8  
9 C. Upon receipt of Contractor's notice that work has been completed, including all punch list items, but except-  
10 ing incomplete items delayed because of circumstances acceptable to the Project Manager and Architect, the  
11 Project Manager and Architect will reinspect the work. Upon completion of reinspection, the Architect will  
12 either prepare the certificate of final acceptance or advise the Contractor of work not completed or  
13 obligations not fulfilled as required for final acceptance.

14  
15 D. In the event that the work is not completed or obligations are not fulfilled as required for final acceptance and  
16 the Architect/CM is required to reinspect the work more often than the two inspections described, the  
17 Contractor shall compensate the Architect and/or the Project Manager at the rate of \$500.00 for each  
18 additional site visit required for reinspections. The compensation shall be processed by change order as a  
19 deduction to the Contractor's Contract Sum, which amount will be paid to the Architect or Project Manager  
20 by the Owner, through a change order as an addition to the Architect's or Project Manager's Contract Sum.

21  
22 E. **Substantial Completion shall be defined for this project that every element of the project/construction**  
23 **and the contract, based on the contract and amended drawings and specification sections, are installed**  
24 **and the building is deemed complete, less repairs and/or touch up type work that would be generally**  
25 **referred to as punchlist work. If any components of the building, or site work associated with this**  
26 **contract are not installed, the project cannot be deemed substantially completed.**

27  
28  
29 1.03 PREREQUISITES TO FINAL ACCEPTANCE

30  
31 A. Prior to requesting Project Manager and Architect's final inspection for certification of final acceptance and  
32 final payment, complete the following and list known exceptions, in request:

- 33  
34 1. Submit final payment request with final releases and supporting documentation not previously  
35 submitted and accepted. Include certificates of insurance for products and completed operations  
36 where required.
- 37 2. Submit release of liens for all subcontractors.
- 38 3. Submit Contractor's statement that his final application, as presented, is the final bill and no other  
39 claims will be presented.
- 40  
41 4. Submit updated final statement, accounting for additional changes to Contract Sum including change  
42 orders and allowances.
- 43 5. Submit certified copy of Architect's final punch list of itemized work to be completed or corrected,  
44 stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by  
45 Architect.
- 46 6. Submit one set of record documents, bound copies of maintenance/operating manuals, final project  
47 photographs, damage or settlement survey, property survey, and similar final record information.
- 48 7. Complete final clean up requirements.
- 49 8. Touch up and otherwise repair and restore marred exposed finishes.
- 50 9. Submit notarized consent of surety to final payment.
- 51 10. Submit final liquidated damages settlement statement, if required, acceptable to Project Manager and  
52 the Owner.
- 53 11. Revise and submit evidence of final, continuing insurance coverage complying with insurance require-  
54 ments.
- 55 12. A letter from the Owner's representative certifying that he has been properly instructed in the opera-  
56 tion and maintenance of equipment by the Contractor.

- 1 13. 10% one year Maintenance Bond.
- 2 14. Underwriter's Certificate or Electrical Sub Code Official's Approval.
- 3 15. Fire Alarm Certification and Description - NFPA form 72C including local County of Chester.
- 4 16. HVAC Contractor to submit certified balancing report.
- 5 17. Final acceptance by Architect of record documents

- 6
- 7 B. Except as otherwise indicated or requested by Project Manager/Architect, remove temporary protection
- 8 devices and facilities that were installed during course of the work to protect previously completed work
- 9 during remainder of construction period.

10  
11 1.04 CLEAN UP

- 12
- 13 A. Remove waste materials from site and dispose of in a lawful manner.
- 14

15 PART 2 - PRODUCTS

16  
17 NOT APPLICABLE

18  
19 PART 3 - EXECUTION

20  
21 3.01 CLEANING

- 22
- 23 A. Where extra materials of value remaining after completion of associated work have become Owner's
- 24 property, dispose of these to Owner's best advantage as directed.
- 25
- 26 B. After Substantial Completion of the Work, each Contractor shall do the final cleaning of the surfaces of his
- 27 installations as may be required by the various Specification sections.
- 28
- 29 C. After each Contractor has cleaned their work, The General Contractor shall engage a professional cleaning
- 30 service to perform final cleaning of the work consisting of cleaning each surface or unit to normal clean
- 31 condition. Comply with manufacturer's instructions for cleaning operations and chemicals. The following are
- 32 examples, but not by way of limitation, of cleaning levels required:
- 33
- 34 1. Remove labels that are not required as permanent labels.
- 35 2. Clean transparent materials, including mirrors and window/door glass, to a polished condition,
- 36 removing substances that are noticeable as vision obscuring materials. Replace broken glass and
- 37 damaged transparent materials.
- 38
- 39 3. Clean exposed exterior and interior hard surfaced finishes, to a dirt free condition, free of dust, stains,
- 40 films and similar noticeable distracting substances. Except as otherwise indicated, avoid disturbance
- 41 of natural weathering of exterior surfaces. Restore reflective surfaces to original reflective conditions.
- 42 4. Wipe surfaces of mechanical and electrical equipment clean, including elevator equipment and similar
- 43 equipment; remove excess lubrication and other substances.
- 44 5. Remove debris and surface dust from limited access spaces including roofs, plenums, shafts, trenches,
- 45 equipment vaults, manholes, attics and similar spaces.
- 46 6. Vacuum and clean carpeted surfaces and similar soft surfaces.
- 47 7. Clean light fixtures and lamps to function with full efficiency.
- 48 8. Clean and wax or polish all hard floors following manufacturer's instructions.
- 49 9. Clean all window surfaces inside and outside.
- 50 10. Perform final cleaning in, on and around all casework, sinks, toilets fixtures, etc.
- 51 11. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape
- 52 development areas, of rubbish, waste material, litter, and other foreign substances.
- 53 12. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
- 54 13. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
- 55 14. Remove tools, construction equipment, machinery, and surplus material from Project site.
- 56 15. Remove snow and ice to provide safe access to building.

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- 16. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
  - 17. Sweep concrete floors broom clean.
  - 18. Replace parts subject to unusual operating conditions.
  - 19. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
  - 20. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
  - 21. Clean ducts, blowers, and coils if units were operated without filters during construction.
  - 22. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
  - 23. Leave Project clean and ready for occupancy.
- D. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.
- 3.02 RECORD DOCUMENTS (Refer to Section 01340, project requirements for submitting Record Documents)
- 3.03 REMOVE TEMPORARY FACILITIES
- A. At the completion of the work prior to final payment, remove all temporary facilities entirely from site, including, but not limited to, the following: Field offices, trailers, shanties, sheds, job telephone, temporary toilets, temporary enclosures, dust barriers and other temporary protection devices.
- END OF SECTION 01330**

1 **SECTION 01340 - PROJECT RECORD DOCUMENTS**

2  
3 PART 1 - GENERAL

4  
5 1.01 SUMMARY

6  
7 A. Section Includes:

- 8  
9 1. Project record documents consisting of:  
10 a. Record drawings.  
11 b. Record project manual (specifications).

12  
13 1.02 SUBMITTALS

14  
15 A. Project Record Documents: Submit after substantial completion, but prior to final completion.

- 16  
17 1. Record drawings: Submit in form of opaque prints.  
18 a. Sets shall include all drawings, whether changed or not.  
19 2. Other record documents: Submit originals or good quality photocopies.  
20 3. Each Sub contractor is responsible for their respective trade, record documents and record drawings.  
21 Combine with General Contractor record drawing documents for a complete set.  
22

23 PART 2 - PRODUCTS

24  
25 (NOT USED)

26  
27 PART 3 - EXECUTION

28  
29 3.01 MAINTENANCE OF PROJECT RECORD DOCUMENTS

- 30  
31 A. Do not use record documents of any type for construction purposes.  
32  
33 B. Maintain record documents in a secure location at the site while providing for access by the contractor and  
34 the architect during normal working hours; store in a fire-resistive room or container outside of normal  
35 working hours.  
36  
37 C. Record information as soon as possible after it is obtained.  
38  
39 D. Assign a person or persons responsible for maintaining record documents.  
40  
41 E. Record the following types of information on all applicable record documents:  
42  
43 1. Dimensional changes.  
44 2. New and revised details.  
45 3. Revisions to electrical circuits.  
46 4. Locations of utilities concealed in construction.  
47 5. Particulars on concealed products which will not be easy to identify later.  
48 6. Changes made by modifications to the contract; note identification numbers if applicable.  
49 7. New information which may be useful to the owner, but which was not shown in either the contract  
50 documents or submittals.  
51

52 3.02 RECORD DRAWINGS

- 53  
54 A. Maintain a complete set of opaque prints of the contract drawings, marked to show changes.  
55 B. Where the actual work differs from that shown on the drawings, mark this set to show the actual work.  
56

1. Mark location of concealed items before they are covered by other work.
  2. Mark either record contract drawings or shop drawings, whichever are best suited to show the change.
- C. When the contractor is required by a provision of a modification to prepare a new drawing, rather than to revise existing drawings, obtain instructions from the architect as to the drawing scale and information required.
- D. Keep drawings in labeled, bound sets.
1. Mark with red pencil.
  2. Mark work of separate contracts with different colors of pencils.
  3. Incorporate new drawings into existing sets, as they are issued.
- E. Where record drawings are also required as part of operation and maintenance data submittals, copy marks to another opaque print obtained from the architect.

### 3.03 RECORD PROJECT MANUAL

- A. Maintain a complete copy of the project manual, marked to show changes.
- B. Where the actual work differs from that shown in the project manual, mark the record copy to show the actual work.
1. Include a copy of each addendum and modification to the contract.
  2. In addition to the types of information required on all record documents, record the following types of information:
    - a. Product options taken, when the specification allows more than one.
    - b. Proprietary name and model number of actual products furnished, for each product, material, and item of equipment specified.
    - c. Name of the supplier and installer, for each product for which neither a product data submittal nor a maintenance data submittal was specified.

### 3.04 TRANSMITTAL TO OWNER (through the Architect)

- A. Collect, organize, label, and package ready for reference.
1. Bind print sets with durable paper covers.
  2. Label each document (and each sheet of drawings) with "PROJECT RECORD DOCUMENTS - This document has been prepared using information furnished by \_\_\_\_\_" [insert the contractor's name], and the date of preparation.
- B. Submit to the Project Manager for transmittal to the Architect, unless otherwise indicated.
- C. Submit to the Architect four (4) sets of Operation and Maintenance Manuals in three-ring binders, by volume, and indexed per binder (with one master index) to be transmitted to the Architect/Engineer for approval: All to be submitted at one time, not piece meal. Indexing should follow the specification section numbers.
- Include all inspection/approvals/certifications
  - All approved submittals and cut sheets as well as manufacturer's operation and maintenance manuals for each section.
  - Manuals are to be completed in volumes, three ring binders, starting with Division 1 and continuing through the last projects Division. The number of volumes is determined by the number of spec section the projects has and by the amount of paper/copies for complete sets of three ring binders.
  - List of all contractors and vendors for the project with names, addresses and phone numbers.



1  
2 **END OF SECTION 01340**

1 **SECTION 01524 – CONSTRUCTION WASTE MANAGEMENT**

2  
3 PART 1 – GENERAL

4  
5 1.1 RELATED DOCUMENTS

- 6  
7 A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and  
8 Division 1 Specification Sections, apply to this Section.  
9

10 1.2 SUMMARY

- 11 A. This Section includes administrative and procedural requirements for the following:

- 12  
13  
14 1. Salvaging nonhazardous demolition and construction waste.  
15 2. Recycling nonhazardous demolition and construction waste.  
16 3. Disposing of nonhazardous demolition and construction waste.  
17

- 18 B. Related Sections include the following:

- 19  
20 1. All of Division 1 and attached specifications and drawings that make a part of this contract.  
21  
22

23 1.3 DEFINITIONS

- 24  
25 A. Construction Waste: Building and site improvement materials and other solid waste resulting from  
26 construction, remodeling, renovation, or repair operations. Construction waste includes packaging.  
27

- 28 B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition  
29 operations.  
30

- 31 C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or  
32 deposit in landfill or incinerator acceptable to authorities having jurisdiction.  
33

- 34 D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.  
35

- 36 E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.  
37

38 1.4 SUBMITTALS

- 39  
40 A. Waste Management Plan: Submit 4 copies of plan within 30 days of date established for the Notice to Proceed.  
41

- 42 B. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and  
43 organizations. Indicate whether organization is tax exempt.  
44

- 45 C. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations.  
46 Indicate whether organization is tax exempt.  
47

- 48 D. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling  
49 and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.  
50

- 51 E. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator  
52 facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.  
53  
54

55  
56 1.5 QUALITY ASSURANCE

- 1  
2 A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.  
3  
4 B. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 1.  
5 Review methods and procedures related to waste management including, but not limited to, the following:  
6  
7 1. Review and discuss waste management plan.  
8 2. Review requirements for documenting quantities of each type of waste and its disposition.  
9 3. Review and finalize procedures for materials separation and verify availability of containers and bins  
10 needed to avoid delays.  
11 4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.  
12 5. Review waste management requirements for each trade.  
13

14 1.6 WASTE MANAGEMENT PLAN  
15

- 16 A. General: Develop plan consisting of waste identification, and waste reduction work plan. Indicate quantities  
17 by weight or volume, but use same units of measure throughout waste management plan.  
18  
19 B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing, and construction  
20 waste generated by the Work. Include estimated quantities and assumptions for estimates.  
21  
22 C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of  
23 in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for  
24 each means of recovery, and handling and transportation procedures.  
25  
26 1. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list  
27 of their names, addresses, and telephone numbers.  
28 2. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations,  
29 include list of their names, addresses, and telephone numbers.  
30 3. Recycled Materials: Include list of local receivers and processors and type of recycled materials each  
31 will accept. Include names, addresses, and telephone numbers.  
32 4. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and  
33 telephone number of each landfill and incinerator facility.  
34 5. Handling and Transportation Procedures: Include method that will be used for separating recyclable  
35 waste including sizes of containers, container labeling, and designated location on Project site where  
36 materials separation will be located.  
37

38 PART 2 - PRODUCTS (Not Used)  
39

40 PART 3 – EXECUTION  
41

42 3.1 PLAN IMPLEMENTATION  
43

- 44 A. General: Implement waste management plan as approved by Project Manager. Provide handling, containers,  
45 storage, signage, transportation, and other items as required to implement waste management plan during the  
46 entire duration of the Contract.  
47  
48 1. Comply with Division 1 Section "Temporary Facilities" for operation, termination, and removal  
49 requirements.  
50  
51 B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate  
52 for the Work occurring at Project site.  
53  
54 1. Distribute waste management plan to entities when they first begin work on-site. Review plan  
55 procedures and locations established for salvage, recycling, and disposal.  
56

- 1 C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference  
2 with roads, streets, walks, walkways, and other adjacent occupied and used facilities.  
3
- 4 1. Designate and label specific areas on Project site necessary for separating materials that are to be  
5 salvaged, recycled, reused, donated, and sold.  
6 2. Comply with Division 1 Section "Temporary Facilities and Controls" for controlling dust and dirt,  
7 environmental protection, and noise control.  
8
- 9 3.2 SALVAGING DEMOLITION WASTE
- 10 A. Salvaged Items for Sale and Donation: Not permitted on Project site.  
11
- 12 3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL
- 13 A. General: Recycle beverage containers used by on-site workers.  
14
- 15 B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste  
16 materials shall accrue to the Contractor.  
17
- 18 C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste  
19 by type at Project site to the maximum extent practical.  
20
- 21 1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed  
22 from Project site. Include list of acceptable and unacceptable materials at each container and bin.  
23
- 24 a. Inspect containers and bins for contamination and remove contaminated materials if found.  
25
- 26 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape  
27 stockpiles to drain surface water. Cover to prevent windblown dust.  
28
- 29 3. Stockpile materials away from construction area.  
30
- 31 4. Store components off the ground and protect from the weather.  
32
- 33 5. Remove recyclable waste off Owner's property and transport to recycling receiving or processor.  
34
- 35 3.4 RECYCLING DEMOLITION WASTE
- 36 A. Asphaltic Concrete Paving: Break up and transport paving to asphalt-recycling facility.  
37
- 38 B. Concrete: break up and sort rebar as best as possible. Recycle all concrete.  
39
- 40 C. Recycle all metal products from the building before demolition (aluminum, steel etc)  
41
- 42 D. Recycle as much product as possible and provide a complete report to TCNJ to confirm the percentage recycled  
43 on the project.  
44
- 45 3.5 RECYCLING CONSTRUCTION WASTE
- 46 A. Packaging:
- 47 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.  
48
- 49 2. Polystyrene Packaging: Separate and bag materials.  
50
- 51 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For  
52 pallets that remain on-site, break down pallets into component wood pieces and comply with  
53 requirements for recycling wood.  
54
- 55 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling  
56 wood.
- 57 B. Wood Materials:
- 58 1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.

- 1  
2 3.6 DISPOSAL OF WASTE  
3  
4 A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials  
5 from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having  
6 jurisdiction.  
7  
8 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-  
9 site.  
10 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.  
11  
12 B. Burning: Do not burn waste materials on site.  
13  
14 C. Burying: Do not bury waste materials on site.  
15  
16 D. Disposal: Transport waste materials off Owner's property and legally dispose of them.  
17  
18 E. Washing waste materials into sewers or drains is not permitted.  
19  
20 **END OF SECTION 01524**

## SECTION 012300 - ALTERNATES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract Documents, including General and Supplementary Conditions and other Division 01 and Technical Specifications, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates.

#### 1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
  - 1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

#### 1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
  - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
  - 2. Bidders are required to provide numerical cost amounts for all alternates listed to reflect the cost associated with the Contract being bid.
  - 3. Bidders are required to provide numerical cost amounts for all alternate bids and unit prices listed to reflect the cost associated with the Contract being bid.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

**AB-1: ARM REST LIGHTING**

State amount to be "ADDED TO" the base bid to provide all work and cost associated with removal of the existing surface mounted light fixtures at the aisle seating the procurement and complete installation of new light fixtures as indicated in the Drawings. The scope of this alternate shall include all necessary demolition, preparation, labor, materials, accessories, and features for complete and warranted installation of work.

END OF SECTION 012300.

## SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.

#### 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.
  - 1. Architect will issue notice via AIA Form 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. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
  - 2. Within the time indicated on the Proposal Request, or if not indicated, not to exceed (20) twenty days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
    - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    - b. Include costs of labor and supervision directly attributable to the change.
    - c. Include delivery charges, equipment rentals, and amounts of trade discounts.
    - 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. Contractor must receive prior written approval from the Owner prior to performing the Work. Any Work completed without prior approval by the Owner will not be paid.



- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes 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 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. Contractor must receive prior written approval from the Owner prior to performing the Work. Any Work completed without prior approval by the Owner will not be paid.
  
- C. Proposal Request Form: Use AIA Document G709 "Work Changes Proposal Request" for Proposal Requests.

#### 1.5 CHANGE ORDER PROCEDURES

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

#### 1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714 "Construction Change Directive". 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. The Contractor shall be responsible to obtain verification by the Owner's representative on a daily basis.
  - 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

## SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. Field supervision.
  - 2. Coordination.
  - 3. Submittals.
  - 4. Administrative and supervisory personnel.
  - 5. Project meetings.
  - 6. Requests for Information (RFI's).
  - 7. Cleaning and protection.
- B. The contractor and its Subcontractors shall participate in coordination requirements as described herein.

#### 1.3 DEFINITIONS

- A. RFI: Request from Contractor seeking information, interpretation or clarification of the Contract Documents.

#### 1.4 FIELD SUPERVISION

- A. The Contractor shall have a full time superintendent present on site to supervise its work and that of its Subcontractors. At no time shall the Contractor or its Subcontractors be working on the Project without the Contractor's superintendent present. The Contractor shall submit the name of its Superintendent to the Architect prior to commencement of work.
- B. Field Supervisor shall be fluent in the English language to ensure full communications can be achieved during daily operations between Contractor, Architect, and Owner.

#### 1.5 COORDINATION

- A. Coordination: Contractor shall coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for

proper installation, connection, and operation. The Contractor shall be responsible for being the supervisor, manager, overseer, coordinator and expeditor of its Subcontractors. The Contractor shall have included in its bid a sufficient cost amount to furnish such administrative and supervisory duties.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
  3. Make adequate provisions to accommodate items scheduled for later installation.
  4. 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 mechanical and electrical.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work and activities is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's Construction Schedule.
  2. Preparation of the Schedule of Values.
  3. Installation and removal of temporary facilities and controls.
  4. Delivery and processing of submittals.
  5. Progress meetings.
  6. Preinstallation conferences.
  7. Project closeout activities.
  8. Startup and adjustment of systems.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
- E. Inspection of Conditions: require the installer of each major component to inspect both the substrate and conditions under which work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- F. Manufacturer's Instructions: comply with 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.
- G. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.

- H. Provide attachment and connection devices and methods necessary for securing work. Secure work true to line and level. Allow for expansion.
- I. Visual Effects: 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.
- J. Recheck measurements and dimensions, before starting each installation.
- K. 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.
- L. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.
- M. Mounting Heights: 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.

## 1.6 SUBMITTALS

- A. The Contractor shall submit copies of the minutes of the weekly Coordination Meetings (013100, 1.8.F) to the Owner and Architect on a weekly basis.
- B. Coordination drawings will be prepared in a joint effort by each trade to avoid material and equipment installation interference as well as project delays. The coordination drawings will clearly indicate locations, dimensions, and elevations including, but not limited to, duct work, insulation, mechanical equipment, hot water supply and return piping, fire sprinkler work, electrical fixtures, electrical conduit, structural steel, beams, columns, joist, plumbing piping, plumbing equipment, ceiling grid, penetrations, lintels, etc. Additionally any trade requiring a penetration to be made in wall, floor and or roof shall identify the required opening size and location. The size and type of lintel required for the penetration is also required. Each trade is responsible for laying out their necessary wall, floor or roof penetration.
- C. The Contractor will coordinate a meeting between each trade to finalize the coordination review. Upon the final review as to the accuracy of the coordination drawings, the Contractor's representative who has written authorization from the President of the Company or Corporation to approve and sign-off on the coordination drawings will sign and date the coordination drawings. The General Contractor will then submit copies of the signed and dated coordination drawing to the Architect for review. The signed coordination drawings shall be submitted to the Architect within (30) thirty calendar days from the date of Notice to Proceed. Contractor that fails to furnish completed coordination drawings within the time specified shall be subject to liquidated damages and be financially responsible for removals, repairs, patching, etc. caused by failure to provide coordination drawings at the time needed in coordination with the Contractor's Construction Schedule.
- D. As the work progresses, the Contractor shall familiarize itself with the work to be done by others in so far as it affects its work and shall promptly give such information to others as affects their mutual interests. The Contractor shall notify the Architect of any condition that might prevent the satisfactory completion of their work.

- E. The Contractor shall carefully check job space requirements with all trades to make sure that the combined work can be installed in the allotted spaces, chases, etc., with all piping, conduits, ductwork, etc. concealed from view. Coordination drawings shall be the mutual responsibility of all Contractors and Subcontractors involved. Any Contractor or its Subcontractor not coordinating its work with others will be responsible for any additional costs arising from lack of coordination. In the case of conflict between Prime Contractors and subcontractors, the Architect will have the final decision in accordance with the General Conditions of the Contract for Construction. The Contractor that fails to supply the proper sizes and locations shall be financially responsible for consequential corrective work
- F. Coordination Drawings: Organize coordination drawings as follows.
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, electrical, fire suppression and security 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 Architect 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 (215 by 280 mm) but no larger than 30 by 40 inches (750 by 1000 mm).
  3. Number of Copies: Submit eight opaque copies of each submittal, or submit PDF copy of each submittal. The Architect will return one copy.
  4. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.
  5. Submittals shall include:
    - a. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
    - b. Plenum Space: Indicate sub-framing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
    - c. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
    - d. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
    - e. Mechanical and Plumbing Work: Show the following:
      - 1) Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.

- 2) Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
- 3) Fire-rated enclosures around ductwork.

f. Electrical Work: Show the following:

- 1) Runs of vertical and horizontal conduit 1-1/4 inches (32 mm) in diameter and larger.
- 2) Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
- 3) Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
- 4) Location of pull boxes and junction boxes, dimensioned from column center lines.

g. Fire-Protection System: Show the following:

- 1) Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.

G. Key Personnel Names: Within (10) ten days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

## 1.7 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.

1. Include special personnel required for coordination of operations with other contractors.

## 1.8 PROJECT MEETINGS

A. Job Meetings shall be held at the Site, or elsewhere as designated by the Architect or Owner, for each project at least twice per month on a prescribed date and time of each month, or more often, as directed and required by the Architect or Owner.

B. It will be mandatory for the President of the Company or Corporation of the Contractor to be present or have its representative present who has written authorization from the President of the Company or Corporation to approve and sign-off on updated Contractors' Construction Schedule, etc. at every Meeting, unless previously excused by the Architect. Non-attendance of any Job Meetings shall result in a deduction of the Contractor's Contract amount of five

hundred (\$500.00) dollars per unattended Meeting. A Contractor more than fifteen (15) minutes late to any meeting shall be viewed as not in attendance.

C. General: Architect will Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Architect will inform the Owner and Contractors whose presence is required, of date and time of each meeting. Contractor will inform its Subcontractors, suppliers, participants and others involved whose presence is required of scheduled meeting dates and times.
2. Minutes: Architect will record significant discussions and agreements achieved and distribute the meeting minutes to everyone concerned, including Owner, within (7) seven days of the meeting.

D. Pre-construction Conference

1. Architect shall schedule a Pre-construction Conference and Organizational Meeting at the Project Site or other convenient location no later than fifteen (15) days after execution of the Agreement and prior to commencement of construction activities. The meeting will establish responsibilities and personnel assignments.
2. Attendees: The Owner, the Architect, and their consultants; the Contractor and its superintendent; major subcontractors, manufacturers, suppliers and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect progress, including such topics as:
  - a. Tentative construction schedule. Contractor shall bring a draft copy of a Schedule of Construction for review and coordination.
  - b. Phasing.
  - 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 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 buildings.
  - m. Work restrictions.
  - n. Owner's occupancy requirements.
  - o. Sequence of work to ensure uninterrupted progress of the facility.
  - 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.
  - 4. Minutes: Architect will record and distribute meeting minutes.
- E. Pre-installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.
  - 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect and Owner of scheduled meeting dates.
  - 2. Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
    - a. The Contract Documents.
    - b. Options.
    - c. Related RFIs.
    - d. Related Change Orders.
    - e. Purchases.
    - f. Deliveries.
    - g. Submittals.
    - h. Review of mockups.
    - i. Possible conflicts.
    - j. Compatibility problems.
    - k. Time schedules.
    - l. Weather limitations.
    - m. Manufacturer's written recommendations.
    - n. Warranty requirements.
    - o. Compatibility of materials.
    - p. Acceptability of substrates.
    - q. Temporary facilities and controls.
    - r. Space and access limitations.
    - s. Regulations of authorities having jurisdiction.
    - t. Testing and inspecting requirements.
    - u. Installation procedures.
    - v. Coordination with other work.
    - w. Required performance results.
    - x. Protection of adjacent work.
    - y. Protection of construction and personnel.
  - 3. Installer shall record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
  - 4. Installer shall distribute minutes of the meeting to each party present and to parties who should have been present.
  - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date
- F. Job Meetings: The Architect or Construction Manager conduct progress meetings at the site or elsewhere as designated by the Architect or Construction Manager for each project at least twice

per month on a prescribed date and time of each month, or more often, as directed and required by the Architect. Coordinate dates of meetings with preparation of payment requests.

1. Attendees: In addition to representatives of Owner, and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized, by the president of the company or corporation, to conclude matters relating to the Work.
2. Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
  - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    - 1) Review schedule for next period.
    - 2) Briefly state points to make a matter of record.
  - b. Review present and future needs of each entity present, including the following:
    - 1) Interface requirements.
    - 2) Sequence of operations.
    - 3) Status of submittals.
    - 4) Deliveries.
    - 5) Off-site fabrication.
    - 6) Access.
    - 7) Site utilization.
    - 8) Temporary facilities and controls.
    - 9) Work hours.
    - 10) Hazards and risks.
    - 11) Progress cleaning.
    - 12) Quality and work standards.
    - 13) Status of correction of deficient items.
    - 14) Field observations.
    - 15) RFIs.
    - 16) Status of proposal requests.
    - 17) Pending changes.
    - 18) Status of Change Orders.
    - 19) Pending claims and disputes.
    - 20) Documentation of information for payment requests.
3. Minutes: Architect will record.
4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
  - a. Schedule Updating: The Contractor will revise Contractor's Construction Schedule at least once per month after each job meeting where revisions to the schedule have been made or recognized and when requested by the Architect. Issue revised

schedule concurrently with the report of each meeting or within 4 days of Architect's request.

- G. Coordination Meetings: The Contractor shall conduct mandatory Project Coordination Meetings at least weekly intervals on a prescribed date and time of week, or more often, as directed and required by the Architect. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and pre-installation conferences.
1. Attendees: In addition to representatives of Owner, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
  2. Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to Combined 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. Schedule Updating: Revise Combined Contractor's Construction Schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting. The Schedule will be reviewed at each regularly scheduled job meeting or when specifically requested by the Architect.
    - c. Review present and future needs of each contractor present, including the following:
      - 1) Interface requirements.
      - 2) Sequence of operations.
      - 3) Status of submittals.
      - 4) Deliveries.
      - 5) Off-site fabrication.
      - 6) Access.
      - 7) Site utilization.
      - 8) Temporary facilities and controls.
      - 9) Work hours.
      - 10) Hazards and risks.
      - 11) Progress cleaning.
      - 12) Quality and work standards.
      - 13) Change Orders.
      - 14) Review and establishing needed coordination drawings
  3. Reporting: Contractor shall record meeting results and distribute copies to everyone in attendance, Architect, Owner, and to others affected by decisions or actions resulting from each meeting.

## 1.9 REQUESTS FOR INFORMATION (RFIs)

- A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request information at Project meeting, prepare and submit an RFI in the form specified included in Section 009000.
1. RFIs shall originate with the Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
  2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
  3. If the Architect must prepare "responses to Contractor's Requests for Information" (RFI's) where such information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or Project correspondence or documentation the Owner will back-charge the Contractor for all costs associated with the additional Contract Administration Services provided by the Architect.
- B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
1. Project name.
  2. Date.
  3. Name of Contractor.
  4. Name of Architect.
  5. RFI number, numbered sequentially.
  6. Specification Section number and title and related paragraphs, as appropriate.
  7. Drawing number and detail references, as appropriate.
  8. Field dimensions and conditions, as appropriate.
  9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  10. Contractor's signature.
  11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.
    - a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.
- C. Hard-Copy RFIs: in the form specified included in Section 009000.
1. Identify each page of attachments with the RFI number and sequential page number.
- D. Software-Generated RFIs: Software-generated form with the same content as indicated above.
1. Attachments shall be electronic files in Adobe Acrobat PDF format.
- E. Architect's Action: Architect will review each RFI, determine action required, and return it. Allow (14) fourteen calendar days for Architect's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:

- a. Requests for approval of submittals.
  - b. Requests for approval of substitutions.
  - c. Requests for coordination information already indicated in the Contract Documents.
  - d. Requests for adjustments in the Contract Time or the Contract Sum.
  - e. Requests for interpretation of Architect's actions on submittals.
  - f. Incomplete RFIs or RFIs with numerous errors.
- 2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.
  - 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Contract Modification Procedures.
    - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within (10) ten days of receipt of the RFI response.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within (7) seven days if Contractor disagrees with response.
- G. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number prepared using Microsoft Excel or approved equal. Submit log at least monthly, at each job meeting or when specifically requested by the Architect. Include the following:
- 1. Project name.
  - 2. Name and address of Contractor.
  - 3. Name and address of Architect.
  - 4. RFI number including RFIs that were dropped and not submitted.
  - 5. RFI description.
  - 6. Date the RFI was submitted.
  - 7. Date Architect's response was received.
  - 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

#### 1.10 PROTECTION OF PERSONS AND PROPERTY

- A. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work.
- B. The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:
  - 1. All employees on the Work and all other persons who may be affected thereby.
  - 2. All the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of his Subcontractors or Sub-subcontractors.

3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation or replacement in the course of the Work.
- C. The Contractor shall comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. He shall erect and maintain as required by existing conditions and progress for the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warning against hazards, promulgating safety regulations and notifying Owners and users of adjacent utilities.
  - D. When the use of explosives or other hazardous materials or equipment is necessary for the execution of the Work, only after written approval from the Owner, the Contractor shall exercise the utmost care in compliance with State and Local regulations and shall carry on such activities under the supervision of properly qualified personnel.
  - E. All damage or loss to any property referred to herein caused in whole or in part by the Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them as be liable, shall be remedied by the Contractor.
  - F. The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's Superintendent, unless otherwise designated in writing by the Contractor to the Owner.
  - G. The Contractor shall comply in all respects with the State Construction Safety Code and with applicable federal regulations, and shall see that all Subcontractors comply with the codes and regulations wherever and whenever they are applicable.
  - H. The Contractor is specifically directed to comply with Section 7 of the Construction Safety Code which requires among other things, first aid kits to be available and the name of the nearest physician and ambulance service to be posted.
  - I. The Contractor shall notify the Owner immediately if any accident or injury occurring on the project.
  - J. Where electric or gas welding or cutting work is done above or within ten feet of combustible material, or above a space that may be occupied by persons, interposed shields of incombustible materials shall be used to protect against fire damage or injury due to sparks or hot metal.
  - K. Tanks supplying gases for gas welding or cutting shall be placed at no greater distance from the Work than is necessary for safety, securely fastened and maintained in an upright position where practicable. Such tanks, when stored for use, should be removed from any combustible material and free from exposures to the ray of the sun or to high temperatures. Remove all tanks from the building at the end of each day.
  - L. Suitable fire extinguisher equipment shall be maintained near all welding and cutting operations. When operations cease for the noon hour or at the end of the day, the surroundings adjacent to the welding and cutting operations should be thoroughly wet down.
  - M. A workman equipped with suitable fire extinguishing equipment should be stationed near welding and cutting operations to see that sparks or hot metal do not lodge in floor cracks, or

pass through floor or wall openings or lodge in any combustible materials. The workmen shall be kept at the source or work offering special hazards for 30 minutes after the job is completed, to make sure that no smoldering fires have been started.

- N. In any emergency affecting the safety of persons or property, the Contractor shall act, at his discretion, to prevent threatened damaged, injury or loss.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

## SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
  - 1. Contractor's Construction Schedule.
  - 2. Submittals Schedule.
  - 3. Daily construction reports.
  - 4. Material location reports.
  - 5. Field condition reports.
  - 6. Special reports.

#### 1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
  - 1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
  - 2. Predecessor Activity: An activity that precedes another activity in the network.
  - 3. Successor Activity: An activity that follows another activity in the network.
- B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Event: The starting or ending point of an activity.
- E. Float: The measure of leeway in starting and completing an activity.
  - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.



2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
  3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- F. Fagnnet: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.
- G. Major Area: A story of construction, a separate building, or a similar significant construction element.
- H. Milestone: A key or critical point in time for reference or measurement.

#### 1.4 SUBMITTALS

- A. Preliminary Construction Schedule: Submit (3) three copies.
- B. Contractor's Construction Schedule: Submit (3) three copies of initial schedule, large enough to show entire schedule for entire construction period.
1. Qualification Data: For scheduling manager.
- C. CPM Reports: Concurrent with CPM schedule, submit (3) three copies of each of the following computer-generated reports. Format for each activity in reports shall contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
  2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
  3. Total Float Report: List of all activities sorted in ascending order of total float.
- D. Daily Construction Reports: Submit (3) three copies with each monthly application for payment.
- E. Material Location Reports: Submit (3) three copies with each monthly application for payment.
- F. Submittals Schedule: Submit (3) three copies of schedule. Arrange the following information in a tabular format:
1. Scheduled date for first submittal.
  2. Specification Section number and title.
  3. Submittal category (action or informational).
  4. Name of subcontractor.
  5. Description of the Work covered.
  6. Schedule dates for purchasing.
  7. Schedule dates for installation.
  8. Activity or event number.

- G. Scheduled date for Architect's and Owner final release or approval.
- H. Field Condition Reports: Submit (3) three copies at time of discovery of differing conditions.
- I. Special Reports: Submit (3) three copies weekly intervals.

#### 1.5 QUALITY ASSURANCE

- A. Scheduling Manager Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of Architect's and Owner's request.
- B. Pre-scheduling Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to the Preliminary Construction Schedule and Contractor's Construction Schedule, including, but not limited to, the following:
  - 1. Review software limitations and content and format for reports.
  - 2. Verify availability of qualified personnel needed to develop and update schedule.
  - 3. Discuss constraints, including phasing, work stages, area separations, interim milestones, and partial Owner occupancy.
  - 4. Review delivery dates for Owner-furnished products.
  - 5. Review schedule for work of Owner's separate contracts.
  - 6. Review time required for review of submittals and re-submittals.
  - 7. Review requirements for tests and inspections by independent testing and inspecting agencies.
  - 8. Review time required for completion and startup procedures.
  - 9. Review and finalize list of construction activities to be included in schedule.
  - 10. Review submittal requirements and procedures.
  - 11. Review procedures for updating schedule.

#### 1.6 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
  - 1. Secure time commitments for performing critical elements of the Work from parties involved.
  - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

## PART 2 - PRODUCTS

### 2.1 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, re-submittal, ordering, manufacturing, fabrication, delivery and installation when establishing dates.
  - 1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
  - 2. Initial Submittal Schedule: Submit concurrently with preliminary bar-chart schedule. Include submittals required during the first 60 sixty days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
  - 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

### 2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for Notice to Proceed to date of Substantial and Final Completion.
  - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
  - 1. Activity Duration: Define activities so no activity is longer than (10) ten calendar days, unless specifically allowed by Architect.
  - 2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than (60) sixty days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
  - 3. Submittal Review Time: Include review and re-submittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
  - 4. Startup and Testing Time: Include not less than (10) ten calendar days for startup and testing.
  - 5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion and for Township inspections and issuance of a TCO or CO.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
  - 1. Work Restrictions: Show the effect of the following types of items on the schedule including, but not limited to:

- a. Coordination with existing construction.
  - b. Limitations of continued occupancies.
  - c. Uninterruptible services.
  - d. Partial occupancy before Substantial Completion.
  - e. Use of premises restrictions.
  - f. Seasonal variations.
  - g. Environmental control.
  - h. Local ordinances.
2. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
- a. Subcontract awards.
  - b. Submittals.
  - c. Purchases.
  - d. Mockups.
  - e. Fabrication.
  - f. Sample testing.
  - g. Deliveries.
  - h. Installation.
  - i. Tests and inspections.
  - j. Adjusting.
  - k. Curing.
  - l. Startup and placement into final use and operation.

- D. Milestones: Include any milestones in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.
- E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall project schedule.

### 2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor shall, within (15) fifteen calendar days after issuance of a Notice to Proceed, submit a draft Contractor's Construction Schedule detailing logic, tasks and durations along with a detailed submittal schedule to the Architect.
- B. Schedule: The Contractor shall submit a comprehensive, fully developed, Contractor's Construction Schedule. The schedule shall be a comprehensive, fully developed, Contractor's Construction Schedule detailing logic, tasks and durations related to all work of the entire Project. The schedule shall not exceed time limits current under the Contract Documents for substantial completion of (each) phase and that of the Project.
- C. Preparation: Indicate each significant construction activity separately. Identify first workday of each week through to completion.

## 2.4 REPORTS

- A. Daily Construction Reports: Contractor shall prepare a daily construction report recording the following information concerning events at Project site: Failure to comply is cause for docking payment.
1. List of subcontractors at Project site.
  2. Exact count and E.E.O.C. Classification of personnel at the site.
  3. List of separate contractors at Project site.
  4. Approximate count of personnel at Project site.
  5. Equipment at Project site.
  6. Material deliveries.
  7. High and low temperatures and general weather conditions.
  8. Accidents.
  9. Meetings and significant decisions.
  10. Unusual events (refer to special reports).
  11. Stoppages, delays, shortages, and losses.
  12. Meter readings and similar recordings.
  13. Emergency procedures.
  14. Orders and requests of authorities having jurisdiction.
  15. Change Orders received and implemented.
  16. Construction Change Directives received and implemented.
  17. Services connected and disconnected.
  18. Equipment or system tests and startups.
  19. Partial Completions and occupancies.
  20. Substantial Completions authorized.
- B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for information in Section 009000 Project Forms, Form 009215 Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

## 2.5 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner within weekly of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

## PART 3 - EXECUTION

### 3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Meeting to Review and approve Contractor's Construction Schedule: (14) fourteen calendar days after receipt of the Contractor's Construction Schedule, the Owner, Architect, President of the Company or Corporation, of Contractor, shall meet to review, agree and sign off on the Contractor's Construction in the presence of the Owner, Architect and. Failure of Contractor to sign off on the Contractor's Construction Schedule shall result in the assessment of liquidated damages as outlined in Section 007300 – Supplementary Conditions, article 8.4.1.
- B. Contractor's Construction Schedule Updating: At, at least, every 30 calendar days or as often as deemed necessary by the Architect, update schedule to reflect actual construction progress and activities and to recommend changes in the sequencing and scheduling. Issue schedule (1) one week before each regularly scheduled progress meeting. Upon 7 working days of the Architect's request, submit an updated schedule to the Architect.
  - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
  - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
  - 3. As the Work progresses, indicate Actual Completion percentage for each activity.
- C. The updated Contractors' Construction Schedule will be reviewed at each Job Meeting. Contractor is required to have a representative present at the Job Meeting with written authorization from the President of the Company or Corporation to review, agree upon and sign-off on any approved and agreed upon changes to the updated Contractors' Construction Schedule. Failure by Contractor to provide timely input in the time required to up[date the schedule shall result in a reduction in Contractor's Contract Amount of FIVE HUNDRED (\$500.00) DOLLARS per each occurrence as liquidated damages. In addition, payment to the Contractor may result in the withholding of payments to the Contractor, and in the liability of the Contractor for liquidated damages, for failure of the Project to be completed within the designated time due to the Contractor's failure to cooperate. Contractor shall be responsible for meeting the overall Project's phased completion date(s) and overall substantial completion date.
- D. Any acceleration of the Contractor's Construction Schedule shall be agreed upon by Contractor and approved by the Architect in writing.
- E. In the absence of a signed change order approving an extension of time, all Contractor Construction Schedule updates must show substantial completion date(s) consistent with the date(s) required in Section 011000 – Summary, paragraph 1.5.C of the Supplementary Conditions. Changes in logistics or duration shall not be made, except for good cause, and shall not result in an extension of the time for substantial completion. In the event certain aspects of the work fall behind the Contractor's Construction Schedule, the Contractor(s) responsible shall, in coordination, and consultation with all other Contractors, will develop a recovery plan to revise logistics, add manpower resources to reduce durations, expedite procurement or advance start of activities, to get the project back on a schedule that will assure completion in accordance with the substantial completion date.

- F. Distribution: Distribute copies of approved schedule to Architect Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and/or temporary field offices.
  2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

## SECTION 013300 - SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract Documents, including General and Supplementary Conditions and other Division 01 and Technical Specifications, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other Submittals.
- B. Administrative Submittals: Refer to other Division 01 Sections, other Specification Sections and Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
  - 1. Permits.
  - 2. Applications for Payment.
  - 3. Performance and Payment Bonds.
  - 4. Insurance Certificates.
  - 5. List of Subcontractors, suppliers, manufacturers, installers.
  - 6. Schedule of Values.

#### 1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires 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.

#### 1.4 SUBMITTAL PROCEDURES

- A. General: Electronic copies of CAD Drawings of the Contract Drawings may be conditionally available from the Architect for Contractor's use in preparing Submittals by a jointly signed indemnity agreement.
  - 1. Contractor and each subcontractor will be required to sign an Indemnification and Hold Harmless Agreement in form provided by the Architect for the use of original electronic information created by the Architect.
  - 2. Electronic files will be provided only for the specific purpose of providing a reference document to the Contractor to be used for backgrounds for the completion by the Contractor of shop drawings only.



3. The Contractor shall agree the electronic information is for reference purposes only and that the Architect provided no warranty of any kind, written or implied, as to the completeness or accuracy of the electronic files.
  4. The Contractor shall agree to hold all information contained in the electronic file confidential and protect it against use by others.
  5. The Contractor shall be required to indemnify and hold harmless the Architect, its principals, employees, and its consultants in accordance with all terms and conditions listed in the Architect's Indemnification and Hold Harmless Agreement.
- B. Coordination: Coordinate preparation and processing of Submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other Submittals, and related activities that require sequential activity.
  2. Coordinate transmittal of different types of Submittals for related parts of the Work so processing will not be delayed because of need to review Submittals concurrently for coordination.
    - a. Architect reserves the right to withhold action on a Submittal requiring coordination with other Submittals until related Submittals are received.
- C. Submittals Schedule: Submit (3) three copies of schedule. Arrange the following information in a tabular format:
1. Scheduled date for first Submittal.
  2. Specification Section number and title.
  3. Submittal category (action or informational).
  4. Name of subcontractor.
  5. Description of the Work covered.
  6. Scheduled date for Architect's final release or approval
- D. Processing Time: Allow enough time for Submittal review, including time for re-submittals, as follows. Time for review shall commence on Architect's receipt of a fully prepared and complete Submittal. No extension of the Contract Time will be authorized because of failure to transmit Submittals enough in advance of the Work to permit processing, including re-submittals.
1. Initial Review: Allow (14) fourteen calendar days for initial review of each Submittal. Allow additional time if coordination with subsequent Submittals is required. The Architect will advise Contractor when a Submittal being processed must be delayed for coordination.
  2. Intermediate Review: If intermediate Submittal is necessary, process it in same manner as initial submittal.
  3. Re-submittal Review: Allow (14) fourteen calendar days calendar for review of each re-submittal.
  4. Sequential Review: Where sequential review of Submittals by Architect's consultants, Owner, or other parties is indicated, allow (21) twenty one calendar days for initial review of each Submittal.
  5. No extension of contract time will be considered or authorized because of failure to transmit submittals far enough in advance of the work to permit processing.

- E. Identification: Place a permanent label or attach Form 009310 Submittal Cover Sheet, included in the Project Manual, with each Submittal for identification.
1. Indicate name of firm or entity that prepared each Submittal on label or title block.
  2. Provide a space not less than 6 by 8 inches on label or beside title block to record Contractor's review and approval stamp, markings, date and Contractor's signature with and action taken by the Architect and its Consultants.
  3. Include the following information on label for processing and recording action taken:
    - a. Project name.
    - b. Date.
    - c. Name of Contractor.
    - d. Name of subcontractor.
    - e. Name of supplier.
    - f. Name of manufacturer.
    - g. Submittal number or other unique identifier, including revision identifier.
      - 1) Submittal number shall include the Specification Section number followed by a decimal point and then a sequential article number (e.g., 06100.01). Re-submittals shall include an alphabetic suffix after another decimal point (e.g., 06100.01.A).
    - h. Number and title of appropriate Specification Section.
    - i. Other necessary identification.
- F. Deviations: Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on Submittals.
- G. Additional Copies: Unless additional copies are required for final Submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial Submittal may serve as final Submittal.
1. Submit one copy of Submittal to concurrent reviewer in addition to specified number of copies to Architect.
  2. Additional copies submitted for maintenance manuals will be marked with action taken and will be returned.
- H. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using transmittal form along with a submittal cover sheet, Form 009310 – Submittal Cover Sheet, included in the Project Manual. The Architect will return submittals, without review, received from sources other than the Contractor.
1. Transmittal Form: Provide on form, the following information:
    - a. Project name:
    - b. Date.
    - c. Destination (To:).
    - d. Source (From:).
    - e. Specification Section number and title.
    - f. Transmittal number, numbered consecutively.
    - g. Submittal and transmittal distribution record.

- h. Remarks.
    - i. Signature of transmitter.
  - 2. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous Submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same label information as related Submittal.
- I. Re-submittals: Make re-submittals in same form and number of copies as initial Submittal.
  - 1. Note date and content of previous Submittal.
  - 2. Note date and content of revision in label or title block. Clearly indicate extent of revision from previous submittal.
  - 3. Resubmit submittals until they are marked "approved" or "approved as noted".
- J. Distribution: Furnish copies of final submittals to manufacturers, Subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- K. Use for Construction: Use only final Submittals with mark indicating "approved" or "approved as noted" from Architect's action stamp.

## PART 2 - PRODUCTS

### 2.1 SUBMITTALS SCHEDULE

- A. Preparation: Submit a Schedule of Submittals, arranged in chronological order by dates required by construction schedule to the Architect and Owner. Include time required for review, re-submittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
  - 1. Coordinate Submittals Schedule with the Schedule of Values, and Contractor's Construction Schedule.
  - 2. Final Submittal: Submit concurrently with the first complete Submittal of Contractor's Construction Schedule.
- B. Failure by Contractor not correcting the scheduled update in the time required shall result in a reduction in the Contractor's Contract Amount of FIVE HUNDRED (\$500.00) per each occurrence as liquidated damages.

### 2.2 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
- B. Product Data: Collect information into a single Submittal for each element of construction and type of product or equipment.
  - 1. If information must be specially prepared for Submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.

2. Mark each copy of each Submittal to show which products and options are applicable.
  3. Include the following information, as applicable:
    - a. Manufacturer's written recommendations.
    - b. Manufacturer's written product specifications.
    - c. Manufacturer's written installation instructions.
    - d. Standard color charts.
    - e. Manufacturer's catalog cuts.
    - f. Wiring diagrams showing factory-installed wiring.
    - g. Printed performance curves.
    - h. Operational range diagrams.
    - i. Mill reports.
    - j. Standard product operation and maintenance manuals.
    - k. Compliance with specified referenced standards.
    - l. Testing by recognized testing agency.
    - m. Application of testing agency labels and seals.
    - n. Notation of coordination requirements.
  4. Submit Product Data concurrent with Samples.
  5. Number of Copies: Submit (5) five copies of Product Data, unless otherwise indicated. Architect will return two copies. Mark up and retain one returned copy as a Project Record Document.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
    - a. Dimensions.
    - b. Identification of products.
    - c. Fabrication and installation drawings.
    - d. Roughing-in and setting diagrams.
    - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
    - f. Shop work manufacturing instructions.
    - g. Templates and patterns.
    - h. Schedules.
    - i. Design calculations.
    - j. Compliance with specified standards.
    - k. Notation of coordination requirements.
    - l. Notation of dimensions established by field measurement.
    - m. Relationship to adjoining construction clearly indicated.
    - n. Seal and signature of professional engineer licensed in the state Project is located if specified.
    - o. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring and who makes the connection.
  2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.
  3. Number of Copies: Submit five opaque copies of each submittal.

- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
  2. Identification: Attach label on unexposed side of Samples that includes the following:
    - a. Generic description of Sample.
    - b. Product name and name of manufacturer.
    - c. Sample source.
    - d. Number and title of appropriate Specification Section.
  3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
  4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
    - a. Number of Samples: Submit two full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected
  5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection as indicated in the specifications.
    - a. Number of Samples: Submit three sets of Samples. The Architect will retain one set and the Owner; the remainder will be returned.
      - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
      - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

- E. Product Schedule or List: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
  - 1. Type of product. Include unique identifier for each product.
  - 2. Number and name of room or space.
  - 3. Location within room or space.
  - 4. Number of Copies: Submit four copies of product schedule or list, unless otherwise indicated. Architect, will return two copies.
    - a. Mark up and retain one returned copy as a Project Record Document.
- F. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation" for Architect's action.
- G. Application for Payment: Comply with requirements specified in Division 01 Section "Payment Procedures."
- H. Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."
- I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
  - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
  - 2. Number and title of related Specification Section(s) covered by subcontract.
  - 3. Drawing number and detail references, as appropriate, covered by subcontract.
  - 4. Number of Copies: Submit (3) three copies of subcontractor list, unless otherwise indicated. Architect, will return (2) two copies.
    - a. Mark up and retain one returned copy as a Project Record Document.

## 2.3 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
  - 1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Architect will not return copies.
  - 2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
  - 3. Test and Inspection Reports: Comply with requirements specified in Division 01 Section "Quality Requirements."
- B. Coordination Drawings: Comply with requirements specified in Division 01 Section "Project Management and Coordination".

- C. Contractor's Construction Schedule: Comply with requirements specified in Division 00 Section "Supplementary Conditions", Division 01 Section "Construction Progress Documentation".
- D. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person in accordance with Division 01 Section "Project Management and Coordination". Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- H. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- I. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- J. 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.
- K. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- L. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
  - 1. Name of evaluation organization.
  - 2. Date of evaluation.
  - 3. Time period when report is in effect.
  - 4. Product and manufacturers' names.
  - 5. Description of product.
  - 6. Test procedures and results.
  - 7. Limitations of use.
- M. Schedule of Tests and Inspections: Comply with requirements specified in Division 01 Section "Quality Requirements."

- N. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- O. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- P. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- Q. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."
- R. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
- S. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
1. Preparation of substrates.
  2. Required substrate tolerances.
  3. Sequence of installation or erection.
  4. Required installation tolerances.
  5. Required adjustments.
  6. Recommendations for cleaning and protection.
- T. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
1. Name, address, and telephone number of factory-authorized service representative making report.
  2. Statement on condition of substrates and their acceptability for installation of product.
  3. Statement that products at Project site comply with requirements.
  4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  6. Statement whether conditions, products, and installation will affect warranty.
  7. Other required items indicated in individual Specification Sections.



- U. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage. Submit insurance in accordance with Division 01 Section 007300 – “Supplementary Conditions”.
- V. Construction Photographs and Digital Images: Digital Images: Contractor to submit progress photographs showing a minimum of eight (8) different views of work under construction with each monthly application for payment. Photographs are to be taken from the locations, where established by the Architect. Photographs images on CD-ROM and shall bear the date of exposure, name of the Project, Contractor, and Architect. Provide images in uncompressed TIFF format, produced by a digital camera with minimum sensor size of at least 5.0 megapixels, and at an image resolution of not less than 1024 by 768 pixels.
- W. Material Safety Data Sheets (MSDSs): Submit information directly to Owner.

## 2.4 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 Architect.
- B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required Submittals, submit (3) three copies of a statement, signed and sealed by the responsible design professional licensed in the state the Project is located, for each product and system specifically assigned to Contractor to be designed or certified by a licensed 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.
  - 2. Submittal will be reviewed by the Architect and Engineer. Once the Submittal is approved, the Contractor shall receive a letter from the Architect stating that the Submittal meets the requirements of the Project. The Contractor shall then be responsible for submitting two signed and sealed copies of the Submittal, with the Architect’s Letter, to the local building department, for final review and approval, prior to proceeding with the Work. The Contractor shall provide transmittal copies of this submission to the Owner and the Architect for record purposes.

## PART 3 - EXECUTION

### 3.1 CONTRACTOR'S REVIEW

- A. Review each Submittal and check for coordination with other work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp, sign and date before submitting to Architect.

- B. Approval Stamp: Stamp each Submittal with a uniform, approval stamp. Include Project name and location, Submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that Submittal has been reviewed, checked, and approved for compliance with the Contract Documents along with the Contractor's original signature.

### 3.2 ARCHITECT'S ACTION

- A. General: Architect will not review Submittals that do not bear Contractor's approval stamp, date and signature, and will return them without action.
- B. Action Submittals: Architect will review each Submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each Submittal with an action stamp and will mark stamp appropriately to indicate action taken.
- C. Informational Submittals: Architect will review each Submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each Submittal to appropriate party.
- D. Partial Submittals are not acceptable, will be considered non-responsive, and will be returned without review. Submittals not required by the Contract Documents may not be reviewed and may be discarded.
- E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300

## SECTION 014200 - REFERENCES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, in Addenda, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued and/or adopted by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "In Kind": Identical to the existing item, with all the same features, finishes, options, etc.
- H. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- I. "Products": new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials and components required for reuse when indicated as such.
- J. "Provide": Furnish and install, complete and ready for the intended use.
- K. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

- L. “Testing Agency”: A testing agency is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.
- M. Where the phrases “submit to the Architect” or “report to the Architect” or “consult with the Architect” or phrases of like effect are used, it is intended that such reports or submissions to, and consultations with the Architect shall be made.
- N. “Installer”: An installer is the Contractor or another entity engaged by the Contractor, either as an employee, Subcontractor, or Contractor of lower tier, to perform a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
  - 1. The term “experienced”, when used with the term installer, means having a minimum of five previous projects similar in size and scope to this Project, being familiar with the special requirements indicated, and having complied with requirements of the authority having jurisdiction.

### 1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
  - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.
- D. Abbreviations and Acronyms for Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the organizations responsible for the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG    Americans with Disabilities Act (ADA)  
          Architectural Barriers Act (ABA)

### 1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

AA	Aluminum Association, Inc. (The)
ACI	ACI International (American Concrete Institute)
AGC	Associated General Contractors of America (The)
AIA	American Institute of Architects (The)
ANSI	American National Standards Institute
ASTM	ASTM International (American Society for Testing and Materials International)
CSA	CSA International (Formerly: IAS - International Approval Services)
CSI	Construction Specifications Institute (The)
EIA	Electronic Industries Alliance
EJCDC	Engineers Joint Contract Documents Committee
FMG	FM Global (Formerly: FM - Factory Mutual System)
FMRC	Factory Mutual Research (Now FMG)
IAS	International Approval Services (Now CSA International)
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The)
ILI	Indiana Limestone Institute of America, Inc.
ISO	International Organization for Standardization
ITS	Intertek
MFMA	Metal Framing Manufacturers Association
MH	Material Handling (Now MHIA)
MHIA	Material Handling Industry of America
NACE	NACE International (National Association of Corrosion Engineers International)
NECA	National Electrical Contractors Association

NEMA National Electrical Manufacturers Association  
NETA InterNational Electrical Testing Association  
NFPA NFPA (National Fire Protection Association)  
NRMCA National Ready Mixed Concrete Association  
NSSGA National Stone, Sand & Gravel Association  
OPL Omega Point Laboratories, Inc. (Acquired by ITS - Intertek)  
SWRI Sealant, Waterproofing, & Restoration Institute  
UL Underwriters Laboratories Inc.

B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ICBO International Conference of Building Officials (See ICC)  
ICBO ES ICBO Evaluation Service, Inc. (See ICC-ES)  
ICC International Code Council

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

## SECTION 016000 - PRODUCT REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.

#### 1.3 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, purchased for Project. 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, 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.
  - 3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design" "or approved equal", including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.

#### 1.4 SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Substitution Request Form: Use Form “Submittal Matrix for Substitution Evaluation As Approved Equal” included in Section 009000 – Project Forms. An example copy is included at the end of this Section.
  2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    - a. Statement indicating why specified material or product is not being provided.
    - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
    - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
    - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
    - e. Samples, where applicable or requested.
    - f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
    - g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
    - h. Research/evaluation reports evidencing compliance with building code(s) in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
    - i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
    - j. Cost information, including a proposal of change, if any, in the Contract Sum.
    - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
    - l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
  3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within (14) fourteen days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within (21) twenty one days of receipt of request, or (14) fourteen days of receipt of additional information or documentation, whichever is later.
    - a. Form of Acceptance: Approval Stamp.
    - b. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.
- B. Comparable Product Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.



1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within (14) fourteen days of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within (21) twenty one days of receipt of request, or (14) fourteen days of receipt of additional information or documentation, whichever is later.
  - a. Form of Approval: Approval Stamp.
  - b. Use product specified if Architect cannot make a decision on use of a comparable product request within time allocated.
- C. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 01 Section "Submittal Procedures." Show compliance with requirements.

## 1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.
  1. Contractor is responsible for providing products and construction methods compatible with products and construction methods of Owner's own forces.
  2. If a dispute arises over concurrently selectable but incompatible products, Architect will determine which products shall be used.
- B. Source Limitations: to the fullest extent possible, provide products of the same kind from a single source

## 1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
  1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
  2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
  3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
  4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
- C. Storage:
  1. Store products to allow for inspection and measurement of quantity or counting of units.
  2. Store materials in a manner that will not endanger Project structure.

3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation and in accordance with manufacturer's written instructions.
4. Store cementitious products and materials on elevated platforms.
5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for all products, for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.
8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

## 1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
  1. Manufacturer's Warranty: 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 of warranty are included with the Specifications, prepare a written document using appropriate form properly executed.
  3. Refer to Specification Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures" and as required by specific Sections in the Project Manual.

## 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. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.

2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
7. Or Approved Equal: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved," comply with provisions in Part 2 Article "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Available Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
2. Available Manufacturers: Where Specifications include a list of manufacturers, provide a product by one of the manufacturers listed, or an unnamed manufacturer, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
3. Product Options: Where Specifications indicate that sizes, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide the specified product or system. Comply with provisions in Part 2 "Product Substitutions" Article for consideration of an unnamed product or system.
4. Basis-of-Design Product: Where Specifications name a product and include a list of manufacturers, provide the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product by the other named manufacturers.
5. 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.
  - a. If no product available within specified category matches and complies with other specified requirements, comply with provisions in Part 2 "Product Substitutions" Article for proposal of product.
6. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product that complies with other specified requirements.
  - a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that does not include premium items.

- b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

## 2.2 PRODUCT SUBSTITUTIONS

- A. Timing: Architect will consider requests for substitution if received within fifteen (15) days after (the Notice to Proceed). Requests received after that time may be considered or rejected at discretion of Architect.
- B. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
  - 1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
  - 2. Requested substitution does not require extensive revisions to the Contract Documents.
  - 3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
  - 4. Substitution request is fully documented and properly submitted.
  - 5. Requested substitution will not adversely affect Contractor's Construction Schedule.
  - 6. Requested substitution has received necessary approvals of authorities having jurisdiction.
  - 7. Requested substitution is compatible with other portions of the Work.
  - 8. Requested substitution has been coordinated with other portions of the Work.
  - 9. Requested substitution provides specified warranty.
  - 10. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
  - 11. The substitution shall be accompanied by a written statement signed by all prime contractors effected that the substitution is acceptable, consistent and compatible with their portion of the work and there is no consequential additional cost associated with the substitution.

## 2.3 COMPARABLE PRODUCTS

- A. Conditions: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
  - 1. Evidence that the proposed product does not require extensive revisions to the Contract Documents that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
  - 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.

3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

### PART 3 - EXECUTION

- 3.1 Example Form 009315 - "Submittal Matrix for Substitution Evaluation as Approved Equal" is attached at the end of this Section.



**SUBMITTAL MATRIX FOR EVALUATION OF  
 SUBSTITUTION AS APPROVED EQUALS**

**Sample**

<i>Specifications-Overhead Door</i>	<i>Product Specified</i>	<i>Proposed Equal</i>
<i>Manufacturer Raynor-Tru-Core</i>	<i>Raynor Tru-Core</i>	
<i>Door Sections</i>	<i>3</i>	
<i>Gauge</i>	<i>26 Gauge</i>	
<i>Insulation</i>	<i>2-7/8 expanded polystyrene</i>	
<i>End Stiles</i>	<i>14 gauge</i>	
<i>U-value</i>	<i>.12</i>	
<i>Finish</i>	<i>2 Coats baked</i>	
<i>Weather-stripping</i>	<i>EPDM</i>	
<i>Air infiltration</i>	<i>.81 CFM @ 25 M.P.H</i>	
<i>Assembly U-Value</i>	<i>.12</i>	
<i>Section Joints</i>	<i>No Air infiltration/ASTM</i>	
<i>Tracks</i>	<i>3" Galvanized</i>	
<i>Angle size</i>	<i>3-1/2 x 6" x 1/8</i>	
<i>Hardware</i>	<i>10-5/16 diameter</i>	
<i>Lock (exterior)</i>	<i>Tumbler cylinder night latch</i>	
<i>Lock (interior)</i>	<i>Dead Bolt</i>	
<i>Framing</i>	<i>By other</i>	
<i>Glazing</i>	<i>24" x 8" x 5/8 insulated</i>	
<i>Operator</i>	<i>RGT-2h 1/2 H.P. 115</i>	
<i>Trolley rail</i>	<i>2-1/2 x 2" x 3/16"</i>	
<i>Limit Switch</i>	<i>Positive Chain Drive</i>	

The 1st column are items derived from the Specification specific section (doors, windows, etc.). The 2nd column consists of the values for those items for the product specified. The 3rd column is to be entered with the product "equal" data verified with the Manufacturer's literature. See Section 090000 – PROJECT FORMS for a blank copy to be used when submitting substitutions.

**\*This comparison must have manufacturer's literature for verification attached!**

END OF SECTION 016000

## SECTION 016600 – STORAGE AND HANDLING REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract Documents, including General and Supplementary Conditions and other Division 01 and Technical Specifications, apply to this Section.

#### 1.2 REQUIREMENTS INCLUDED

- A. Storage, General.
- B. Enclosed Storage.
- C. Exterior Storage.
- D. Maintenance Storage.
- E. Maintenance of Equipment Storage.

### PART 2 - PRODUCTS (Not Used)

### PART 3 - EXECUTION

#### 3.1 STORAGE, GENERAL

- A. Store products, immediately on delivery, in accordance with manufacturer's written instructions, with seals and labels intact and legible. Protect until installed.
- B. Arrange storage in a manner to provide access for maintenance of stored items and for inspection.

#### 3.2 ENCLOSED STORAGE

- A. Store products, subject to damage by the elements, in substantial weather tight enclosures.
- B. Maintain temperature and humidity within ranges stated in manufacturer's written instructions
- C. Provide humidity control and ventilation for sensitive products as required by manufacturer's written instructions.
- D. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.

### 3.3 EXTERIOR STORAGE

- A. Provide substantial platforms, blocking, or skids, to support fabricated products above ground; slope to provide drainage. Protect products from soiling and staining.
- B. For products subject to discoloration or deterioration from exposure to elements, cover with impervious sheet material. Provide ventilation to avoid condensation.
- C. Store granular materials on clean, solid surfaces such as pavement, or on rigid sheet materials, and protected from adverse conditions to prevent mixing with foreign matter.
- D. Provide surface drainage to prevent erosion and ponding of water.
- E. Prevent mixing of refuse or chemically injurious materials or liquids.

### 3.4 MAINTENANCE OF STORAGE

- A. Periodically inspect stored products on a scheduled basis.
- B. Verify that storage facilities comply with manufacturer's product storage requirements.
- C. Verify that manufacturer's required environmental conditions are maintained continually.
- D. Verify that surfaces of products exposed to the elements are not adversely affected; that any weathering of finishes is acceptable to the manufacturers and under requirements of Contract Documents.

### 3.5 MAINTENANCE OF EQUIPMENT STORAGE

- A. For mechanical and electrical equipment in long-term storage, provide manufacturer's service package.
- B. Service equipment on a regularly scheduled basis, maintaining a log of services; submit as a Record Document.

END OF SECTION 016600



## SECTION 017300 - EXECUTION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

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

1. Construction layout.
2. General installation of products.
3. Starting and adjusting.
4. Coordination of Owner installed products.
5. Progress cleaning.
6. Protection of installed construction.
7. Correction of the Work.

- B. Related Requirements:

1. Section 011000 "Summary" for limits on use of Project site.
2. Section 013300 "Submittal Procedures" for submitting surveys.
3. Section 017329 "Cutting and Patching".
4. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.
5. Section 024119 "Selective Demolition" for demolition and removal of selected portions of the building.
6. Section 078413 "Penetration Firestopping" for patching penetrations in fire-rated construction.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
  1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Existing Conditions for Renovation, Alteration and Addition Work: The existence and location of site improvements, 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.
- B. Existing Utilities: The existence and location of underground and other utilities and construction indicated are generally known as existing, are not guaranteed and are provided for reference only. Before beginning site work, investigate and verify the existence, location, and depth of underground utilities and other construction affecting the Work.
  - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical and telecommunication services.
  - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- 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, floors, and roofs 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 Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, 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 Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents. Submit requests on "Request for Information Form.
- E. Should the Contractor encounter elevational, dimensional, subsurface and/or latent conditions at the Site materially differing from those shown on the Plans or indicated in the Specifications, he shall immediately give written notice to the Architect of such conditions before they are disturbed. The Architect will thereupon promptly investigate the conditions and if the Architect finds that they materially differ from those shown on the Plans or indicated in the Specification, he will at once make such changes in the Plans/Specifications as he may find necessary, and any increase or decrease of cost resulting from such changes will be adjusted in the manner provided in the Contract Documents.

### 3.3 CONSTRUCTION LAYOUT

- A. Building Lines and Levels: Locate and lay out control lines and levels for foundations and others required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels.
- B. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

### 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.
  - 4. Maintain minimum headroom clearance of (8 feet (2.4 m) eight feet in spaces without a suspended ceiling.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Approved 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 Architect.
  - 2. Allow for building movement, including thermal expansion and contraction.
  - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- 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.

### 3.5 NEW WORK AT EXISTING LOCATIONS

- A. When a new wall, ceiling, roof or floor assembly is indicated where an existing wall, ceiling, roof or floor assembly exists, the existing shall be removed with associated utilities removed and capped behind the surface of the remaining substrate unless otherwise noted at no additional cost to the Owner.
- B. When new finishes are scheduled, indicated or required over existing substrates, the Contractor shall completely remove existing finish materials, such as, but not necessarily limited to, veneers, coatings, films, oils, sealers, adhesives and other residual materials which are not acceptable substrates for new finishes per new finish manufacturer's written specifications and best industry standards whether specifically indicated or not. Defective substrates which are no longer uniform, dimensionally stable, structurally sound, or otherwise unacceptable for the installation of new finishes, shall be removed and replaced with new material compatible with existing and suitable for the new finish in accordance with material manufacturer's written literature and recognized industry standards. In all cases, consult material manufacturer's literature for new finishes to be installed prior to starting the work.

### 3.6 OWNER INSTALLED PRODUCTS

- A. Site Access: Provide access to Project site for Owner's construction personnel.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.
  - 1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
  - 2. Preinstallation Conferences: Include Owner's construction personnel at pre-installation conferences covering portions of the Work that are to receive Owner's work. Attend pre-installation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

### 3.7 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
  - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
  - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
    - a. Use containers intended for holding waste materials of type to be stored.
  - 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
  - 1. Remove liquid spills promptly.
  - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to 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.

### 3.8 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- C. 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."

### 3.9 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.
- C. In the event of temporary suspension of Work or during inclement weather, each Prime Contractor will cause his Subcontractors to protect carefully his and their work and materials against damage or injury from the weather. If, in the opinion of the Architect, any work or materials shall have been damaged or injured by reason of failure on the part of a Contractor or any of his Subcontractors to so protect his work, such materials shall be removed and replace at the expense of the responsible Contractor.

### 3.10 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

## SECTION 017329 - CUTTING AND PATCHING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes procedural requirements for cutting and patching.

#### 1.3 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.

#### 1.4 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Unless directed otherwise, do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or resulting in increased maintenance or decreased operational life or safety. Operating elements include, but are not limited to, the following:
  - 1. Exterior wall construction.
  - 2. Primary operational systems and equipment.
  - 3. Air or smoke barriers.
  - 4. Fire-suppression systems.
  - 5. Mechanical systems piping and ducts.
  - 6. Control systems.
  - 7. Communication systems.
  - 8. Conveying systems.
  - 9. Electrical wiring systems.
- C. Miscellaneous Elements: Unless directed otherwise, 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 resulting in increased maintenance or decreased operational life or safety. Miscellaneous elements include, but are not limited to, the following:



1. Water, moisture, or vapor barriers.
  2. Membranes and flashings.
  3. Equipment supports.
  4. Piping, ductwork, vessels, and equipment.
  5. Noise- and vibration-control elements and systems.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace all construction that has been cut and patched in a visually unsatisfactory manner.
- E. Submittals: Approval of procedures for cutting and patching is required before proceeding. Submit a proposal describing procedures. Include the following information, as applicable, in the proposal:
1. List products to be used and firms or entities that will perform Work as well as a detailed description of the Work itself.
  2. Indicate dates when cutting and patching will be performed and the anticipated duration of the Work.
  3. List utilities that will be disturbed or affected, including those that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.
  4. If cutting and patching involves additions and modifications to structural elements, submit details and engineering calculations to show how these additions will be integrated with the original structure. In all cases indicate any changes in the elevation of the ceiling, or the effect on mechanical and electrical distribution systems.
  5. Prior to the cutting and patching of interior architectural elements, building components, or modification of exposed finishes, review the repair and restoration procedures with the Architect prior to the start of the Work.
  6. Approval by the Architect to proceed with cutting and patching does not waive the Architect's or Owner's right to later require complete removal and replacement of a part of the Work found to be unsatisfactory or otherwise unacceptable.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed, prior to the start of the Work.
- B. Before proceeding, meet at the site with the Owner and the Architect and other representatives as may be required prior to cutting and patching. Review areas of potential interference and conflicts. Coordinate procedures and resolve potential conflicts before proceeding.
  - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
  - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- B. Once new finishes are installed, contractor shall adequately protect new work from damage (floor protection boards, sheet protection for wall and ceilings, etc...). Contractor shall be fully responsible to repair or replace damaged work in place prior to Owner acceptance.
- C. Contractor shall suitably protect adjacent existing construction to remain; including doors and entrances, corridor finishes and other areas of the building used for access to the project site. Contractor shall be fully responsible to repair or replace damaged existing finishes, surfaces and equipment prior to Owner acceptance. Extent of repair or replacement shall extend as necessary so as to leave no evidence of patching.
- D. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- E. Concealed utilities, structural elements and hazards: Prior to cutting and patching work, survey and locate utilities, structural elements and hazards using locator/detection equipment. Promptly submit a written report to the Architect describing the nature and extent of any conflicts with the intended function or design of the work. Do not proceed until conflicts are resolved.
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to the fullest extent possible to occupied areas.

### 3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
  4. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
  5. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
  2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
    - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    - b. Restore damaged pipe covering to its original condition.
  3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
  4. Ceilings: Patch, repair, or re-hang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
  5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather tight condition.

- D. Certain finishes must be replaced. Repair is not acceptable. Damaged surfaces, exposed to view which cannot be repaired without visible evidence of such repair, chipped or broken glass, scratched transparent finishes, scratched reflective surfaces, ceramic tile, millwork, trim. Where special order finish materials are involved, preorder sufficient quantities necessary for repair prior to the start of the Work.
- E. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

#### 3.4 CUTTING AND PATCHING - GENERAL

- A. The Contractor shall perform all cutting, drilling, removal, cleaning, servicing, repairing, patching, re-hanging, restoration, etc. that may be required in connection with its work. The Contractor shall be responsible for maintaining all existing warranties.

END OF SECTION 017329

## SECTION 017823 - OPERATION AND MAINTENANCE DATA

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
  - 1. Emergency manuals.
  - 2. Operation manuals for systems, subsystems, and equipment.
  - 3. Maintenance manuals for care and maintenance of products, materials, finishes, systems and equipment.

#### 1.3 SUBMITTALS

- A. Submittal: Submit (2) two copies of each manual in final form at least (15) fifteen days before requesting inspection for substantial. Architect will return copy with comments after inspection for substantial completion.
  - 1. Correct or modify each manual to comply with Architect's comments. Submit (3) three copies of each corrected manual within (15) fifteen days of receipt of Architect's comments.

#### 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 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. Include the following information:
1. Subject matter included in manual.
  2. Name and address of Project.
  3. Name and address of Owner.
  4. Date of submittal.
  5. Name, address, and telephone number of Contractor.
  6. Name and address of Architect.
  7. 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.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
    - a. 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.
  2. Dividers: Heavy-paper dividers with plastic-covered tabs for each 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. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
  4. Supplementary Text: Prepared on 8-1/2-by-11-inch (215-by-280-mm) white bond paper.
  5. 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.

## 2.2 EMERGENCY MANUALS

- A. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
  2. Emergency instructions.
  3. Emergency procedures.
- B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component for Fire, Flood, Gas leak, Water leak, Power failure, Water outage, System, subsystem, or equipment failure and Chemical release or spill.
- C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- D. Emergency Procedures: Include instructions on stopping, shutdown instructions for each type of emergency, operating instructions for conditions outside normal operating limits, and required sequences for electric or electronic systems.

## 2.3 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and equipment descriptions, operating standards, operating procedures, operating logs, wiring and control diagrams, and license requirements.
- 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.
- C. Operating Procedures: Include start-up, break-in, and control procedures; stopping and normal shutdown instructions; routine, normal, seasonal, and weekend operating instructions; and required sequences for electric or electronic systems.
- 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 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.
- 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 name.
  - 3. Color, pattern, and texture.
  - 4. Material and chemical composition.
  - 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and inspection procedures, types of cleaning agents, methods of cleaning, schedule for cleaning and maintenance, and repair instructions. Include instructions on methods and material agents known to be detrimental and to be avoided.
- 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.

## 2.5 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 maintenance instructions, drawings and diagrams for maintenance, nomenclature of parts and components, and recommended spare parts for each component part or piece of equipment:
- D. Maintenance Procedures: Include test and inspection instructions, troubleshooting guide, disassembly instructions, adjusting instructions, and demonstration and training video DVD if available, that detail essential maintenance procedures:



- 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.
- 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.

### PART 3 - EXECUTION

#### 3.1 MANUAL PREPARATION

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- 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.
- 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.
- 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.
- F. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

## SECTION 017900 - DEMONSTRATION AND TRAINING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
  - 1. Demonstration of operation of systems, subsystems, and equipment.
  - 2. Training in operation and maintenance of systems, subsystems, and equipment.
  - 3. Demonstration and training video.

#### 1.3 SUBMITTALS

- A. Demonstration and Training Schedule: Contractor shall prepare and submit to the Architect a list of all systems and equipment that they will be providing training for. The Schedule shall be submitted prior to the issuance of the Certificate of Substantial Completion. The list shall be generated from the requirements outlined in the project manual, and shall include the following:
  - 1. Spec Section.
  - 2. Name of System or Equipment.
  - 3. Number of Hours of Training to be provided.
  - 4. Miscellaneous Notes or Special Requirements.
- B. Instruction Program: Submit (2) two copies of outline of instructional program for demonstration and training, including a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module, no less than 10 days prior to the anticipated date of the Demonstration and Training. Include learning objective and outline for each training module.
  - 1. At completion of training, submit (2) two complete training manual(s) for Owner's use.
- C. Qualification Data: For Instructor.
- D. Attendance Record: For each training module, submit list of participants and length of instruction time.
- E. Demonstration and Training Video on DVD: Submit (2) two copies within (7) seven days of end of each training module.
  - 1. Identification: On each copy, provide an applied label with the following information:

- a. Name of Project.
- b. Name of Architect.
- c. Name of Contractor.
- d. Date of recording.

#### 1.4 QUALITY ASSURANCE

- A. Instructor Qualifications: A factory-authorized service representative, experienced in operation and maintenance procedures and training. Credentials shall be presented at the time of demonstration and a copy of the credentials and contact information included with the Demonstration DVD.

#### 1.5 COORDINATION

- A. The Demonstration and Training Schedule shall be submitted to the Architect and Owner no less than 14 calendar days prior to the first scheduled demonstration and training event.
- B. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations.
- C. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- D. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.
- E. Timeline: The general time line and schedule regarding Demonstration and Training shall be as follows:
  - 1. Submit Operations and Maintenance Manuals to the Architect for Review
  - 2. Architect reviews and returns Operations and Maintenance Manuals to the Contractor
  - 3. Contractor submits Demonstration and Training Schedule to the Architect (14 days minimum prior to the commencement of training).
  - 4. Contractor submits Instruction Program(s) (10 days minimum prior to the commencement of training).
  - 5. Owner confirms availability for proposed training dates and times, and schedules a location for training to be held (3 days minimum prior to the commencement of training).

### PART 2 - PRODUCTS

#### 2.1 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment, including, but not limited to, the following types of systems as provided:
  - 1. Equipment, including projection screens, laboratory fume hoods.
  - 2. Fire-protection systems, including fire alarm, and fire-extinguishing systems.

3. Intrusion detection systems.
4. Laboratory equipment, including laboratory air, gas and vacuum equipment and piping.
5. Heat generation, including boilers, pumps, and water distribution piping.
6. Plumbing systems, including fixtures, pumps, and water distribution piping.
7. Refrigeration systems, including chillers, cooling towers, condensers, pumps, and distribution piping.
8. HVAC systems, including air-handling equipment, air distribution systems, and terminal equipment and devices.
9. HVAC instrumentation and controls.
10. Electrical service and distribution, including transformers, switchboards, panelboards, uninterruptible power supplies, and motor controls.
11. Lighting equipment and controls.
12. Communication systems, including intercommunication, voice and data.

B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:

1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
  - a. System, subsystem, and equipment descriptions.
  - b. Performance and design criteria if Contractor is delegated design responsibility.
  - c. Operating standards.
  - d. Regulatory requirements.
  - e. Equipment function.
  - f. Operating characteristics.
  - g. Limiting conditions.
  - h. Performance curves.
2. Documentation: Review the following items in detail:
  - a. Emergency manuals.
  - b. Operations manuals.
  - c. Maintenance manuals.
  - d. Project Record Documents.
  - e. Identification systems.
  - f. Warranties and bonds.
  - g. Maintenance service agreements and similar continuing commitments.
3. Emergencies: Include the following, as applicable:
  - a. Instructions on meaning of warnings, trouble indications, and error messages.
  - b. Instructions on stopping.
  - c. Shutdown instructions for each type of emergency.
  - d. Operating instructions for conditions outside of normal operating limits.
  - e. Sequences for electric or electronic systems.
  - f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
  - a. Startup procedures.

- b. Equipment or system break-in procedures.
  - c. Routine and normal operating instructions.
  - d. Regulation and control procedures.
  - e. Control sequences.
  - f. Safety procedures.
  - g. Instructions on stopping.
  - h. Normal shutdown instructions.
  - i. Operating procedures for emergencies.
  - j. Operating procedures for system, subsystem, or equipment failure.
  - k. Seasonal and weekend operating instructions.
  - l. Required sequences for electric or electronic systems.
  - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
- a. Alignments.
  - b. Checking adjustments.
  - c. Noise and vibration adjustments.
  - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
- a. Diagnostic instructions.
  - b. Test and inspection procedures.
7. Maintenance: Include the following:
- a. Inspection procedures.
  - b. Types of cleaning agents to be used and methods of cleaning.
  - c. List of cleaning agents and methods of cleaning detrimental to product.
  - d. Procedures for routine cleaning
  - e. Procedures for preventive maintenance.
  - f. Procedures for routine maintenance.
  - g. Instruction on use of special tools.
  - h. Instructions on methods and material agents known to be detrimental and to be avoided.
8. Repairs: Include the following:
- a. Diagnosis instructions.
  - b. Repair instructions.
  - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  - d. Instructions for identifying parts and components.
  - e. Review of spare parts needed for operation and maintenance.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a combined training manual.
- B. Set up instructional equipment at instruction location.

### 3.2 SCHEDULING

- A. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
  - 1. Schedule training with Owner, through Architect, in accordance with requirements outlined in Section 1 above.
- B. The Owner shall not be liable for any additional costs related to rescheduling of training, provided that they gave a minimum of 48 hours' notice to the Contractor of the need to reschedule a Demonstration and Training Event.
- C. Should the Contractor fail to be prepared or show up on the agreed to date and time for training, this shall result in a reduction in the Contractor's Contract Amount of FIVE HUNDRED (\$500.00) DOLLARS per each occurrence as liquidated damages.

### 3.3 INSTRUCTION

- A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
- B. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
  - 1. Schedule training with Owner, with at least (7) seven days' advance notice.

### 3.4 DEMONSTRATION AND TRAINING VIDEO ON DVD

- A. General: Engage a qualified photographer to record demonstration and training videos. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
- B. Video Format: Provide high-quality DVD color.
- C. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to show area of demonstration and training. Display continuous running time.

END OF SECTION 017900

## SECTION 024119 - SELECTIVE DEMOLITION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Provide all removal, proper and legal disposal work as required to complete selective demolition work and prepare existing areas for new work required including, but not limited to, the following:
  - 1. Demolition, removal and legal disposal off-site of selected portions of the building, construction assemblies, and other incidental work, whether shown or not shown, but required to complete the installation of scheduled work, coordinated with other trades and construction components being replaced by new construction.
  - 2. Disconnecting, capping or sealing, abandoning or removing utilities as indicated and/or required.
  - 3. Patching, repairing and replacing areas damaged or altered by demolition work, with new materials and construction similar in kind unless otherwise indicated.
  - 4. Salvage of existing items to be reused, relocated or recycled.
- B. Related Requirements:
  - 1. Section 011000 "Summary" for restrictions on the use of the premises, Owner-occupancy requirements, and phasing requirements.
  - 2. Section 017300 "Execution" for cutting and patching procedures.
  - 3. Section 017320 "Cutting and Patching".
  - 4. Section 028213 "Asbestos Abatement"

#### 1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

#### 1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Owner reserves first right of refusal for removal and salvage items. Items indicated for removal and salvage remain the Owner's property. Remove, clean, and pack items to protect against damage and deliver to Owner's designated storage area with labels to identify contents of containers. Demolished materials shall become the Contractor's property and removed from the site with further disposition at the Contractor's option.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For demolition firm and refrigerant recovery technician.
- B. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, dust control and for noise control. Indicate proposed locations and construction of barriers.
- C. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.
- D. Pre-demolition Photographs or Video: Submit before Work begins.
- E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- F. Warranties: Documentation indicated that existing warranties are still in effect after completion of selective demolition.

#### 1.6 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.
- B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

#### 1.7 FIELD CONDITIONS

- A. Owner will occupy portions of the buildings immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
  - 1. Coordinate with the Owner's continuing occupation and use of portions of the building to maintain safe emergency access to and from the facilities at all times.
  - 2. Provide minimum of (3) working days advance notice to Owner of demolition activities that will impact Owner's normal operations.



- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
  - 1. Before selective demolition, Owner will remove the following items:
    - a. Loose furnishings and non-built-in items.
    - b. Files, books, teaching props and the like.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
  - 1. Maintain fire-protection facilities in service during selective demolition operations.
- E. Hazardous Materials: Hazardous material are present in the building and materials / systems to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Specifications are included related to the confirmed locations and requirements for abatement and safety. Examine reports to become aware of locations where hazardous materials are present.
  - 1. Hazardous material remediation is specified elsewhere in the Contract Documents and is part of the scope of this contract work.
  - 2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified in the Contract Documents.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.

- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- D. Inventory and record the condition of items to be removed and re-installed and items to be removed and salvaged.
- E. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect and Owner's Representative in accurate detail. Pending receipt of directive from Architect and/or Owner's Representative, rearrange demolition schedule as necessary to continue overall job progress without delay.
- F. Survey of Existing Conditions: Record existing conditions by use of measured drawings, preconstruction photographs, preconstruction videotapes and/or templates.
  - 1. Comply with requirements specified in Section 013233 "Photographic Documentation."
  - 2. Inventory and record the condition of items to be removed and salvaged. Provide photographs and/or video of conditions that might be misconstrued as damage caused by salvage operations.
  - 3. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

### 3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Use utility and material locator equipment to locate utilities, structural elements etc. concealed within the building's construction.
- B. Existing building fire protection system shall not be diminished. Removal of existing devices shall not occur until the new equipment is in place and ready for the switchover.
- C. Existing Services/Systems to Remain: Locate and maintain services/systems indicated to remain and protect them against damage.
  - 1. Comply with requirements for existing services/systems interruptions specified in Section 011000 "Summary."
- D. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
  - 1. Arrange to shut off indicated utilities with utility companies.
  - 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building. Provide minimum of (3) working days advance notice to Owner if shutdown of service is necessary during change-over.
  - 3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.

- a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
  - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
  - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
  - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
  - e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
  - f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
  - g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.
4. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.
- a. Where entire wall is to be removed, existing services/systems may be removed with removal of the wall.
  - b. Contractor's scope of work includes, and the Contractor is required and expected to, patch any hole(s) resulting in the removal and/or capping of plumbing fixture(s) and/or piping in a wall, ceiling or floor to remain to match existing conditions, unless otherwise noted.

### 3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- 1. Comply with requirements for access and protection specified in Section 015000 "Temporary Facilities and Controls."
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
  - 2. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
  - 3. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas. Provide insulated temporary weather protection at heated spaces that are required to remain heated.
  - 4. Where temporary covered passageways are required or indicated, covers shall be constructed to sustain a minimum point loading of 500 lbs.
  - 5. Use utility and material locator equipment prior to cutting into existing construction to locate concealed utilities. By-pass or shut-off utilities anticipated to be near the demolition area.

6. Construct temporary, insulated, solid, dustproof, partitions where required to separate areas where extensive dirt, dust, thermal and noisy operations are performed. Equip partitions with dustproof doors and security locks where passage is required. Use sound insulation to protect against noise and thermal insulation to protect against changes in temperature.
  7. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
  8. Cover and protect furniture, furnishings, and equipment that have not been removed.
  9. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 015000 "Temporary Facilities and Controls."
  10. Maintain dust-proof partitions and closures as required preventing spread of dust or fumes to occupied portions of the building.
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
1. Strengthen or add new supports when required during progress of selective demolition.
- D. Damages: Notify the Architect and Owner of any damages. Promptly repair damages caused to adjacent facilities by demolition work at no cost to Owner.
- E. Traffic: Conduct demolition operations and debris removal in a manner to ensure minimum interference with pedestrian and vehicular access and exit routes as well as other adjacent occupied or used facilities.
- F. Explosives: Use of explosives will not be permitted.
- G. Pollution Controls: Use temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in the air to lowest practical level. Maintain a minimum of 0.1 inches of water, negative pressure from point of enclosure. The area shall be exhausted from a location as remote as possible from unaltered areas. The point of exhaust shall be a minimum of 25 feet from any air intake or building opening in compliance with regulations as established by the environmental protection agency and applicable governmental and local requirements.

### 3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
  2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.

3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
7. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
8. Dispose of demolished items and materials promptly. Comply with requirements in Section 017419 "Construction Waste Management and Disposal."
9. Promptly patch and repair holes and damaged surfaces caused to adjacent construction by selective demolition operations.
10. Where repairs to existing surfaces are required, patch to produce surfaces with the integrity and visual appearance of the original installation when it was new and suitable for new scheduled finish materials.
11. Restore exposed finishes of patched areas and extend finish restoration into adjoining construction to remain in a manner that eliminates evidence of patching and refinishing.
12. Patch and repair all surfaces in the newly created space(s) where demolition work extends from one finished area into another. Provide a flush and even surface of uniform stability, color and appearance.
  - a. Closely match integrity, texture and finish of existing adjacent surfaces as when they were newly installed.
  - b. Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
  - c. Where patching smooth painted surfaces, extend final paint coat over entire unbroken surface containing the patch after the surface has received primer and first finish coat.
  - d. Remove existing applied finishes over the entire unbroken surface area and replace with new materials, if necessary, to achieve uniform color and appearance.
  - e. Inspect and test patched areas to demonstrate integrity of the installation, where feasible.

B. Removed and Salvaged Items:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner.
5. Protect items from damage during transport and storage.

C. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.

4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

### 3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove concrete between saw cuts.
- B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
- C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

### 3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them.
  1. Do not allow demolished materials to accumulate on-site.
  2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
  3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
  4. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials and dispose of at designated spoil areas on Owner's property.

### 3.7 REPAIRS

- A. Use repair materials identical to existing materials to the fullest extent possible.
- B. Where identical materials are unavailable or cannot be used for exposed surfaces, code or hazard issues, use code compliant materials that visually match and are compatible with existing adjacent surfaces, that are free of damage, defects, deterioration, as originally installed when new, to the fullest extent possible pending approval by the Architect.

- C. Use materials whose installed performance equals or surpasses that of the existing materials as originally installed and complies with applicable codes.

### 3.8 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.
- B. Change filters on air handling equipment at completion of selective demolition operations.

END OF SECTION 024119

## SECTION 055010 - MISCELLANEOUS METALS

### PART 1 – GENERAL REQUIREMENTS

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 DESCRIPTION OF WORK

- A. Provide all plant, labor, materials, accessories, equipment and incidentals to complete Miscellaneous Metals work, as shown, specified, and as required, including, but not necessarily limited to, the following:

1. Metal fabrications include items made from iron and steel shapes, plates, bars, strips, tubes, pipes and castings which are not part of structural steel or other metal systems specified elsewhere shall be provided and installed by the General Contractor.
2. Rough hardware shall be furnished by the Structural Steel Contractor and installed by the General Contractor.
3. Loose bearing and leveling plates, loose steel lintels, plates, bars, angles, etc. shall be furnished by the Structural Steel Contractor and installed by the General Contractor
4. Steel lintels, shelf angles, and relieving angles, with fixed, bolted or welded column connections required on at least one end, shall be furnished and installed by the Structural Steel Contractor.
5. Miscellaneous framing and supports to support other work including suspended operable partitions, coiling doors, elevator machine beam, mechanical and electrical equipment and other applications where framing and supports are not specified in other sections provided and installed by the Structural Steel Contractor.
6. Steel framed stairs, landings, platforms, treads, risers, stair guardrail systems, posts and brackets, metal pan stairs, landings and platforms for concrete fill, Steel stairs, landings, platforms, canopies and guardrails provided and installed by the Structural Steel Contractor.
7. Ladders for roofs transitions, roof hatch access, elevator pit ladder, ladder safety cages, etc provided and installed by the General Contractor.
8. Downspout Boots, Pipe Bollards, Roof Railing and Stair Nosings for exposed poured concrete stairs provided and installed by the General Contractor.
9. Miscellaneous fabrications as noted and/or required to properly complete the project.

- B. Related work specified elsewhere:

- |                              |             |
|------------------------------|-------------|
| 1. Concrete Work             | Division 03 |
| 2. Unit Masonry              | Division 04 |
| 3. Structural Steel          | Division 05 |
| 4. Metal Decking             | Division 05 |
| 5. Cold-Formed Metal Framing | Division 05 |



6.	Expansion Control	Division 07
7.	Roof Accessories	Division 07
8.	Hollow Metal Doors and Frames	Division 08
9.	Aluminum Entrances and Storefronts	Division 08
10.	Finish Hardware	Division 08
11.	Gypsum Board Assemblies	Division 09
12.	Painting	Division 09
13.	Toilet Accessories	Division 10

### 1.3 QUALITY ASSURANCE

- A. Codes and Standards: Comply with the provisions of the following, except as other-wise indicated:
1. IBC International Building Code 2009
  2. AISC "Manual of Steel Construction".
  3. NAAMM "Metal Stairs Manual"
  4. NAAMM "Pipe Railing Manual"
  5. NAAMM "Metal Handrail and Railing Manual"
  6. NAAMM "Metal Bar Grating Manual".
  7. ANSI A12.1 "Floor and Wall Opening, Railings and Toeboards"
  8. ANSI A14.3 "Safety Requirements for Fixed Ladders"
  9. ASME A17.1 "Safety Code for Elevators and Escalators"
  10. AWS Structural Welding Codes
- B. Qualifications for welding work: Qualify welding processes and welding operators in accordance with AWS "Standard Qualification Procedure".
1. If re-certification of welders is required, retesting will be Contractors responsibility.
- C. Welding: Use qualified welders and comply with American Welding Society (AWS) DI.1, "Structural Welding Code – Steel", (AWS) DI.3, "Structural Welding Code – Sheet Steel".
- D. Fire-Rated Assemblies: Where framing units are components of assemblies indicated for a fire-resistance rating, including those required for compliance with governing regulations, provide units that have been approved by governing authorities that have jurisdiction.
- E. Take field measurements prior to preparation of shop drawings and fabrication, where possible, to insure proper fitting of the work, however, do not delay job progress; allow for trimming and fitting of miscellaneous steel wherever the taking of field measurements before fabrication might delay the work.
- F. Preassemble miscellaneous metal items in the shop to the greatest extent possible, so as to minimize field splicing and assembly of units at the project site. Disassemble units only to the extent necessary for shipping and handling limitations. Clearly mark units for re-assembly and coordinated installation.
- G. Be responsible for interface coordination between work provided and related work of other trades and contracts.

- H. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

#### 1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's specifications, anchor details, installation and application instructions for metal products, fabrications, accessories and primer paint used in miscellaneous metal fabrications, including paint products and grout.
- B. Shop Drawings: Submit shop drawings showing complete details and schedules for fabrication and erection. Include plans, elevations, details of sections, connections, anchorage, accessory items and material properties. Provide templates and setting drawings. Provide signed and sealed engineered calculations by a Professional Engineer licensed in the State of Pennsylvania for materials and fabrications required to comply with design loads. Indicate all adjacent work to which the fabrications are attached or with which components must interface.
- C. Samples: Submit two sets of representatives' samples of materials and finished products as may be requested by the Architect.

#### 1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the site at such intervals to insure uninterrupted progress of the work.
- B. Store materials to permit easy access for inspection and identification. Keep metals inside a well-ventilated area off the ground, using pallets, platforms, or other supports. Protect metal members and packaged materials from corrosion and deterioration.

#### 1.6 PROJECT CONDITIONS

- A. Field Measurements: Where miscellaneous metal work is indicated to fit to other construction, check actual dimensions of other construction by accurate field measurements before fabrication; show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with fabricating miscellaneous metal work without field measurements. Coordinate other construction to ensure that actual dimensions correspond to guaranteed dimensions.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Metal Surfaces, General: For fabrication of miscellaneous metal work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, stains, discoloration, rolled trade names, roughness and other imperfections.

- B. Steel Plates, Shapes and Bars: ASTM A36/A36M.
- C. Steel Bar Grating: ASTM A569 or ASTM A36.
- D. Steel Tubing: Cold formed, ASTM A500; or hot rolled, ASTM A501.
- E. Structural Steel Sheet: Hot rolled, ASTM A570; or cold rolled, ASTM A611, Class 1, of grade required for design loading, unless otherwise indicated.
- F. Galvanized Structural Steel Sheet: ASTM A446, of grade required for design loading. Coating designation as indicated, or it not indicated, G90.
- G. Steel Pipe: ASTM A53, Type and grade (if applicable) as selected by Fabricator and as required for design loading stainless steel, black iron or galvanized as indicated; standard weight (Schedule 40), unless otherwise indicated, or another weight as required by structural loads.
- H. Grey Iron Castings: ASTM A48, Class 30, unless another class is indicated or required by structural loads.
- I. Malleable Iron Castings: ASTM A47/A47M, grade as selected by fabricator.
- J. Stainless Steel: Comply with standards for forms and types of stainless steel work required as follows:
  - 1. Type: ANSI Type 304, unless otherwise indicated.
  - 2. Plate: ASTM A 167.
- K. Brackets, Flanges and Anchors: Cast or formed metal of the same type material and finish as supported rails, unless otherwise indicated.
- L. Concrete Inserts: Threaded or wedge type; galvanized ferrous castings, either malleable iron, ASTM A 47, or cast steel, ASTM A 27. Provide bolts, washers, and shims as required, hot-dip galvanized, ASTM A 153.
- M. Cast-In Place and Post-installed Anchors: Anchors of type indicated and as required, fabricated from corrosion-resistant materials, capable of sustaining, without failure, a load equal to 6 times the load imposed when installed in unit masonry and equal to 4 times the load imposed when installed in concrete, as determined by testing per ASTM E 488, conducted by a qualified, independent testing agency.
- N. Grout:
  - 1. Metallic Non-Shrink Grout: Pre-mixed, factory-packaged, ferrous aggregate grout in accordance with CE CRD-C588, Type M and ASTM C 1107. Provide grout specifically recommended by manufacturer for heavy-duty loading applications.
- O. Fasteners:
  - 1. General: Provide zinc-coated fasteners for exterior or where built into exterior walls. Select fasteners for the type, grade and class required.

2. Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with hex nuts, ASTM A 563/A 563M; and where indicated, flat washers.
  3. Machine Screws: ASME B18.6.3 (ASME B18.6.7M).
  4. Wood Screws: Flat head carbon steel, ASME B18.6.1.
  5. Anchor Bolts: ASTM F1554, Grade 36.
  6. Lag Bolts: ASME B18.2.1 (ASME B18.2.3.8M).
  7. Plain Washers: Round, carbon steel, ASME B18.22.1 (ASME B18.22M).
  8. Lock Washers: Helical, spring type, carbon steel, ASME B18.21.1 (ASME B18.22.2M).
  9. Toggle Bolts: Tumble-wing type, class and style as needed, FS FF-B-588.
  10. Masonry Anchorage Devices: Expansion shields FS FF-S-325.
- P. Welding Rods and Bare Electrodes and Filler Material: Provide type and alloy of filler metal and electrodes according to AWS specifications for metal alloy welded and as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.
- Q. Materials for Miscellaneous Steel: For the fabrication of miscellaneous metal work items which will be exposed to view, use only materials which are smooth and free of surface blemishes, including pitting, seam marks, roller marks, rolled trade names, and roughness. Remove such blemishes by grinding, or by welding and grinding, prior to cleaning, treating and application of surface finishes.
- R. Paint:
1. Primer selected to be compatible with finish coats of paint. Coordinate selection of metal primer with finish paint requirements specified in Section 099000.
  2. Shop Primer for Ferrous Metal: Organic zinc-rich primer, complying with SSPC-Paint 20 and compatible with topcoat.
  3. Galvanizing Repair Paint: High zinc dust content paint for re-galvanizing welds in steel, complying with SSPC-Paint 20.

## 2.2 FABRICATION

- A. Workmanship: Use of materials of size and thickness indicated or, if not indicated, as required to produce strength and durability in finished product for use intended. Work to dimensions shown or accepted on shop drawings, using proven details of fabrication and support. Use type of materials shown or specified for various components or work.
- B. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges. Ease exposed edges to a radius of approximately 1/32" unless otherwise shown. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- C. Weld corners and seams continuously, complying with AWS recommendations. At exposed connections, grind exposed welds smooth and flush to match and blend with adjoining surfaces.
- D. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head

(countersunk) screws or bolts. Use fasteners of same basic metal as fastened metal unless otherwise indicated. Do not use metals that are corrosive or incompatible with materials joined.

- E. Provide for anchorage of type indicated and as required, coordinated with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use.
- F. Cut, reinforce, drill and tap miscellaneous metal work as indicated to receive hardware and similar items.
- G. Fabricate joints that will be exposed to weather in a manner to exclude water or provide weep holes where water may accumulate.
- H. Electrodes for Welding: Comply with AWS Code and as recommended by product manufacturer.
- I. Rough Hardware: Furnish bent or otherwise custom fabricated bolts, plates, inserts, anchors, hangers, dowels and other miscellaneous steel and iron shapes as required for framing, supporting, anchoring or securing woodwork to concrete or other structures. Straight bolts and other stock rough hardware items are specified in Division 6 - Sections.
- J. Fabricate items to sizes, and shapes and dimensions required. Furnish malleable-iron washers for heads and nuts that bear on wood structural connections; elsewhere, furnish steel washers.
- K. Shelf Angles: Furnish and install structural steel shelf angles of sizes indicated and required for attachments to concrete framing. Provide slotted holes to receive 3/4" bolts, spaces not more than 6" from ends and not more than 24" o.c. unless otherwise indicated.
- L. Loose Bearing and Leveling Plates: Furnish and install loose bearing and leveling plates for steel items bearing on masonry or concrete constructions, made flat, free from warps or twists, and of required thickness and bearing area. Drill plates to receive anchor bolts and for grouting required. Galvanize after fabrication.
- M. Loose Steel Lintels: Furnish and install loose structural steel lintels for openings and recesses in masonry walls and partitions whether they are indicated in the lintel schedule or not. Weld adjoining members together to form a single unit where indicated. Provide not less than 8" bearing at each side of openings, unless otherwise indicated.
- N. Miscellaneous Steel Framing and Supports: Furnish and install miscellaneous steel framing and supports which are not part of structural steel framework, as required to complete work.
- O. Fabricate miscellaneous units to sizes, shapes and profiles indicated or, if not indicated, of required dimensions to receive adjacent other work to be retained by framing. Except as otherwise indicated, fabricate from structural steel shapes and plates and steel bars of welded construction using mitered joints for field connection. Cut, drill and tap units to receive hardware and similar items.
- P. Equip units with integrally welded anchors for casting into concrete or building into masonry. Furnish inserts if units must be installed after concrete is placed.
- Q. Except as otherwise shown, space anchors 24" o.c. and provide minimum anchor units of 1-1/4" x 1/4" x 8" steel straps.

- R. Galvanize all exterior miscellaneous frames, supports and trim. All interior miscellaneous frames, supports and trim at wet and high humidity areas and as otherwise indicated.
- S. Galvanizing:
  - 1. Provide a zinc coating for those items indicated or specified to be galvanized, as follows: Unit noted to be galvanized are to be hot dipped galvanized after fabrication.
    - a. ASTM A 153 for galvanizing iron and steel hardware.
    - b. ASTM A 123 for galvanizing rolled, pressed, and forged steel shapes, plates, bars, and strip 1/8" thick and heavier.
    - c. ASTM A 386 for galvanizing assembled steel products.
- T. Miscellaneous Steel Trim: Provide shapes and sizes for profiles indicated. Except as otherwise indicated, fabricate units from structural steel shapes and plates and steel bars, with continuously welded joints and smooth exposed edges. Use concealed field splices wherever possible. Provide cutouts, fittings and anchorages as required for coordination of assembly and installation with other work.

### 2.3 COATINGS AND PRIMER PAINTS

- A. Shop paint miscellaneous metal work, except members or portions of members to be embedded in concrete, masonry and surfaces and edges to be field welded, galvanized or finished metal surfaces unless otherwise indicated.
- B. Remove scale, rust and other deleterious materials before applying shop coat. Clean off heavy rust and loose mill scale in accordance with SSPC SP-2 (Hand Tool Cleaning), SSPC SP-3 (Power Tool Cleaning) or SSPC SP-6 (Commercial Blast Cleaning). Omit blast cleaning for interior work.
- C. Remove oil, grease and similar contaminants in accordance with SSPC SP-1 (Solvent Cleaning).
- D. Interior Ferrous Items: Manufacturer's standard, fast curing, lead free, universal primer, selected for resistance to normal atmospheric corrosion, for compatibility with proposed finish paint systems and for capability to provide a sound foundation for field applied topcoats despite prolonged exposure; complying with performance requirements of FS TT-P-645. Use painting methods that will result in full coverage of joints, corners, edges and all exposed surfaces.
- E. Apply one shop coat to fabricated metal items, except apply 2 coats of paint to surfaces inaccessible after assembly or erection. Change color of second coat to distinguish it from the first.
- F. Exterior Steel Items: Hot dipped galvanized to receive finish coats; ASTM A 153, A123, and A386, unless otherwise noted.
- G. Galvanized coating repair: Where galvanized surfaces are damaged, prepare surfaces and repair in accordance with procedures specified in ASTM A 780. SSPC P-20 or Mil-P-21D3T.

## PART 3 - EXECUTION

### 3.1 INSPECTION

- A. Installer must examine the areas and conditions under which work is to be installed and notify the General Contractor in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the erector.

### 3.2 PREPARATION

- A. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installation of anchorages, such as concrete inserts, sleeves, anchor bolts and miscellaneous items having integral anchors, which are to be embedded in concrete or masonry construction. Coordinate delivery of such items to project site.

### 3.3 INSTALLATION

- A. Install miscellaneous metals in accordance with referenced standards and as shown on final approved shop drawings.
- B. Install manufactured products in conformance with manufacturer's recommendations.
- C. Fastening to In-Place Construction:
  - 1. Except as otherwise specified, provide anchorage devices and fasteners where necessary for securing metal fabrication items to in place construction including threaded fasteners for concrete and masonry inserts, toggle bolts, through bolts, lag bolts, and other connectors as required.
- D. Cutting, Fitting and Placement:
  - 1. Perform cutting, drilling and fitting required for the installation of the miscellaneous metal items. Set the work accurately in location, alignment and elevation, plumb, level, true and free of rack, measured from established lines and levels. Provide temporary bracing or anchors in form work for items which are to be built into concrete, masonry or similar construction.
  - 2. Fit exposed connections accurately together to form tight hairline joints. Weld connections that are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Grind joints smooth and touch-up shop paint coat. Do not weld, cut or abrade the surfaces of units and components which are zinc coated, shop prime painted, or finish after fabrication or are intended for mechanical field connections or other means without further cutting or fitting.
- E. Field Welding:
  - 1. Comply with AWS Code for the procedures of manual shielded metal arc welding, the appearance and quality for welds made, and the methods used in correcting welding

work. Use materials and methods that minimize distortion, develop strength, and corrosion resistance to base metals without undercut or overlap. Finish surfaces shall be left smooth and match contours of adjoining surfaces.

F. Setting Loose Plates:

1. Clean concrete and masonry bearing surfaces of any bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of bearing plates.
2. Set loose leveling and bearing plates on wedges, or other adjustable devices. After the bearing members have been positioned and plumbed, tighten the anchor bolts. Do not remove wedges or shims, but if protruding, cut-off flush with the edge of the bearing plate before packing with grout. Use metallic non-shrink grout in concealed locations where not exposed to moisture; use non-metallic non-shrink grout in exposed locations, unless otherwise indicated.
3. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

3.4 ADJUSTING, CLEANING AND PROTECTION

- A. Immediately after erection of steel items, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting. Apply by brush or spray to provide a minimum dry film thickness of 2.0 mils.
- B. For galvanized surfaces: Clean field welds, bolted connections and abraded areas and apply 2 coats of galvanizing repair paint.
- C. Restore finishes damaged during installation and construction period so that no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

END OF SECTION 055010



## SECTION 079200 - JOINT SEALANTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes joint sealants for the following applications:
  - 1. Exterior joints in the following vertical surfaces and horizontal non-traffic surfaces:
    - a. Control and expansion joints.
    - b. Fastener penetrations at masonry locations.
    - c. Other joints as indicated.
- B. Exterior control and expansion joints in cast stone masonry, concrete pavements and curbs.
- C. Exterior and interior control and expansion joints in masonry.
- D. Exterior building, wall and sitework joints, including (but not limited to) concrete to concrete, concrete to masonry, masonry to masonry, masonry to metal, masonry to plaster, plaster to plaster, under saddles and thresholds and miscellaneous openings. Include running and bed joints in all sills. Metal shall be understood to include (but not limited to) door, window, louver and other metal frames.
- E. All interior joints where plaster, drywall and the like terminates at dissimilar materials or assemblies where an open joint exists.
- F. Exterior joints as shown and/or required.

#### 1.3 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

#### 1.4 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Verification: For each type and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

## 1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

## 1.6 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
  - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
  - 2. When joint substrates are wet.
  - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
  - 4. Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

## 1.1 WARRANTY

- A. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
  - 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which elastomeric sealant manufacturer agrees to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
  - 1. Warranty Period: Five years from date of Substantial Completion.
- C. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:
  - 1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
  - 2. Disintegration of joint substrates from natural causes exceeding design specifications.
  - 3. Mechanical damage caused by individuals, tools, or other outside agents.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles or approved equal.

## 2.2 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.
- B. VOC Content of Interior Sealants: Provide sealants and sealant primers for use inside the weatherproofing system that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
  - 1. Architectural Sealants: 250 g/L.
  - 2. Nonmembrane Roof Sealants: 300 g/L.
  - 3. Sealant Primers for Nonporous Substrates: 250 g/L.
  - 4. Sealant Primers for Porous Substrates: 775 g/L.
  - 5. Modified Bituminous Sealant Primers: 500 g/L.
- C. Colors of Exposed Joint Sealants: For each locations and adjoining materials, color as selected by Architect from manufacturer's full range.

## 2.3 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
- B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified to be non-staining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- C. Suitability for Immersion in Liquids. Where elastomeric sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247 and qualify for the length of exposure indicated by reference to ASTM C 920 for Class 1 or 2. Liquid used for testing sealants is deionized water, unless otherwise indicated.
- D. Suitability for Contact with Food: Where elastomeric sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.
- E. Single-Component, Mildew-Resistant, Neutral-Curing, Silicone Sealant for use at plumbing fixtures:
  - 1. Available Products or approved equal:
    - a. Pecora Corporation; 898 VOC 12 g/L.
    - b. Sonneborn, Div of BASF; Omniplus, VOC 0 g/L.
    - c. Tremco; Spectrem, VOC 8 g/L.
  - 2. ASTM C920, Type and Grade: S (single component) and NS (nonsag).
  - 3. Class: 25/50.
  - 4. Use Related to Exposure: NT (non-traffic).

- F. Multi-Component, Non-sag, Polyurethane Sealant for exterior joints:
1. Available Products:
    - a. Pecora Corporation; Dynatrol II, VOC 14 g/L.
    - b. Sonneborn, Div of BASF; 150, VOC 28 g/L.
    - c. Tremco; Dymeric 240/240 FC, VOC 35/5 g/L.
  2. ASTM C920, Type and Grade: M (multicomponent) and NS (non-sag).
  3. Class: 50.
  4. Use Related to Exposure: NT (non-traffic), M, A, G and O.
- G. Multi-Component, Self Leveling, Polyurethane Sealant: Use in Joints subject to traffic and for Radon abatement sealing of concrete slabs and concrete slab to block walls.
1. Available Products:
    - a. Pecora Corporation; Urexpan NR-200, VOC 0 g/L.
    - b. Sonneborn, Div of BASF; Sonolastic SL-2, VOC 0 g/L.
    - c. Tremco; THC 900/THC901, VOC 90/105 g/L.
  2. ASTM C920, Type and Grade: M (multicomponent) and P (pourable).
  3. Class: 25.
  4. Use Related to Exposure: SL, Traffic Grade
- H. Single-Component, Non-sag, Silicone Sealant for interior fire rated applications in accordance with appropriate UL Design Systems:
1. Available Products:
    - a. Pecora Corporation; 864, VOC 12 g/L.
    - b. Sonneborn, Div of BASF; Omniseal 50, VOC 35 g/L.
    - c. Tremco; Spectrem 4TS, VOC 18 g/L.
  2. ASTM C920, Type and Grade: S (multicomponent) and NS (non-sag).
  3. Class: 50.
  4. Use Related to Exposure: NT (non-traffic), Fire Rated Systems.

## 2.4 LATEX JOINT SEALANTS

- A. Single-Component, Non-Sag, Acrylic Latex Sealant for interior and acoustical joints: Comply with ASTM C 834, Type P, Grade NF.
1. Available Products:
    - a. Pecora Corporation; AC-20+, VOC 31 g/L.
    - b. Sonneborn, Div of BASF; Sonolac, VOC 41 g/L.
    - c. Tremco; Tremflex 834, VOC 11 g/L.
  2. ASTM C 834, Type and Grade: Type P, Grade NF.
  3. Class: 7.5/7.5

4. Use Related to Exposure: General Purpose interior and exterior with slight to moderate movement.

## 2.5 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type that are non-staining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type B (Cylindrical flexible sealant backer rod with bi-cellular material with non-absorbing outer skin), non-gassing, non-exuding, chemically inert, non-absorbing, for cold applied sealants and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:
- C. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 26 deg F (minus 32 deg C). Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and to otherwise contribute to optimum sealant performance.
- D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

## 2.6 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests and complying with VOC limits indicated.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
  - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
  - 2. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air.
  - 3. Remove laitance and form-release agents from concrete.
  - 4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- B. Joint Priming: Prime joint substrates, where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

### 3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
  - 1. Do not leave gaps between ends of sealant backings.
  - 2. Do not stretch, twist, puncture, or tear sealant backings.
  - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
  2. Completely fill recesses in each joint configuration.
  3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
  2. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

### 3.4 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

### 3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION 079200

## SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

### PART 1 GENERAL

#### 1.1 PROJECT INCLUDES

- A. Single conductor building wire.
- B. Metal-clad cable.
- C. Wire and cable for 600 volts and less.
- D. Wiring connectors.
- E. Electrical tape.
- F. Heat shrink tubing.
- G. Wire pulling lubricant.

#### 1.2 RELATED REQUIREMENTS

- A. Section 078400 - Firestopping.
- B. Section 260513 - Medium-Voltage Cable: Cables and terminations for systems 601 V through 35,000 V.
- C. Section 260526 - Grounding and Bonding for Electrical Systems: Additional requirements for grounding conductors and grounding connectors.
- D. Section 283100 - Fire Detection and Alarm: Fire alarm system conductors and cables.
- E. Section 312316 - Excavation.
- F. Section 312316.13 - Trenching: Excavating, bedding, and backfilling.

#### 1.3 REFERENCE STANDARDS

- A. ASTM B3 - Standard Specification for Soft or Annealed Copper Wire; 2001 (Reapproved 2007).
- B. ASTM B8 - Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft; 2011.
- C. ASTM B33 - Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes; 2010.
- D. ASTM B787/B787M - Standard Specification for 19 Wire Combination Unilay-Stranded Copper Conductors for Subsequent Insulation; 2004 (Reapproved 2009).



- E. ASTM D3005 - Standard Specification for Low-Temperature Resistant Vinyl Chloride Plastic Pressure-Sensitive Electrical Insulating Tape; 2010.
- F. ASTM D4388 - Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes; 2008.
- G. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical Contractors Association; 2010.
- H. NECA 120 - Standard for Installing Armored Cable (AC) and Metal-Clad Cable (MC); National Electrical Contractors Association; 2006.
- I. NEMA WC 70 - Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy; National Electrical Manufacturers Association; 2009 (ANSI/NEMA WC 70/ICEA S-95-658).
- J. NETA STD ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems; International Electrical Testing Association; 2009.
- K. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- L. UL 44 - Thermoset-Insulated Wires and Cables; Current Edition, Including All Revisions.
- M. UL 83 - Thermoplastic-Insulated Wires and Cables; Current Edition, Including All Revisions.
- N. UL 486A-486B - Wire Connectors; Current Edition, Including All Revisions.
- O. UL 486C - Splicing Wire Connectors; Current Edition, Including All Revisions.
- P. UL 486D - Sealed Wire Connector Systems; Current Edition, Including All Revisions.
- Q. UL 510 - Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape; Current Edition, Including All Revisions.
- R. UL 1569 - Metal-Clad Cables; Current Edition, Including All Revisions.

#### 1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
  1. Coordinate sizes of raceways, boxes, and equipment enclosures installed under other sections with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
  2. Coordinate with electrical equipment installed under other sections to provide terminations suitable for use with the conductors to be installed.
  3. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.

## 1.5 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conductors and cables, including detailed information on materials, construction, ratings, listings, and available sizes, configurations, and stranding.
- C. Product Data: Provide for each cable assembly type.
- D. Test Reports: Indicate procedures and values obtained.
- E. Design Data: Indicate voltage drop and ampacity calculations for aluminum conductors substituted for copper conductors. Include proposed modifications to raceways, boxes, wiring gutters, enclosures, etc. to accommodate substituted conductors.
- F. Project Record Documents: Record actual installed circuiting arrangements. Record actual routing for underground circuits.
- G. Project Record Documents: Record actual locations of components and circuits.

## 1.6 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store conductors and cables in accordance with manufacturer's instructions.

## 1.8 FIELD CONDITIONS

- A. Do not install or otherwise handle thermoplastic-insulated conductors at temperatures lower than 14 degrees F, unless otherwise permitted by manufacturer's instructions. When installation below this temperature is unavoidable, notify Architect and obtain direction before proceeding with work.
- B. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience and with service facilities within 100 miles of Project.
- C. Products: Furnish products listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

## PART 2 PRODUCTS

### 2.1 PRODUCTS

- A. Do not use conductors and cables for applications other than as permitted by NFPA 70 and product listing.
- B. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.
- C. Nonmetallic-sheathed cable is not permitted.
- D. Underground feeder and branch-circuit cable is not permitted.
- E. Service entrance cable is not permitted.
- F. Armored cable is not permitted.
- G. Metal-clad cable is permitted only as follows:
  - 1. Where not otherwise restricted, may be used:
    - a. Where concealed above accessible ceilings for final connections from junction boxes to luminaires.
      - 1) Maximum Length: 6 feet.
    - b. Where concealed in hollow stud walls, above accessible ceilings, and under raised floors for branch circuits up to 20 A.
      - 1) Exception: Provide single conductor building wire in raceway for circuit homerun from first outlet to panelboard.
  - 2. In addition to other applicable restrictions, may not be used:
    - a. Where not approved for use by the authority having jurisdiction.
    - b. Where exposed to view.
    - c. Where exposed to damage.
    - d. For damp, wet, or corrosive locations.
    - e. For isolated ground circuits, unless provided with an additional isolated/insulated grounding conductor.
- H. Concealed Dry Interior Locations: Use only building wire with Type THHN insulation in raceway.
- I. Exposed Dry Interior Locations: Use only building wire with Type THHN insulation in raceway.
- J. Above Accessible Ceilings: Use only building wire with Type THHN insulation in raceway.
- K. Wet or Damp Interior Locations: Use only building wire with Type THWN insulation in raceway.
- L. Exterior Locations: Use only building wire with Type THWN insulation in raceway.

- M. Underground Installations: Use only building wire with Type THWN insulation in raceway.
- N. Use solid conductor for feeders and branch circuits 10 AWG and smaller.
- O. Use stranded conductors for control circuits.
- P. Use conductor not smaller than 12 AWG for power and lighting circuits.
- Q. Use conductor not smaller than 18 AWG for control circuits.
- R. Use 10 AWG conductors for 20 ampere, 120 volt branch circuits longer than 75 feet.
- S. Use 10 AWG conductors for 20 ampere, 277 volt branch circuits longer than 200 feet.

## 2.2 CONDUCTOR AND CABLE MANUFACTURERS

- A. Cerro Wire LLC: [www.cerrowire.com](http://www.cerrowire.com).
- B. Southwire Company: [www.southwire.com](http://www.southwire.com).
- C. Substitutions: See Section 016000 - Product Requirements.

## 2.3 ALL CONDUCTORS AND CABLES

- A. Provide products that comply with requirements of NFPA 70.
- B. Provide products listed and classified by Underwriters Laboratories Inc. as suitable for the purpose indicated.
- C. Provide new conductors and cables manufactured not more than one year prior to installation.
- D. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, etc. as required for a complete operating system.
- E. Comply with NEMA WC 70.
- F. Thermoplastic-Insulated Conductors and Cables: Listed and labeled as complying with UL 83.
- G. Thermoset-Insulated Conductors and Cables: Listed and labeled as complying with UL 44.
- H. Conductors for Grounding and Bonding: Also comply with Section 260526.
- I. Conductors and Cables Installed Exposed in Spaces Used for Environmental Air (only where specifically permitted): Plenum rated, listed and labeled as suitable for use in return air plenums.

- J. Conductor Material:
1. Provide copper conductors only. Aluminum conductors are not acceptable for this project. Conductor sizes indicated are based on copper.
  2. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B787M unless otherwise indicated.
  3. Tinned Copper Conductors: Comply with ASTM B33.
- K. Minimum Conductor Size:
1. Branch Circuits: 12 AWG.
    - a. Exceptions:
      - 1) 20 A, 120 V circuits longer than 75 feet: 10 AWG, for voltage drop.
      - 2) 20 A, 120 V circuits longer than 150 feet: 8 AWG, for voltage drop.
      - 3) 20 A, 277 V circuits longer than 200 feet: 10 AWG, for voltage drop.
  2. Control Circuits: 14 AWG.
- L. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
- M. Conductor Color Coding:
1. Color code conductors as indicated unless otherwise required by the authority having jurisdiction. Maintain consistent color coding throughout project.
  2. Color Coding Method: Integrally colored insulation.
    - a. Conductors size 4 AWG and larger may have black insulation color coded using vinyl color coding electrical tape.
  3. Color Code:
    - a. 480Y/277 V, 3 Phase, 4 Wire System:
      - 1) Phase A: Brown.
      - 2) Phase B: Orange.
      - 3) Phase C: Yellow.
      - 4) Neutral/Grounded: Gray.
    - b. 208Y/120 V, 3 Phase, 4 Wire System:
      - 1) Phase A: Black.
      - 2) Phase B: Red.
      - 3) Phase C: Blue.
      - 4) Neutral/Grounded: White.
    - c. Equipment Ground, All Systems: Green.
    - d. Isolated Ground, All Systems: Green with yellow stripe.
    - e. Travelers for 3-Way and 4-Way Switching: Pink.
    - f. For modifications or additions to existing wiring systems, comply with existing color code when existing code complies with NFPA 70 and is approved by the authority having jurisdiction.
    - g. For control circuits, comply with manufacturer's recommended color code.

## 2.4 SINGLE CONDUCTOR BUILDING WIRE

- A. Manufacturers:
1. Copper Building Wire:

- a. Cerro Wire LLC: [www.cerrowire.com](http://www.cerrowire.com).
- b. Encore Wire Corporation: [www.encorewire.com](http://www.encorewire.com).
- c. Southwire Company: [www.southwire.com](http://www.southwire.com).
- d. Substitutions: See Section 016000 - Product Requirements.

B. Description: Single conductor insulated wire.

C. Conductor Stranding:

1. Feeders and Branch Circuits:
  - a. Size 10 AWG and Smaller: Solid.
  - b. Size 8 AWG and Larger: Stranded.

D. Insulation Voltage Rating: 600 V.

E. Insulation:

1. Copper Building Wire: Type THHN/THWN or THHN/THWN-2, except as indicated below.
  - a. Size 4 AWG and Larger: Type XHHW-2.
  - b. Fixture Wiring Within Luminaires: Type TFFN/TFN for luminaires with labeled maximum temperature of 90 degrees C; Approved suitable type for luminaires with labeled maximum temperature greater than 90 degrees C.

## 2.5 METAL-CLAD CABLE

A. Manufacturers:

1. AFC Cable Systems Inc: [www.afcweb.com](http://www.afcweb.com).
2. Encore Wire Corporation: [www.encorewire.com](http://www.encorewire.com).
3. Southwire Company: [www.southwire.com](http://www.southwire.com).
4. Substitutions: See Section 016000 - Product Requirements.

B. Description: NFPA 70, Type MC cable listed and labeled as complying with UL 1569, and listed for use in classified firestop systems to be used.

C. Conductor Stranding:

1. Size 10 AWG and Smaller: Solid.
2. Size 8 AWG and Larger: Stranded.

D. Insulation Voltage Rating: 600 V.

E. Insulation: Type THHN, THHN/THWN, or THHN/THWN-2.

F. Provide dedicated neutral conductor for each phase conductor where indicated or required.

G. Grounding: Full-size integral equipment grounding conductor.

H. Armor: Steel, interlocked tape.

## 2.6 WIRING CONNECTORS

- A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed as complying with UL 486A-486B or UL 486C as applicable.
- B. Connectors for Grounding and Bonding: Comply with Section 260526.
- C. Wiring Connectors for Splices and Taps:
  - 1. Copper Conductors Size 8 AWG and Smaller: Use twist-on insulated spring connectors.
  - 2. Copper Conductors Size 6 AWG and Larger: Use mechanical connectors or compression connectors.
- D. Wiring Connectors for Terminations:
  - 1. Provide terminal lugs for connecting conductors to equipment furnished with terminations designed for terminal lugs.
  - 2. Provide compression adapters for connecting conductors to equipment furnished with mechanical lugs when only compression connectors are specified.
  - 3. Where over-sized conductors are larger than the equipment terminations can accommodate, provide connectors suitable for reducing to appropriate size, but not less than required for the rating of the overcurrent protective device.
  - 4. Provide motor pigtail connectors for connecting motor leads in order to facilitate disconnection.
  - 5. Copper Conductors Size 8 AWG and Larger: Use mechanical connectors or compression connectors where connectors are required.
- E. Do not use insulation-piercing or insulation-displacement connectors designed for use with conductors without stripping insulation.
- F. Do not use push-in wire connectors as a substitute for twist-on insulated spring connectors.
- G. Twist-on Insulated Spring Connectors: Rated 600 V, 221 degrees F for standard applications and 302 degrees F for high temperature applications; pre-filled with sealant and listed as complying with UL 486D for damp and wet locations.
  - 1. Manufacturers:
    - a. 3M: [www.3m.com](http://www.3m.com).
    - b. Ideal Industries, Inc: [www.idealindustries.com](http://www.idealindustries.com).
    - c. NSI Industries LLC: [www.nsiindustries.com](http://www.nsiindustries.com).
    - d. Substitutions: See Section 016000 - Product Requirements.
- H. Mechanical Connectors: Provide bolted type or set-screw type.
  - 1. Manufacturers:
    - a. Burndy: [www.burndy.com](http://www.burndy.com).
    - b. IlSCO: [www.ilsco.com](http://www.ilsco.com).
    - c. Thomas & Betts Corporation: [www.tnb.com](http://www.tnb.com).
    - d. Substitutions: See Section 016000 - Product Requirements.

- I. Compression Connectors: Provide circumferential type or hex type crimp configuration.
  - 1. Manufacturers:
    - a. Burndy: [www.burndy.com](http://www.burndy.com).
    - b. IlSCO: [www.ilsco.com](http://www.ilsco.com).
    - c. Thomas & Betts Corporation: [www.tnb.com](http://www.tnb.com).
    - d. Substitutions: See Section 016000 - Product Requirements.

## 2.7 WIRING ACCESSORIES

- A. Electrical Tape:
  - 1. Manufacturers:
    - a. 3M: [www.3m.com](http://www.3m.com).
    - b. Plymouth Rubber Europa: [www.plymouthrubber.com](http://www.plymouthrubber.com).
    - c. Substitutions: See Section 016000 - Product Requirements.
  - 2. Vinyl Color Coding Electrical Tape: Integrally colored to match color code indicated; listed as complying with UL 510; minimum thickness of 7 mil; resistant to abrasion, corrosion, and sunlight; suitable for continuous temperature environment up to 221 degrees F.
  - 3. Vinyl Insulating Electrical Tape: Complying with ASTM D3005 and listed as complying with UL 510; minimum thickness of 7 mil; resistant to abrasion, corrosion, and sunlight; conformable for application down to 0 degrees F and suitable for continuous temperature environment up to 221 degrees F.
  - 4. Rubber Splicing Electrical Tape: Ethylene Propylene Rubber (EPR) tape, complying with ASTM D4388; minimum thickness of 30 mil; suitable for continuous temperature environment up to 194 degrees F and short-term 266 degrees F overload service.
  - 5. Electrical Filler Tape: Rubber-based insulating moldable putty, minimum thickness of 125 mil; suitable for continuous temperature environment up to 176 degrees F.
  - 6. Varnished Cambric Electrical Tape: Cotton cambric fabric tape, with or without adhesive, oil-primed and coated with high-grade insulating varnish; minimum thickness of 7 mil; suitable for continuous temperature environment up to 221 degrees F.
  - 7. Moisture Sealing Electrical Tape: Insulating mastic compound laminated to flexible, all-weather vinyl backing; minimum thickness of 90 mil.
- B. Heat Shrink Tubing: Heavy-wall, split-resistant, with factory-applied adhesive; rated 600 V; suitable for direct burial applications; listed as complying with UL 486D.
  - 1. Manufacturers:
    - a. 3M: [www.3m.com](http://www.3m.com).
    - b. Burndy: [www.burndy.com](http://www.burndy.com).
    - c. Thomas & Betts Corporation: [www.tnb.com](http://www.tnb.com).
    - d. Substitutions: See Section 016000 - Product Requirements.
- C. Wire Pulling Lubricant: Listed; suitable for use with the conductors or cables to be installed and suitable for use at the installation temperature.
  - 1. Manufacturers:
    - a. 3M: [www.3m.com](http://www.3m.com).
    - b. American Polywater Corporation: [www.polywater.com](http://www.polywater.com).
    - c. Ideal Industries, Inc: [www.idealindustries.com](http://www.idealindustries.com).
    - d. Substitutions: See Section 016000 - Product Requirements.



## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that interior of building has been protected from weather.
- B. Verify that work likely to damage wire and cable has been completed.
- C. Verify that raceways, boxes, and equipment enclosures are installed and are properly sized to accommodate conductors and cables in accordance with NFPA 70.
- D. Verify that field measurements are as shown on the drawings.
- E. Verify that conditions are satisfactory for installation prior to starting work.

### 3.2 PREPARATION

- A. Clean raceways thoroughly to remove foreign materials before installing conductors and cables.

### 3.3 INSTALLATION

- A. Circuiting Requirements:
  - 1. Unless dimensioned, circuit routing indicated is diagrammatic.
  - 2. When circuit destination is indicated and routing is not shown, determine exact routing required.
  - 3. Arrange circuiting to minimize splices.
  - 4. Include circuit lengths required to install connected devices within 10 ft of location shown.
  - 5. Maintain separation of Class 1, Class 2, and Class 3 remote-control, signaling, and power-limited circuits in accordance with NFPA 70.
  - 6. Maintain separation of wiring for emergency systems in accordance with NFPA 70.
  - 7. Circuiting Adjustments: Unless otherwise indicated, when branch circuits are shown as separate, combining them together in a single raceway is permitted, under the following conditions:
    - a. Provide no more than six current-carrying conductors in a single raceway. Dedicated neutral conductors are considered current-carrying conductors.
    - b. Increase size of conductors as required to account for ampacity derating.
    - c. Size raceways, boxes, etc. to accommodate conductors.
  - 8. Common Neutrals: Unless otherwise indicated, sharing of neutral/grounded conductors among up to three single phase branch circuits of different phases installed in the same raceway is not permitted. Provide dedicated neutral/grounded conductor for each individual branch circuit.
  - 9. Provide oversized neutral/grounded conductors where indicated and as specified below.
    - a. Provide 200 percent rated neutral for feeders fed from K-rated transformers.
    - b. Provide 200 percent rated neutral for feeders serving panelboards with 200 percent rated neutral bus.
- B. Install products in accordance with manufacturer's instructions.

- C. Install conductors and cable in a neat and workmanlike manner in accordance with NECA 1.
- D. Install metal-clad cable (Type MC) in accordance with NECA 120.
- E. Installation in Raceway:
  - 1. Tape ends of conductors and cables to prevent infiltration of moisture and other contaminants.
  - 2. Pull all conductors and cables together into raceway at same time.
  - 3. Do not damage conductors and cables or exceed manufacturer's recommended maximum pulling tension and sidewall pressure.
  - 4. Use suitable wire pulling lubricant where necessary, except when lubricant is not recommended by the manufacturer.
- F. Paralleled Conductors: Install conductors of the same length and terminate in the same manner.
- G. Secure and support conductors and cables in accordance with NFPA 70 using suitable supports and methods approved by the authority having jurisdiction. Provide independent support from building structure. Do not provide support from raceways, piping, ductwork, or other systems.
  - 1. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conductors and cables to lay on ceiling tiles.
  - 2. Installation in Vertical Raceways: Provide supports where vertical rise exceeds permissible limits.
- H. Terminate cables using suitable fittings.
  - 1. Metal-Clad Cable (Type MC):
    - a. Use listed fittings.
    - b. Cut cable armor only using specialized tools to prevent damaging conductors or insulation. Do not use hacksaw or wire cutters to cut armor.
- I. Install conductors with a minimum of 12 inches of slack at each outlet.
- J. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.
- K. Make wiring connections using specified wiring connectors.
  - 1. Make splices and taps only in accessible boxes. Do not pull splices into raceways or make splices in conduit bodies or wiring gutters.
  - 2. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors.
  - 3. Do not remove conductor strands to facilitate insertion into connector.
  - 4. Clean contact surfaces on conductors and connectors to suitable remove corrosion, oxides, and other contaminates. Do not use wire brush on plated connector surfaces.
  - 5. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.
  - 6. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.
- L. Insulate splices and taps that are made with uninsulated connectors using methods suitable for the

application, with insulation and mechanical strength at least equivalent to unspliced conductors.

1. Dry Locations: Use insulating covers specifically designed for the connectors, electrical tape, or heat shrink tubing.
  - a. For taped connections, first apply adequate amount of rubber splicing electrical tape or electrical filler tape, followed by outer covering of vinyl insulating electrical tape.
  - b. For taped connections likely to require re-entering, including motor leads, first apply varnished cambric electrical tape, followed by adequate amount of rubber splicing electrical tape, followed by outer covering of vinyl insulating electrical tape.
2. Damp Locations: Use insulating covers specifically designed for the connectors, electrical tape, or heat shrink tubing.
  - a. For connections with insulating covers, apply outer covering of moisture sealing electrical tape.
  - b. For taped connections, follow same procedure as for dry locations but apply outer covering of moisture sealing electrical tape.
3. Wet Locations: Use heat shrink tubing.

M. Insulate ends of spare conductors using vinyl insulating electrical tape.

N. Field-Applied Color Coding: Where vinyl color coding electrical tape is used in lieu of integrally colored insulation as permitted in Part 2 under "Color Coding", apply half overlapping turns of tape at each termination and at each location conductors are accessible.

O. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 078400.

P. Unless specifically indicated to be excluded, provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.

### 3.4 FIELD QUALITY CONTROL

A. Perform inspection, testing, and adjusting in accordance with Section 014000.

B. Inspect and test in accordance with NETA STD ATS, except Section 4.

C. Perform inspections and tests listed in NETA STD ATS, Section 7.3.2. The insulation resistance test is required for all conductors. The resistance test for parallel conductors listed as optional is not required.

1. Disconnect surge protective devices (SPDs) prior to performing any high potential testing. Replace SPDs damaged by performing high potential testing with SPDs connected.

D. Correct deficiencies and replace damaged or defective conductors and cables.

END OF SECTION 260519

## **SECTION 26 0529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS**

### **PART 1 GENERAL**

#### **1.1 PROJECT INCLUDES**

- A. Support and attachment components for equipment, conduit, cable, boxes, and other electrical work.

#### **1.2 RELATED REQUIREMENTS**

- A. Section 033000 - Cast-in-Place Concrete: Concrete equipment pads.
- B. Section 260534 - Conduit: Additional support and attachment requirements for conduits.
- C. Section 260537 - Boxes: Additional support and attachment requirements for boxes.
- D. Section 265100 - Interior Lighting: Additional support and attachment requirements for interior luminaires.
- E. Conduit and equipment supports.
- F. Anchors and fasteners.

#### **1.3 REFERENCE STANDARDS**

- A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2012.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- C. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel; 2011.
- D. MFMA-4 - Metal Framing Standards Publication; Metal Framing Manufacturers Association; 2004.
- E. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical Contractors Association; 2010.
- F. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- G. UL 5B - Strut-Type Channel Raceways and Fittings; Current Edition, Including All Revisions.

#### **1.4 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination:
  - 1. Coordinate sizes and arrangement of supports and bases with the actual equipment and components to be installed.
  - 2. Coordinate the work with other trades to provide additional framing and materials required for installation.
  - 3. Coordinate compatibility of support and attachment components with mounting surfaces at the installed locations.
  - 4. Coordinate the arrangement of supports with ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
  - 5. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.
- B. Sequencing:
  - 1. Do not install products on or provide attachment to concrete surfaces until concrete has fully cured in accordance with Section 033000.

## 1.5 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for metal channel (strut) framing systems, non-penetrating rooftop supports, and post-installed concrete and masonry anchors.
- C. Shop Drawings: Include details for fabricated hangers and supports where materials or methods other than those indicated are proposed for substitution.
- D. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

## 1.6 QUALITY ASSURANCE

- A. Comply with NFPA 70.
- B. Comply with applicable building code.
- C. Maintain at the project site a copy of each referenced document that prescribes execution requirements.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

# PART 2 PRODUCTS

## 2.1 SUPPORT AND ATTACHMENT COMPONENTS

- A. General Requirements:

1. Provide all required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for the complete installation of electrical work.
  2. Provide products listed, classified, and labeled by Underwriter's Laboratories Inc. (UL) or testing firm acceptable to authority having jurisdiction as suitable for the purpose indicated, where applicable.
  3. Where support and attachment component types and sizes are not indicated, select in accordance with manufacturer's application criteria as required for the load to be supported with a minimum safety factor with accordance to local AHJ. Include consideration for vibration, equipment operation, and shock loads where applicable.
  4. Do not use products for applications other than as permitted by NFPA 70 and product listing.
  5. Do not use wire, chain, perforated pipe strap, or wood for permanent supports unless specifically indicated or permitted.
  6. Steel Components: Use corrosion resistant materials suitable for the environment where installed.
    - a. Indoor Dry Locations: Use zinc-plated steel or approved equivalent unless otherwise indicated.
    - b. Outdoor and Damp or Wet Indoor Locations: Use galvanized steel, stainless steel, or approved equivalent unless otherwise indicated.
    - c. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
    - d. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A123/A123M or ASTM A153/A153M.
- B. Conduit and Cable Supports: Straps, clamps, etc. suitable for the conduit or cable to be supported.
1. Conduit Straps: One-hole or two-hole type; steel or malleable iron.
  2. Conduit Clamps: Bolted type unless otherwise indicated.
  3. Manufacturers:
    - a. Cooper Crouse-Hinds, a division of Cooper Industries: [www.cooperindustries.com](http://www.cooperindustries.com).
    - b. Erico International Corporation: [www.erico.com](http://www.erico.com).
    - c. O-Z/Gedney, a brand of Emerson Industrial Automation: [www.emersonindustrial.com](http://www.emersonindustrial.com).
    - d. Thomas & Betts Corporation: [www.tnb.com](http://www.tnb.com).
    - e. Substitutions: See Section 016000 - Product Requirements.
- C. Outlet Box Supports: Hangers, brackets, etc. suitable for the boxes to be supported.
1. Manufacturers:
    - a. Cooper Crouse-Hinds, a division of Cooper Industries: [www.cooperindustries.com](http://www.cooperindustries.com).
    - b. Erico International Corporation: [www.erico.com](http://www.erico.com).
    - c. O-Z/Gedney, a brand of Emerson Industrial Automation: [www.emersonindustrial.com](http://www.emersonindustrial.com).
    - d. Thomas & Betts Corporation: [www.tnb.com](http://www.tnb.com).
    - e. Substitutions: See Section 016000 - Product Requirements.
- D. Metal Channel (Strut) Framing Systems: Factory-fabricated continuous-slot metal channel (strut) and associated fittings, accessories, and hardware required for field-assembly of supports.
1. Comply with MFMA-4.
  2. Channel (Strut) Used as Raceway (only where specifically indicated): Listed and labeled as complying with UL 5B.
  3. Channel Material:

- a. Indoor Dry Locations: Use painted steel, zinc-plated steel, or galvanized steel.
- b. Outdoor and Damp or Wet Indoor Locations: Use galvanized steel.
- 4. Minimum Channel Thickness: 12 gauge.
- 5. Minimum Channel Dimensions: 1-5/8 inch width by 13/16 inch height.
- 6. Manufacturers:
  - a. Cooper B-Line, a division of Cooper Industries: [www.cooperindustries.com](http://www.cooperindustries.com).
  - b. Thomas & Betts Corporation: [www.tnb.com](http://www.tnb.com).
  - c. Unistrut, a brand of Atkore International Inc: [www.unistrut.com](http://www.unistrut.com).
  - d. Substitutions: See Section 016000 - Product Requirements.
- E. Hanger Rods: Threaded zinc-plated steel unless otherwise indicated.
  - 1. Minimum Size, Unless Otherwise Indicated or Required:
    - a. Equipment Supports: 1/2 inch diameter.
    - b. Single Conduit up to 1 inch (27mm) trade size: 1/4 inch diameter.
    - c. Single Conduit larger than 1 inch (27mm) trade size: 3/8 inch diameter.
    - d. Trapeze Support for Multiple Conduits: 3/8 inch diameter.
    - e. Outlet Boxes: 1/4 inch diameter.
    - f. Luminaires: 1/4 inch diameter.
- F. Anchors and Fasteners:
  - 1. Unless otherwise indicated and where not otherwise restricted, use the anchor and fastener types indicated for the specified applications.
  - 2. Concrete: Use preset concrete inserts, expansion anchors, or screw anchors.
  - 3. Solid or Grout-Filled Masonry: Use expansion anchors or screw anchors.
  - 4. Hollow Masonry: Use toggle bolts.
  - 5. Hollow Stud Walls: Use toggle bolts.
  - 6. Steel: Use beam clamps, machine bolts, or welded threaded studs.
  - 7. Sheet Metal: Use sheet metal screws.
  - 8. Plastic and lead anchors are not permitted.
  - 9. Powder-actuated fasteners are not permitted.
  - 10. Hammer-driven anchors and fasteners are not permitted.
  - 11. Preset Concrete Inserts: Continuous metal channel (strut) and spot inserts specifically designed to be cast in concrete ceilings, walls, and floors.
    - a. Comply with MFMA-4.
    - b. Channel Material: Use galvanized steel.
    - c. Minimum Channel Thickness: 12 gauge.
    - d. Manufacturer: Same as manufacturer of metal channel (strut) framing system.
  - 12. Post-Installed Concrete and Masonry Anchors: Evaluated and recognized by ICC Evaluation Service, LLC (ICC-ES) for compliance with applicable building code.
  - 13. Manufacturers - Mechanical Anchors:
    - a. Hilti, Inc: [www.us.hilti.com](http://www.us.hilti.com).
    - b. ITW Red Head, a division of Illinois Tool Works, Inc: [www.itwredhead.com](http://www.itwredhead.com).
    - c. Powers Fasteners, Inc: [www.powers.com](http://www.powers.com).
    - d. Simpson Strong-Tie Company Inc: [www.strongtie.com](http://www.strongtie.com).
    - e. Substitutions: See Section 016000 - Product Requirements.

## PART 3 EXECUTION



### 3.1 EXAMINATION

- A. Verify that field measurements are as shown on the drawings.
- B. Verify that mounting surfaces are ready to receive support and attachment components.
- C. Verify that conditions are satisfactory for installation prior to starting work.

### 3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install support and attachment components in a neat and workmanlike manner in accordance with NECA 1.
- C. Install anchors and fasteners in accordance with ICC Evaluation Services, LLC (ICC-ES) evaluation report conditions of use where applicable.
- D. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
- E. Unless specifically indicated or approved by Architect, do not provide support from suspended ceiling support system or ceiling grid.
- F. Unless specifically indicated or approved by Architect, do not provide support from roof deck.
- G. Do not penetrate or otherwise notch or cut structural members without approval of Structural Engineer.
- H. Equipment Support and Attachment:
  - 1. Use metal fabricated supports or supports assembled from metal channel (strut) to support equipment as required.
  - 2. Use metal channel (strut) secured to studs to support equipment surface-mounted on hollow stud walls when wall strength is not sufficient to resist pull-out.
  - 3. Use metal channel (strut) to support surface-mounted equipment in wet or damp locations to provide space between equipment and mounting surface.
  - 4. Securely fasten floor-mounted equipment. Do not install equipment such that it relies on its own weight for support.
- I. Conduit Support and Attachment: Also comply with Section 260534.
- J. Box Support and Attachment: Also comply with Section 260537.
- K. Interior Luminaire Support and Attachment: Also comply with Section 265100.
- L. Preset Concrete Inserts: Use manufacturer provided closure strips to inhibit concrete seepage during concrete pour.

- M. Secure fasteners according to manufacturer's recommended torque settings.
- N. Remove temporary supports.

### 3.3 FIELD QUALITY CONTROL

- A. See Section 014000 - Quality Requirements, for additional requirements.
- B. Inspect support and attachment components for damage and defects.
- C. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.
- D. Correct deficiencies and replace damaged or defective support and attachment components.

END OF SECTION 26 0529

## SECTION 26 0534 - CONDUIT

### PART 1 GENERAL

#### 1.1 PROJECT INCLUDES

- A. Galvanized steel rigid metal conduit (RMC).
- B. Aluminum rigid metal conduit (RMC).
- C. Flexible metal conduit (FMC).
- D. Liquidtight flexible metal conduit (LFMC).
- E. Electrical metallic tubing (EMT).
- F. Rigid polyvinyl chloride (PVC) conduit.
- G. Liquidtight flexible nonmetallic conduit (LFNC).
- H. Conduit fittings.
- I. Accessories.
- J. Conduit, fittings and conduit bodies.

#### 1.2 RELATED REQUIREMENTS

- A. Section 033000 - Cast-in-Place Concrete: Concrete encasement of conduits.
- B. Section 078400 - Firestopping.
- C. Section 260519 - Low-Voltage Electrical Power Conductors and Cables: Metal clad cable (Type MC) and armored cable (Type AC), including uses permitted.
- D. Section 260526 - Grounding and Bonding for Electrical Systems.
  - 1. Includes additional requirements for fittings for grounding and bonding.
- E. Section 260529 - Hangers and Supports for Electrical Systems.
- F. Section 260535 - Surface Raceways.
- G. Section 260537 - Boxes.
- H. Section 260553 - Identification for Electrical Systems: Identification products and requirements.

- I. Section 271005 - Structured Cabling for Voice and Data - Inside-Plant: Additional requirements for communications systems conduits.

### 1.3 REFERENCE STANDARDS

- A. ANSI C80.1 - American National Standard for Electrical Rigid Steel Conduit (ERSC); 2005.
- B. ANSI C80.3 - American National Standard for Steel Electrical Metallic Tubing (EMT); 2005.
- C. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical Contractors Association; 2010.
- D. NECA 101 - Standard for Installing Steel Conduits (Rigid, IMC, EMT); National Electrical Contractors Association; 2006.
- E. NECA 102 - Standard for Installing Aluminum Rigid Metal Conduit; National Electrical Contractors Association; 2004.
- F. NECA 111 - Standard for Installing Nonmetallic Raceways (RNC, ENT, LFNC); National Electrical Contractors Association; 2003.
- G. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; National Electrical Manufacturers Association; 2012 (ANSI/NEMA FB 1).
- H. NEMA TC 2 - Electrical Polyvinyl Chloride (PVC) Conduit; National Electrical Manufacturers Association; 2003.
- I. NEMA TC 3 - Polyvinyl Chloride (PVC) Fittings for Use with Rigid PVC Conduit and Tubing; National Electrical Manufacturers Association; 2004.
- J. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- K. UL 1 - Flexible Metal Conduit; Current Edition, Including All Revisions.
- L. UL 6 - Electrical Rigid Metal Conduit-Steel; Current Edition, Including All Revisions.
- M. UL 6A - Electrical Rigid Metal Conduit-Aluminum, Red Brass, and Stainless Steel; Current Edition, Including All Revisions.
- N. UL 360 - Liquid-Tight Flexible Steel Conduit; Current Edition, Including All Revisions.
- O. UL 514B - Conduit, Tubing, and Cable Fittings; Current Edition, Including All Revisions.

- P. UL 651 - Schedule 40 and 80 Rigid PVC Conduit and Fittings; Current Edition, Including All Revisions.
- Q. UL 797 - Electrical Metallic Tubing-Steel; Current Edition, Including All Revisions.
- R. UL 1660 - Liquid-Tight Flexible Nonmetallic Conduit; Current Edition, Including All Revisions.

#### 1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
  - 1. Coordinate minimum sizes of conduits with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
  - 2. Coordinate the arrangement of conduits with structural members, ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
  - 3. Verify exact conduit termination locations required for boxes, enclosures, and equipment installed under other sections or by others.
  - 4. Coordinate the work with other trades to provide roof penetrations that preserve the integrity of the roofing system and do not void the roof warranty.
  - 5. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.
- B. Sequencing:
  - 1. Do not begin installation of conductors and cables until installation of conduit is complete between outlet, junction and splicing points.

#### 1.5 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittals procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conduits and fittings.
- C. Shop Drawings:
  - 1. Include proposed locations of roof penetrations and proposed methods for sealing.
- D. Project Record Documents: Record actual routing for conduits installed underground and conduits 2 inch (53 mm) trade size and larger.

## 1.6 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Products: Listed and classified by Underwriters Laboratories Inc. as suitable for purpose specified and shown.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store conduit and fittings in accordance with manufacturer's instructions.
- B. Accept conduit on site. Inspect for damage.
- C. Protect conduit from corrosion and entrance of debris by storing above grade. Provide appropriate covering.
- D. Protect PVC conduit from sunlight.

## PART 2 PRODUCTS

### 2.1 CONDUIT APPLICATIONS

- A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70 and product listing.
- B. Unless otherwise indicated and where not otherwise restricted, use the conduit types indicated for the specified applications. Where more than one listed application applies, comply with the most restrictive requirements. Where conduit type for a particular application is not specified, use galvanized steel rigid metal conduit.
- C. Underground:
  - 1. Under Slab on Grade: Use rigid PVC conduit.
  - 2. Exterior, Direct-Buried: Use rigid PVC conduit.
  - 3. Exterior, Embedded Within Concrete: Use rigid PVC conduit.
  - 4. Where rigid polyvinyl (PVC) conduit is provided, transition to galvanized steel rigid metal conduit where emerging from underground.
  - 5. Where rigid polyvinyl (PVC) conduit larger than 2 inch (53 mm) trade size is provided, use galvanized steel rigid metal conduit elbows for bends.
- D. Embedded Within Concrete:
  - 1. Within Slab on Grade: Not permitted.
  - 2. Within Slab Above Ground: Not permitted.
  - 3. Within Concrete Walls Above Ground: Use galvanized steel rigid metal conduit.
  - 4. Where rigid polyvinyl (PVC) conduit is provided, transition to galvanized steel rigid metal conduit where emerging from concrete.

5. Where electrical metallic tubing (EMT) emerges from concrete into salt air, use corrosion protection tape to provide supplementary corrosion protection for a minimum of 4 inches on either side of where conduit emerges.
- E. Concealed Within Masonry Walls: Use electrical metallic tubing (EMT).
- F. Concealed Within Hollow Stud Walls: Use electrical metallic tubing (EMT).
- G. Concealed Above Accessible Ceilings: Use electrical metallic tubing (EMT).
- H. Interior, Damp or Wet Locations: Use galvanized steel rigid metal conduit.
- I. Exposed, Interior, Not Subject to Physical Damage: Use electrical metallic tubing (EMT).
- J. Exposed, Interior, Subject to Physical Damage: Use galvanized steel rigid metal conduit.
  1. Locations subject to physical damage include, but are not limited to:
    - a. Where exposed below 8 feet, except within electrical and communication rooms or closets.
    - b. Where exposed below 20 feet in warehouse areas.
- K. Exposed, Exterior: Use galvanized steel rigid metal conduit.
- L. Concealed, Exterior, Not Embedded in Concrete or in Contact With Earth: Use galvanized steel rigid metal conduit.
- M. Corrosive Locations Above Ground: Use aluminum rigid metal conduit.
  1. Corrosive locations include, but are not limited to:
    - a. Cooling towers.
- N. Hazardous (Classified) Locations: Use galvanized steel rigid metal conduit.
- O. Connections to Luminaires Above Accessible Ceilings: Use flexible metal conduit.
  1. Maximum Length: 6 feet.
- P. Connections to Vibrating Equipment:
  1. Dry Locations: Use flexible metal conduit.
  2. Damp, Wet, or Corrosive Locations: Use liquidtight flexible metal conduit.
  3. Maximum Length: 6 feet unless otherwise indicated.
  4. Vibrating equipment includes, but is not limited to:
    - a. Transformers.
    - b. Motors.
- Q. Fished in Existing Walls, Where Necessary: Use flexible metal conduit.

## 2.2 PRODUCTS

- A. Electrical Service Conduits: Also comply with Section 262701.
- B. Communications Systems Conduits: Also comply with Section 271005.
- C. Fittings for Grounding and Bonding: Also comply with Section 260526.
- D. Provide all conduit, fittings, supports, and accessories required for a complete raceway system.
- E. Provide products listed, classified, and labeled by Underwriter's Laboratories Inc. (UL) or testing firm acceptable to authority having jurisdiction as suitable for the purpose indicated.
- F. Minimum Conduit Size, Unless Otherwise Indicated:
  - 1. Branch Circuits: 3/4 inch (21 mm) trade size.
  - 2. Branch Circuit Homeruns: 3/4 inch (21 mm) trade size.
  - 3. Control Circuits: 1/2 inch (16 mm) trade size.
  - 4. Flexible Connections to Luminaires: 1/2 inch (16 mm) trade size.
  - 5. Underground, Interior: 3/4 inch (21 mm) trade size.
  - 6. Underground, Exterior: 1 inch (27 mm) trade size.
- G. Where conduit size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

### 2.3 GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

- A. Manufacturers:
  - 1. Allied Tube & Conduit: [www.alliedeg.com](http://www.alliedeg.com).
  - 2. Republic Conduit: [www.republic-conduit.com](http://www.republic-conduit.com).
  - 3. Wheatland Tube Company: [www.wheatland.com](http://www.wheatland.com).
  - 4. Substitutions: See Section 016000 - Product Requirements.
- B. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6.
- C. Fittings:
  - 1. Manufacturers:
    - a. Bridgeport Fittings Inc: [www.bptfittings.com](http://www.bptfittings.com).
    - b. O-Z/Gedney, a brand of Emerson Industrial Automation: [www.emersonindustrial.com](http://www.emersonindustrial.com).
    - c. Thomas & Betts Corporation: [www.tnb.com](http://www.tnb.com).
    - d. Substitutions: See Section 016000 - Product Requirements.
  - 2. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
  - 3. Material: Use steel or malleable iron.
    - a. Do not use die cast zinc fittings.
  - 4. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (gland) type fittings are not permitted.



## 2.4 ALUMINUM RIGID METAL CONDUIT (RMC)

### A. Manufacturers:

1. Allied Tube & Conduit: [www.alliedeg.com](http://www.alliedeg.com).
2. Republic Conduit: [www.republic-conduit.com](http://www.republic-conduit.com).
3. Wheatland Tube Company: [www.wheatland.com](http://www.wheatland.com).
4. Substitutions: See Section 016000 - Product Requirements.

### B. Description: NFPA 70, Type RMC aluminum rigid metal conduit complying with ANSI C80.5 and listed and labeled as complying with UL 6A.

### C. Fittings:

1. Manufacturers:
  - a. Bridgeport Fittings Inc: [www.bptfittings.com](http://www.bptfittings.com).
  - b. O-Z/Gedney, a brand of Emerson Industrial Automation: [www.emersonindustrial.com](http://www.emersonindustrial.com).
  - c. Thomas & Betts Corporation: [www.tnb.com](http://www.tnb.com).
  - d. Substitutions: See Section 016000 - Product Requirements.
2. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
3. Material: Use aluminum.
4. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (gland) type fittings are not permitted.

## 2.5 FLEXIBLE METAL CONDUIT (FMC)

### A. Manufacturers:

1. AFC Cable Systems, Inc: [www.afcweb.com](http://www.afcweb.com).
2. Electri-Flex Company: [www.electriflex.com](http://www.electriflex.com).
3. International Metal Hose: [www.metalhose.com](http://www.metalhose.com).
4. Substitutions: See Section 016000 - Product Requirements.

### B. Description: NFPA 70, Type FMC standard wall steel flexible metal conduit listed and labeled as complying with UL 1, and listed for use in classified firestop systems to be used.

### C. Fittings:

1. Manufacturers:
  - a. Bridgeport Fittings Inc: [www.bptfittings.com](http://www.bptfittings.com).
  - b. O-Z/Gedney, a brand of Emerson Industrial Automation: [www.emersonindustrial.com](http://www.emersonindustrial.com).
  - c. Thomas & Betts Corporation: [www.tnb.com](http://www.tnb.com).
  - d. Substitutions: See Section 016000 - Product Requirements.
2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
3. Material: Use steel or malleable iron.
  - a. Do not use die cast zinc fittings.

## 2.6 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)

- A. Manufacturers:
  - 1. AFC Cable Systems, Inc: [www.afcweb.com](http://www.afcweb.com).
  - 2. Electri-Flex Company: [www.electriflex.com](http://www.electriflex.com).
  - 3. International Metal Hose: [www.metalhose.com](http://www.metalhose.com).
  - 4. Substitutions: See Section 016000 - Product Requirements.
- B. Description: NFPA 70, Type LFMC polyvinyl chloride (PVC) jacketed steel flexible metal conduit listed and labeled as complying with UL 360.
- C. Fittings:
  - 1. Manufacturers:
    - a. Bridgeport Fittings Inc: [www.bptfittings.com](http://www.bptfittings.com).
    - b. O-Z/Gedney, a brand of Emerson Industrial Automation: [www.emersonindustrial.com](http://www.emersonindustrial.com).
    - c. Thomas & Betts Corporation: [www.tnb.com](http://www.tnb.com).
    - d. Substitutions: See Section 016000 - Product Requirements.
  - 2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
  - 3. Material: Use steel or malleable iron.
    - a. Do not use die cast zinc fittings.

## 2.7 ELECTRICAL METALLIC TUBING (EMT)

- A. Manufacturers:
  - 1. Allied Tube & Conduit: [www.alliedeg.com](http://www.alliedeg.com).
  - 2. Republic Conduit: [www.republic-conduit.com](http://www.republic-conduit.com).
  - 3. Picoma; <http://www.picoma.com>.
  - 4. Wheatland Tube Company: [www.wheatland.com](http://www.wheatland.com).
  - 5. Substitutions: See Section 016000 - Product Requirements.
- B. Description: NFPA 70, Type EMT steel electrical metallic tubing complying with ANSI C80.3 and listed and labeled as complying with UL 797.
- C. Fittings:
  - 1. Manufacturers:
    - a. Bridgeport Fittings Inc: [www.bptfittings.com](http://www.bptfittings.com).
    - b. O-Z/Gedney, a brand of Emerson Industrial Automation: [www.emersonindustrial.com](http://www.emersonindustrial.com).
    - c. Thomas & Betts Corporation: [www.tnb.com](http://www.tnb.com).
    - d. Substitutions: See Section 016000 - Product Requirements.
  - 2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
  - 3. Material: Use steel or malleable iron.
    - a. Do not use die cast zinc fittings.
  - 4. Connectors and Couplings: Use compression (gland) type.

- a. Do not use indenter type connectors and couplings.

## 2.8 RIGID POLYVINYL CHLORIDE (PVC) CONDUIT

### A. Manufacturers:

1. Cantex Inc: [www.cantexinc.com](http://www.cantexinc.com).
2. Carlon, a brand of Thomas & Betts Corporation: [www.carlon.com](http://www.carlon.com).
3. JM Eagle: [www.jmeagle.com](http://www.jmeagle.com).
4. Substitutions: See Section 016000 - Product Requirements.

- ### B. Description:
- NFPA 70, Type PVC rigid polyvinyl chloride conduit complying with NEMA TC 2 and listed and labeled as complying with UL 651; Schedule 40 unless otherwise indicated, Schedule 80 where subject to physical damage; rated for use with conductors rated 90 degrees C.

### C. Fittings:

1. Manufacturer: Same as manufacturer of conduit to be connected.
2. Description: Fittings complying with NEMA TC 3 and listed and labeled as complying with UL 651; material to match conduit.

## 2.9 LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT (LFNC)

### A. Manufacturers:

1. AFC Cable Systems, Inc: [www.afcweb.com](http://www.afcweb.com).
2. Electri-Flex Company: [www.electriflex.com](http://www.electriflex.com).
3. International Metal Hose: [www.metalhose.com](http://www.metalhose.com).
4. Substitutions: See Section 016000 - Product Requirements.

- ### B. Description:
- NFPA 70, Type LFNC liquidtight flexible nonmetallic conduit listed and labeled as complying with UL 1660.

### C. Fittings:

1. Manufacturer: Same as manufacturer of conduit to be connected.
2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B; suitable for the type of conduit to be connected.

## 2.10 ACCESSORIES

- A. Corrosion Protection Tape: PVC-based, minimum thickness of 20 mil.
- B. Conduit Joint Compound: Corrosion-resistant, electrically conductive; suitable for use with the conduit to be installed.
- C. Solvent Cement for PVC Conduit and Fittings: As recommended by manufacturer of conduit and fittings to be installed.
- D. Pull Strings: Use nylon cord with average breaking strength of not less than 200 pound-force.

- E. Sealing Compound for Sealing Fittings: Listed for use with the particular fittings to be installed.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that field measurements are as shown on drawings.
- B. Verify that mounting surfaces are ready to receive conduits.
- C. Verify that conditions are satisfactory for installation prior to starting work.

### 3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install conduit in a neat and workmanlike manner in accordance with NECA 1.
- C. Install galvanized steel rigid metal conduit (RMC) in accordance with NECA 101.
- D. Install aluminum rigid metal conduit (RMC) in accordance with NECA 102.
- E. Install rigid polyvinyl chloride (PVC) conduit in accordance with NECA 111.
- F. Install liquidtight flexible nonmetallic conduit (LFNC) in accordance with NECA 111.
- G. Conduit Routing:
  - 1. Unless dimensioned, conduit routing indicated is diagrammatic.
  - 2. When conduit destination is indicated and routing is not shown, determine exact routing required.
  - 3. Conceal all conduits unless specifically indicated to be exposed.
  - 4. Conduits in the following areas may be exposed, unless otherwise indicated:
    - a. Electrical rooms.
    - b. Mechanical equipment rooms.
    - c. Within joists in areas with no ceiling.
  - 5. Unless otherwise approved, do not route conduits exposed:
    - a. Across floors.
    - b. Across roofs.
    - c. Across top of parapet walls.
    - d. Across building exterior surfaces.
  - 6. Conduits installed underground or embedded in concrete may be routed in the shortest possible manner unless otherwise indicated. Route all other conduits parallel or perpendicular to building structure and surfaces, following surface contours where practical.

7. Arrange conduit to maintain adequate headroom, clearances, and access.
8. Arrange conduit to provide no more than the equivalent of four 90 degree bends between pull points.
9. Arrange conduit to provide no more than 150 feet between pull points.
10. Route conduits above water and drain piping where possible.
11. Arrange conduit to prevent moisture traps. Provide drain fittings at low points and at sealing fittings where moisture may collect.
12. Maintain minimum clearance of 6 inches between conduits and piping for other systems.
13. Maintain minimum clearance of 12 inches between conduits and hot surfaces. This includes, but is not limited to:
  - a. Heaters.
  - b. Hot water piping.
  - c. Flues.
14. Group parallel conduits in the same area together on a common rack.

#### H. Conduit Support:

1. Secure and support conduits in accordance with NFPA 70 and Section 260529 using suitable supports and methods approved by the authority having jurisdiction.
2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
3. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conduits to lay on ceiling tiles.
4. Use conduit strap to support single surface-mounted conduit.
  - a. Use clamp back spacer with conduit strap for damp and wet locations to provide space between conduit and mounting surface.
5. Use metal channel (strut) with accessory conduit clamps to support multiple parallel surface-mounted conduits.
6. Use conduit clamp to support single conduit from beam clamp or threaded rod.
7. Use trapeze hangers assembled from threaded rods and metal channel (strut) with accessory conduit clamps to support multiple parallel suspended conduits.
8. Use of spring steel conduit clips for support of conduits is not permitted.
9. Use of wire for support of conduits is not permitted.
10. Where conduit support intervals specified in NFPA 70 and NECA standards differ, comply with the most stringent requirements.

#### I. Connections and Terminations:

1. Use approved zinc-rich paint or conduit joint compound on field-cut threads of galvanized steel conduits prior to making connections.
2. Where two threaded conduits must be joined and neither can be rotated, use three-piece couplings or split couplings. Do not use running threads.
3. Use suitable adapters where required to transition from one type of conduit to another.
4. Provide drip loops for liquidtight flexible conduit connections to prevent drainage of liquid into connectors.

5. Terminate threaded conduits in boxes and enclosures using threaded hubs or double lock nuts for dry locations and raintight hubs for wet locations.
6. Provide insulating bushings or insulated throats at all conduit terminations to protect conductors.
7. Secure joints and connections to provide maximum mechanical strength and electrical continuity.

J. Penetrations:

1. Do not penetrate or otherwise notch or cut structural members, including footings and grade beams, without approval of Structural Engineer.
2. Make penetrations perpendicular to surfaces unless otherwise indicated.
3. Provide sleeves for penetrations as indicated or as required to facilitate installation. Set sleeves flush with exposed surfaces unless otherwise indicated or required.
4. Conceal bends for conduit risers emerging above ground.
5. Seal interior of conduits entering the building from underground at first accessible point to prevent entry of moisture and gases.
6. Where conduits penetrate waterproof membrane, seal as required to maintain integrity of membrane.
  
7. Make penetrations for roof-mounted equipment within associated equipment openings and curbs where possible to minimize roofing system penetrations. Where penetrations are necessary, seal as indicated or as required to preserve integrity of roofing system and maintain roof warranty. Include proposed locations of penetrations and methods for sealing with submittals.
8. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 078400.

K. Underground Installation:

1. Provide trenching and backfilling in accordance with Sections 312316 and 31 2323.
2. Minimum Cover, Unless Otherwise Indicated or Required:
  - a. Underground, Exterior: 24 inches.
  - b. Under Slab on Grade: 12 inches to bottom of slab.
3. Provide underground warning tape in accordance with Section 260553 along entire conduit length.

L. Concrete Encasement: Where conduits not otherwise embedded within concrete are indicated to be concrete-encased, provide concrete in accordance with Section 033000 with minimum concrete cover of 3 inches on all sides unless otherwise indicated.

M. Conduit Movement Provisions: Where conduits are subject to movement, provide expansion and expansion/deflection fittings to prevent damage to enclosed conductors or connected equipment. This includes, but is not limited to:

1. Where conduits cross structural joints intended for expansion, contraction, or deflection.
2. Where conduits are subject to earth movement by settlement or frost.

- N. Condensation Prevention: Where conduits cross barriers between areas of potential substantial temperature differential, provide sealing fitting or approved sealing compound at an accessible point near the penetration to prevent condensation. This includes, but is not limited to:
  - 1. Where conduits pass from outdoors into conditioned interior spaces.
  - 2. Where conduits pass from unconditioned interior spaces into conditioned interior spaces.
  - 3. Where conduits penetrate coolers or freezers.
- O. Provide pull string in all empty conduits and in conduits where conductors and cables are to be installed by others. Leave minimum slack of 12 inches at each end.
- P. Provide grounding and bonding in accordance with Section 260526.

### 3.3 FIELD QUALITY CONTROL

- A. See Section 014000 - Quality Requirements, for additional requirements.
- B. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.
- C. Correct deficiencies and replace damaged or defective conduits.

END OF SECTION 26 0534

## SECTION 260537 - BOXES

### PART 1 GENERAL

#### 1.1 PROJECT INCLUDES

- A. Outlet and device boxes up to 100 cubic inches, including those used as junction and pull boxes.
- B. Cabinets and enclosures, including junction and pull boxes larger than 100 cubic inches.
- C. Pull and junction boxes.

#### 1.2 RELATED REQUIREMENTS

- A. Section 078400 - Firestopping.
- B. Section 083100 - Access Doors and Panels: Panels for maintaining access to concealed boxes.
- C. Section 260526 - Grounding and Bonding for Electrical Systems.
- D. Section 260529 - Hangers and Supports for Electrical Systems.
- E. Section 262726 - Wiring Devices:
  - 1. Wall plates.
  - 2. Floor box service fittings.

#### 1.3 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical Contractors Association; 2010.
- B. NECA 130 - Standard for Installing and Maintaining Wiring Devices; National Electrical Contractors Association; 2010.
- C. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; National Electrical Manufacturers Association; 2012 (ANSI/NEMA FB 1).
- D. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports; National Electrical Manufacturers Association; 2008 (Revised 2010) (ANSI/NEMA OS 1).
- E. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); National Electrical Manufacturers Association; 2008.
- F. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.



- G. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations; Current Edition, Including All Revisions.
- H. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations; Current Edition, Including All Revisions.
- I. UL 508A - Industrial Control Panels; Current Edition, Including All Revisions.
- J. UL 514A - Metallic Outlet Boxes; Current Edition, Including All Revisions.

#### 1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
  - 1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
  - 2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
  - 3. Coordinate minimum sizes of boxes with the actual installed arrangement of conductors, clamps, support fittings, and devices, calculated according to NFPA 70.
  - 4. Coordinate minimum sizes of pull boxes with the actual installed arrangement of connected conduits, calculated according to NFPA 70.
  - 5. Coordinate the placement of boxes with millwork, furniture, devices, equipment, etc. installed under other sections or by others.
  - 6. Coordinate the work with other trades to preserve insulation integrity.
  - 7. Coordinate the work with other trades to provide walls suitable for installation of flush-mounted boxes where indicated.
  - 8. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.

#### 1.5 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for outlet and device boxes, junction and pull boxes, floor boxes, and underground handhole enclosures.
- C. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.
- D. Project Record Documents: Record actual locations for outlet and device boxes, pull boxes, cabinets and enclosures, floor boxes, and underground handhole enclosures.
- E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 016000 - Product Requirements, for additional provisions.

## 1.6 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

## PART 2 PRODUCTS

### 2.1 BOXES

#### A. General Requirements:

1. Do not use boxes and associated accessories for applications other than as permitted by NFPA 70 and product listing.
2. Provide all boxes, fittings, supports, and accessories required for a complete raceway system and to accommodate devices and equipment to be installed.
3. Provide products listed, classified, and labeled by Underwriter's Laboratories Inc. (UL) or testing firm acceptable to authority having jurisdiction as suitable for the purpose indicated.
4. Where box size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
5. Provide grounding terminals within boxes where equipment grounding conductors terminate.

#### B. Outlet and Device Boxes Up to 100 cubic inches, Including Those Used as Junction and Pull Boxes:

1. Use sheet-steel boxes for dry locations unless otherwise indicated or required.
2. Use cast iron boxes or cast aluminum boxes for damp or wet locations unless otherwise indicated or required; furnish with compatible weatherproof gasketed covers.
3. Use cast iron boxes or cast aluminum boxes where exposed galvanized steel rigid metal conduit, or exposed intermediate metal conduit (IMC) is used.
4. Use suitable concrete type boxes where flush-mounted in concrete.
5. Use suitable masonry type boxes where flush-mounted in masonry walls.
6. Use raised covers suitable for the type of wall construction and device configuration where required.
7. Use shallow boxes where required by the type of wall construction.
8. Do not use "through-wall" boxes designed for access from both sides of wall.
9. Sheet-Steel Boxes: Comply with NEMA OS 1, and list and label as complying with UL 514A.
10. Cast Metal Boxes: Comply with NEMA FB 1, and list and label as complying with UL 514A; furnish with threaded hubs.
11. Boxes for Supporting Luminaires and Ceiling Fans: Listed as suitable for the type and weight of load to be supported; furnished with fixture stud to accommodate mounting of

- luminaire where required.
  - 12. Boxes for Ganged Devices: Use multigang boxes of single-piece construction. Do not use field-connected gangable boxes.
  - 13. Minimum Box Size, Unless Otherwise Indicated:
  - 14. Wall Plates: Comply with Section 262726.
  - 15. Manufacturers:
- C. Cabinets and Enclosures, Including Junction and Pull Boxes Larger Than 100 cubic inches:
- 1. Comply with NEMA 250, and list and label as complying with UL 50 and UL 50E, or UL 508A.
  - 2. NEMA 250 Environment Type, Unless Otherwise Indicated:
    - a. Indoor Clean, Dry Locations: Type 1, painted steel.
    - b. Outdoor Locations: Type 3R, painted steel.
  - 3. Junction and Pull Boxes Larger Than 100 cubic inches:
    - a. Provide screw-cover or hinged-cover enclosures unless otherwise indicated.
    - b. Boxes 6 square feet and Larger: Provide sectionalized screw-cover or hinged-cover enclosures.
  - 4. Cabinets and Hinged-Cover Enclosures, Other Than Junction and Pull Boxes:
  - 5. Finish for Painted Steel Enclosures: Manufacturer's standard grey unless otherwise indicated.
  - 6. Manufacturers:

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that field measurements are as shown on drawings.
- B. Verify that mounting surfaces are ready to receive boxes.
- C. Verify that conditions are satisfactory for installation prior to starting work.

### 3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Perform work in a neat and workmanlike manner in accordance with NECA 1 and, where applicable, NECA 130, including mounting heights specified in those standards where mounting heights are not indicated.
- C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
- D. Provide separate boxes for emergency power and normal power systems.

- E. Unless otherwise indicated, provide separate boxes for line voltage and low voltage systems.
- F. Flush-mount boxes in finished areas unless specifically indicated to be surface-mounted.
- G. Unless otherwise indicated, boxes may be surface-mounted where exposed conduits are indicated or permitted.
- H. Box Locations:
  - 1. Locate boxes to be accessible. Provide access panels in accordance with Section 083100 as required where approved by the Architect.
- I. Box Supports:
  - 1. Secure and support boxes in accordance with NFPA 70 and Section 260529 using suitable supports and methods approved by the authority having jurisdiction.
  - 2. Provide independent support from building structure except for cast metal boxes (other than boxes used for fixture support) supported by threaded conduit connections in accordance with NFPA 70. Do not provide support from piping, ductwork, or other systems.
  - 3. Installation Above Suspended Ceilings: Do not provide support from ceiling grid or ceiling support system.
  - 4. Use far-side support to secure flush-mounted boxes supported from single stud in hollow stud walls. Repair or replace supports for boxes that permit excessive movement.
- J. Install boxes plumb and level.
- K. Flush-Mounted Boxes:
  - 1. Install boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that front edge of box or associated raised cover is not set back from finished surface more than 1/4 inch or does not project beyond finished surface.
  - 2. Install boxes in combustible materials such as wood so that front edge of box or associated raised cover is flush with finished surface.
  - 3. Repair rough openings around boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that there are no gaps or open spaces greater than 1/8 inch at the edge of the box.
- L. Install boxes as required to preserve insulation integrity.
- M. Underground Handhole Enclosures:
  - 1. Install enclosure on gravel base, minimum 6 inches deep.
  - 2. Install additional bracing inside enclosures in accordance with manufacturer's instructions to minimize box sidewall deflections during backfilling. Backfill with cover bolted in place.
- N. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.
- O. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 078400.

- P. Close unused box openings.
- Q. Install blank wall plates on junction boxes and on outlet boxes with no devices or equipment installed or designated for future use.
- R. Provide grounding and bonding in accordance with Section 260526.

### 3.3 CLEANING

- A. Clean interior of boxes to remove dirt, debris, plaster and other foreign material.

### 3.4 PROTECTION

- A. Immediately after installation, protect boxes from entry of moisture and foreign material until ready for installation of conductors.

END OF SECTION 26 0537

## SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

### PART 1 GENERAL

#### 1.1 PROJECT INCLUDES

- A. Electrical identification requirements.
- B. Identification nameplates and labels.
- C. Wire and cable markers.
- D. Voltage markers.
- E. Warning signs and labels.

#### 1.2 RELATED REQUIREMENTS

- A. Section 260519 - Low-Voltage Electrical Power Conductors and Cables: Color coding for power conductors and cables 600 V and less; vinyl color coding electrical tape.
- B. Section 262726 - Wiring Devices: Device and wallplate finishes; factory pre-marked wallplates.
- C. Section 271005 - Structured Cabling for Voice and Data: Identification for communications cabling and devices.

#### 1.3 REFERENCE STANDARDS

- A. ANSI Z535.2 - American National Standard for Environmental and Facility Safety Signs; 2007.
- B. ANSI Z535.4 - American National Standard for Product Safety Signs and Labels; 2007.
- C. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- D. UL 969 - Marking and Labeling Systems; Current Edition, Including All Revisions.

#### 1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
  - 1. Verify final designations for equipment, systems, and components to be identified prior to fabrication of identification products.
- B. Sequencing:

1. Do not conceal items to be identified, in locations such as above suspended ceilings, until identification products have been installed.
2. Do not install identification products until final surface finishes and painting are complete.

## 1.5 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittals procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for each product.
- C. Shop Drawings: Provide schedule of items to be identified indicating proposed designations, materials, legends, and formats.
- D. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation and installation of product.

## 1.6 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.

## 1.7 FIELD CONDITIONS

- A. Do not install adhesive products when ambient temperature is lower than recommended by manufacturer.

## PART 2 PRODUCTS

### 2.1 IDENTIFICATION REQUIREMENTS

- A. Identification for Equipment:
  1. Use identification nameplate to identify each piece of electrical distribution and control equipment and associated sections, compartments, and components.
    - a. Switchboards:
      - 1) Identify voltage, phase, and AIC rating.
      - 2) Identify power source and circuit number. Include location when not within sight of equipment.
      - 3) Use identification nameplate to identify load(s) served for each branch device. Do not identify spares and spaces.
    - b. Motor Control Centers:
      - 1) Identify voltage and phase.
      - 2) Use identification nameplate to identify load(s) served for each branch device. Do not identify spares and spaces.
    - c. Panelboards:
      - 1) Identify voltage, phase, and AIC rating.
      - 2) Identify power source and circuit number. Include location when not within sight

- of equipment.
    - 3) Use typewritten circuit directory to identify load(s) served for panelboards with a door. Identify spares and spaces using pencil.
    - 4) For power panelboards without a door, use identification nameplate to identify load(s) served for each branch device. Do not identify spares and spaces.
  - d. Transformers:
    - 1) Identify kVA rating.
    - 2) Identify voltage and phase for primary and secondary.
  - e. Enclosed switches, circuit breakers, and motor controllers:
    - 1) Identify voltage and phase.
    - 2) Identify load(s) served. Include location when not within sight of equipment.
  - f. Enclosed Contactors:
    - 1) Identify ampere rating.
    - 2) Identify voltage and phase.
    - 3) Identify configuration, e.g., E.O.E.H. (electrically operated, electrically held) or E.O.M.H. (electrically operated, mechanically held).
    - 4) Identify load(s) and associated circuits controlled. Include location.
  - g. Transfer Switches:
    - 1) Identify voltage and phase.
    - 2) Identify power source and circuit number for both normal power source and standby power source. Include location when not within sight of equipment.
    - 3) Identify load(s) served. Include location when not within sight of equipment.
- 2. Emergency System Equipment:
  - a. Use identification nameplate or voltage marker to identify emergency system equipment in accordance with NFPA 70.
  - b. Use identification nameplate at each piece of service equipment to identify type and location of on-site emergency power sources.
- 3. Use identification label to identify overcurrent protective devices for branch circuits serving fire alarm circuits. Identify with text "FIRE ALARM CIRCUIT".
- 4. Arc Flash Hazard Warning Labels: Use warning labels to identify arc flash hazards for electrical equipment, such as switchboards, panelboards, industrial control panels, meter socket enclosures, and motor control centers that are likely to require examination, adjustment, servicing, or maintenance while energized.
  - a. Minimum Size: 3.5 by 5 inches.
  - b. Legend: Include orange header that reads "WARNING", followed by the word message "Arc Flash and Shock Hazard; Appropriate PPE Required; Do not operate controls or open covers without appropriate personal protection equipment; Failure to comply may result in injury or death; Refer to NFPA 70E for minimum PPE requirements" or approved equivalent.
- 5. Use warning signs to identify electrical hazards for entrances to all rooms and other guarded locations that contain exposed live parts operating at 600 V nominal or less with the word message "DANGER; Electrical hazard; Authorized personnel only" or approved equivalent.
- 6. Use warning signs to identify electrical hazards for entrances to all buildings, vaults, rooms, or enclosures containing exposed live parts or exposed conductors operating at over 600 V nominal with the word message "DANGER; HIGH VOLTAGE; KEEP OUT".
- 7. Use warning labels to identify electrical hazards for equipment, compartments, and



enclosures containing exposed live parts or exposed conductors operating at over 600 V nominal with the word message "DANGER; HIGH VOLTAGE; KEEP OUT".

8. Use warning labels, identification nameplates, or identification labels to identify electrical hazards for equipment where multiple power sources are present with the word message "DANGER; Hazardous voltage; Multiple power sources may be present; Disconnect all electric power including remote disconnects before servicing" or approved equivalent.

B. Identification for Conductors and Cables:

1. Color Coding for Power Conductors 600 V and Less: Comply with Section 260519.
2. Identification for Communications Conductors and Cables: Comply with Section 271005.
3. Use identification nameplate or identification label to identify color code for ungrounded and grounded power conductors inside door or enclosure at each piece of feeder or branch-circuit distribution equipment when premises has feeders or branch circuits served by more than one nominal voltage system.
4. Use underground warning tape to identify direct buried cables.

C. Identification for Devices:

1. Identification for Communications Devices: Comply with Section 271005.
2. Wiring Device and Wallplate Finishes: Comply with Section 262726.
3. Use identification label to identify fire alarm system devices.
  - a. For devices concealed above suspended ceilings, provide additional identification on ceiling tile below device location.

## 2.2 PRODUCTS

A. Identification Nameplates:

1. Manufacturers:
  - a. Brimar Industries, Inc: [www.brimar.com](http://www.brimar.com).
  - b. Kolbi Pipe Marker Co: [www.kolbipipemarkers.com](http://www.kolbipipemarkers.com).
  - c. Seton Identification Products: [www.seton.com](http://www.seton.com).
  - d. Substitutions: See Section 016000 - Product Requirements.
2. Materials:
  - a. Indoor Clean, Dry Locations: Use plastic nameplates.
  - b. Outdoor Locations: Use plastic, stainless steel, or aluminum nameplates suitable for exterior use.
3. Plastic Nameplates: Two-layer or three-layer laminated acrylic or electrically non-conductive phenolic with beveled edges; minimum thickness of 1/16 inch; engraved text.
  - a. Exception: Provide minimum thickness of 1/8 inch when any dimension is greater than 4 inches.
4. Stainless Steel Nameplates: Minimum thickness of 1/32 inch; engraved or laser-etched text.
5. Aluminum Nameplates: Anodized; minimum thickness of 1/32 inch; engraved or laser-etched text.
6. Mounting Holes for Mechanical Fasteners: Two, centered on sides for sizes up to 1 inch high; Four, located at corners for larger sizes.

B. Identification Labels:

1. Manufacturers:
  - a. Brady Corporation: [www.bradyid.com](http://www.bradyid.com).
  - b. Brother International Corporation: [www.brother-usa.com](http://www.brother-usa.com).
  - c. Panduit Corp: [www.panduit.com](http://www.panduit.com).
  - d. Substitutions: See Section 016000 - Product Requirements.
2. Materials: Use self-adhesive laminated plastic labels; UV, chemical, water, heat, and abrasion resistant.
  - a. Use only for indoor locations.
3. Text: Use factory pre-printed or machine-printed text. Do not use handwritten text unless otherwise indicated.

C. Format for Equipment Identification:

1. Minimum Size: 1 inch by 2.5 inches.
2. Legend:
  - a. System designation where applicable:
    - 1) Fire Alarm System: Identify with text "FIRE ALARM".
  - b. Equipment designation or other approved description.
  - c. Other information as indicated.
3. Text: All capitalized unless otherwise indicated.
4. Minimum Text Height:
  - a. System Designation: 1 inch.
  - b. Equipment Designation: 1/2 inch.
  - c. Other Information: 1/4 inch.
5. Color:
  - a. Normal Power System: White text on black background.
  - b. Emergency Power System: White text on red background.
  - c. Fire Alarm System: White text on red background.

D. Format for General Information and Operating Instructions:

1. Minimum Size: 1 inch by 2.5 inches.
2. Legend: Include information or instructions indicated or as required for proper and safe operation and maintenance.
3. Text: All capitalized unless otherwise indicated.
4. Minimum Text Height: 1/4 inch.
5. Color: Black text on white background unless otherwise indicated.

E. Format for Caution and Warning Messages:

1. Minimum Size: 2 inches by 4 inches.
2. Legend: Include information or instructions indicated or as required for proper and safe operation and maintenance.
3. Text: All capitalized unless otherwise indicated.
4. Minimum Text Height: 1/2 inch.
5. Color: Black text on yellow background unless otherwise indicated.

F. Format for Fire Alarm Device Identification:

1. Minimum Size: 3/8 inch by 1.5 inches.

2. Legend: Designation indicated and device zone or address.
  3. Text: All capitalized unless otherwise indicated.
  4. Minimum Text Height: 3/16 inch.
  5. Color: Red text on white background.
- G. Nameplates: Engraved three-layer laminated plastic, black letters on white background.
- H. Locations:
1. Each electrical distribution and control equipment enclosure.
  2. Communication cabinets.
- I. Letter Size:
1. Use 1/8 inch letters for identifying individual equipment and loads.
  2. Use 1/4 inch letters for identifying grouped equipment and loads.
- J. Labels: Embossed adhesive tape, with 3/16 inch white letters on black background. Use only for identification of individual wall switches and receptacles, and control device stations.
- K. Wire Markers
1. Manufacturers:
  2. Brady Corporation: [www.bradyid.com](http://www.bradyid.com).
  3. HellermannTyton: [www.hellermanntyton.com](http://www.hellermanntyton.com).
  4. Panduit Corp: [www.panduit.com](http://www.panduit.com).
    - a. Substitutions: See Section 016000 - Product Requirements.
- L. Markers for Conductors and Cables: Use wrap-around self-adhesive vinyl cloth, wrap-around self-adhesive vinyl self-laminating, heat-shrink sleeve, plastic sleeve, plastic clip-on, or vinyl split sleeve type markers suitable for the conductor or cable to be identified.
- M. Markers for Conductor and Cable Bundles: Use plastic marker tags secured by nylon cable ties.
- N. Legend: Power source and circuit number or other designation indicated.
- O. Text: Use factory pre-printed or machine-printed text, all capitalized unless otherwise indicated.
1. Do not use handwritten text.
- P. Minimum Text Height: 1/8 inch.
- Q. Color: Black text on white background unless otherwise indicated.

## 2.5 WARNING SIGNS AND LABELS

- A. Manufacturers:
  - 1. Brimar Industries, Inc: [www.brimar.com](http://www.brimar.com).
  - 2. Clarion Safety Systems, LLC: [www.clarionsafety.com](http://www.clarionsafety.com).
  - 3. Seton Identification Products: [www.seton.com](http://www.seton.com).
  - 4. Substitutions: See Section 016000 - Product Requirements.
  
- B. Comply with ANSI Z535.2 or ANSI Z535.4 as applicable.
  
- C. Warning Signs:
  - 1. Materials:
    - a. Indoor Dry, Clean Locations: Use factory pre-printed rigid plastic or self-adhesive vinyl signs.
    - b. Outdoor Locations: Use factory pre-printed rigid aluminum signs.
  - 2. Rigid Signs: Provide four mounting holes at corners for mechanical fasteners.
  - 3. Minimum Size: 7 by 10 inches unless otherwise indicated.
  
- D. Warning Labels:
  - 1. Materials: Use factory pre-printed or machine-printed self-adhesive polyester, or self-adhesive vinyl labels; UV, chemical, water, heat, and abrasion resistant; produced using materials recognized to UL 969.
    - a. Do not use labels designed to be completed using handwritten text.
  - 2. Machine-Printed Labels: Use thermal transfer process printing machines and accessories recommended by label manufacturer.
  - 3. Minimum Size: 2 by 4 inches unless otherwise indicated.

## PART 3 EXECUTION

### 3.1 PREPARATION

- A. Clean surfaces to receive adhesive products according to manufacturer's instructions.

### 3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install identification products to be plainly visible for examination, adjustment, servicing, and maintenance. Unless otherwise indicated, locate products as follows:
  - 1. Surface-Mounted Equipment: Enclosure front.
  - 2. Flush-Mounted Equipment: Inside of equipment door.
  - 3. Free-Standing Equipment: Enclosure front; also enclosure rear for equipment with rear access.
  - 4. Elevated Equipment: Legible from the floor or working platform.
  - 5. Branch Devices: Adjacent to device.
  - 6. Interior Components: Legible from the point of access.
  - 7. Conductors and Cables: Legible from the point of access.
  - 8. Devices: Outside face of cover.
- C. Install identification products centered, level, and parallel with lines of item being identified.
- D. Secure nameplates to exterior surfaces of enclosures using stainless steel screws and to interior surfaces using self-adhesive backing, or epoxy cement.
- E. Install self-adhesive labels and markers to achieve maximum adhesion, with no bubbles or wrinkles and edges properly sealed.
- F. Install underground warning tape above buried lines with one tape per trench at 3 inches below finished grade.
- G. Secure rigid signs using stainless steel screws.
- H. Mark all handwritten text, where permitted, to be neat and legible.

### 3.3 FIELD QUALITY CONTROL

- A. See Section 014000 - Quality Requirements, for additional requirements.
- B. Replace self-adhesive labels and markers that exhibit bubbles, wrinkles, curling or other signs of improper adhesion.

END OF SECTION 26 0553

## **SECTION 262717 – EQUIPMENT WIRING**

### **PART 1 GENERAL**

#### **1.1 SECTION INCLUDES**

- A. Electrical connections to equipment.

#### **1.2 RELATED REQUIREMENTS**

- A. Section 26 0534 - Conduit.
- B. Section 26 0519 - Low-Voltage Electrical Power Conductors and Cables (600 V and Less).
- C. Section 26 0537 - Boxes.
- D. Section 26 2818 - Enclosed Switches.

#### **1.3 REFERENCE STANDARDS**

- A. NEMA WD 1 - General Color Requirements for Wiring Devices; National Electrical Manufacturers Association; 1999 (R 2005).
- B. NEMA WD 6 - Wiring Devices - Dimensional Requirements; National Electrical Manufacturers Association; 2002 (R2008).
- C. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

#### **1.4 SUBMITTALS**

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide wiring device manufacturer's catalog information showing dimensions, configurations, and construction.

#### **1.5 COORDINATION**

- A. Obtain and review shop drawings, product data, manufacturer's wiring diagrams, and manufacturer's instructions for equipment furnished under other sections.
- B. Determine connection locations and requirements.
- C. Sequence rough-in of electrical connections to coordinate with installation of equipment.
- D. Sequence electrical connections to coordinate with start-up of equipment.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. Cords and Caps: NEMA WD 6; match receptacle configuration at outlet provided for equipment.
  - 1. Colors: Conform to NEMA WD 1.
  - 2. Size: Suitable for connected load of equipment, length of cord, and rating of branch circuit overcurrent protection.
  - 3. Substitutions: See Section 01 6000 - Product Requirements.
- B. Wiring Devices: As specified in Section 26 2726.
- C. Flexible Conduit: As specified in Section 26 0534.
- D. Wire and Cable: As specified in Section 26 0519.
- E. Boxes: As specified in Section 26 0537.

## PART 3 EXECUTION

### 3.1 ELECTRICAL CONNECTIONS

- A. Make electrical connections in accordance with equipment manufacturer's instructions.
- B. Make conduit connections to equipment using flexible conduit. Use liquidtight flexible conduit with watertight connectors in damp or wet locations.
- C. Connect heat producing equipment using wire and cable with insulation suitable for temperatures encountered.
- D. Provide receptacle outlet to accommodate connection with attachment plug.
- E. Provide cord and cap where field-supplied attachment plug is required.
- F. Install suitable strain-relief clamps and fittings for cord connections at outlet boxes and equipment connection boxes.
- G. Install interconnecting conduit and wiring between devices and equipment to complete equipment wiring requirements.

END OF SECTION 262717

## SECTION 262726 - WIRING DEVICES

### PART 1 GENERAL

#### 1.1 PROJECT INCLUDES

- A. Wall switches.
- B. Wall dimmers.
- C. Receptacles.
- D. Wall plates.
- E. Floor box service fittings.
- F. Poke-through assemblies.

#### 1.2 RELATED REQUIREMENTS

- A. Section 260537 - Boxes.

#### 1.3 REFERENCE STANDARDS

- A. FS W-C-596 - Connector, Electrical, Power, General Specification for; Federal Specification; Revision G, 2001.
- B. FS W-S-896 - Switches, Toggle (Toggle and Lock), Flush-mounted (General Specification); Federal Specification; Revision F, 1999.
- C. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical Contractors Association; 2010.
- D. NEMA WD 1 - General Color Requirements for Wiring Devices; National Electrical Manufacturers Association; 1999 (R 2005).
- E. NEMA WD 6 - Wiring Device -- Dimensional Requirements; National Electrical Manufacturers Association; 2002 (R2008).
- F. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- G. UL 20 - General-Use Snap Switches; Current Edition, Including All Revisions.
- H. UL 498 - Attachment Plugs and Receptacles; Current Edition, Including All Revisions.
- I. UL 514D - Cover Plates for Flush-Mounted Wiring Devices; Current Edition, Including All Revisions.



- J. UL 943 - Ground-Fault Circuit-Interrupters; Current Edition, Including All Revisions.
- K. UL 1472 - Solid-State Dimming Controls; Current Edition, Including All Revisions.

#### 1.4 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.

#### 1.5 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Leviton.
- B. Hubbell
- C. Thomas & Betts

#### 2.2 APPLICATIONS

#### 2.3 ALL WIRING DEVICES

- A. Provide products listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.
- B. Finishes:

#### 2.4 WALL SWITCHES

- A. Manufacturers:
- B. All Wall Switches: AC only, quiet operating, general-use snap switches with silver alloy contacts, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 20 and where applicable, FS W-S-896; types as indicated on the drawings.
  - 1. Wiring Provisions: Terminal screws for side wiring and screw actuated binding clamp for back wiring with separate ground terminal screw.
- C. Standard Wall Switches: Commercial specification grade, 20 A, 120/277 V with standard toggle type switch actuator and maintained contacts; single pole single throw, double pole single throw, three way, or four way as indicated on the drawings.

## 2.5 WALL DIMMERS

- A. All Wall Dimmers: Provide low-voltage Lighting Control System dimmers and controls in Media Center including Hubbell NX local room controllers (on, off, dim). NX room controllers will operate as stand-alone systems within the Media Center.

## 2.6 RECEPTACLES

- A. Manufacturers:
- B. All Receptacles: Self-grounding, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 498, and where applicable, FS W-C-596; types as indicated on the drawings.
  - 1. Wiring Provisions: Terminal screws for side wiring or screw actuated binding clamp for back wiring with separate ground terminal screw.
  - 2. NEMA configurations specified are according to NEMA WD 6.
- C. Convenience Receptacles:
- D. GFI Receptacles:
  - 1. All GFI Receptacles: Provide with feed-through protection, light to indicate ground fault tripped condition and loss of protection, and list as complying with UL 943, class A.
  - 2. Weather Resistant GFI Receptacles: Commercial specification grade, duplex, 20A, 125V, NEMA 5-20R, rectangular decorator style, listed and labeled as weather resistant type complying with UL 498 Supplement SE suitable for installation in damp or wet locations.
- E. Clock Hanger Receptacles: Single, 15A, 125V, NEMA 5-15R.

## 2.7 WALL PLATES

- A. Manufacturers:
- B. All Wall Plates: Comply with UL 514D.
  - 1. Configuration: One piece cover as required for quantity and types of corresponding wiring devices.
  - 2. Size: Standard.
  - 3. Screws: Metal with slotted heads finished to match wall plate finish.
- C. Stainless Steel Wall Plates: Brushed satin finish, Type 302 stainless steel.
- D. Weatherproof Covers for Damp Locations: Gasketed, cast aluminum, with self-closing hinged cover and corrosion-resistant screws; listed as suitable for use in wet locations with cover closed.
- E. Weatherproof Covers for Wet Locations: Gasketed, cast aluminum, with hinged lockable cover and corrosion-resistant screws; listed as suitable for use in wet locations while in use with attachment plugs connected.

## 2.8 FLOOR BOX SERVICE FITTINGS

- A. Manufacturers:

### WIRING DEVICES

- B. Description: Service fittings compatible with floor boxes provided under Section 260537 with all components, adapters, and trims required for complete installation.

## 2.9 POKE-THROUGH ASSEMBLIES

- A. Manufacturers:
- B. Description: Assembly comprising floor service fitting, poke-through component, fire stops and smoke barriers, and junction box for conduit termination; fire rating listed to match fire rating of floor and suitable for floor thickness where installed.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that field measurements are as shown on the drawings.
- B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.
- C. Verify that wall openings are neatly cut and will be completely covered by wall plates.
- D. Verify that final surface finishes are complete, including painting.
- E. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.
- F. Verify that core drilled holes for poke-through assemblies are in proper locations.
- G. Verify that conditions are satisfactory for installation prior to starting work.

### 3.2 PREPARATION

- A. Provide extension rings to bring outlet boxes flush with finished surface.
- B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

### 3.3 INSTALLATION

- A. Perform work in a neat and workmanlike manner in accordance with NECA 1 and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated.
- B. Coordinate locations of outlet boxes provided under Section 260537 as required for installation of wiring devices provided under this section.
  - 1. Mounting Heights: Unless otherwise indicated, as follows:
  - 2. Orient outlet boxes for vertical installation of wiring devices unless otherwise indicated.
  - 3. Where multiple receptacles, wall switches, or wall dimmers are installed at the same

- location and at the same mounting height, gang devices together under a common wall plate.
4. Locate wall switches on strike side of door with edge of wall plate 3 inches from edge of door frame. Where locations are indicated otherwise, notify Architect to obtain direction prior to proceeding with work.
  5. Locate receptacles for electric drinking fountains concealed behind drinking fountain according to manufacturer's instructions.
- C. Install wiring devices in accordance with manufacturer's instructions.
  - D. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.
  - E. Where required, connect wiring devices using pigtails not less than 6 inches long. Do not connect more than one conductor to wiring device terminals.
  - F. Connect wiring devices by wrapping conductor clockwise 3/4 turn around screw terminal and tightening to proper torque specified by the manufacturer. Where present, do not use push-in pressure terminals that do not rely on screw-actuated binding.
  - G. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
  - H. For isolated ground receptacles, connect wiring device grounding terminal only to identified branch circuit isolated equipment grounding conductor. Do not connect grounding terminal to outlet box or normal branch circuit equipment grounding conductor.
  - I. Provide GFI receptacles with integral GFI protection at each location indicated. Do not use feed-through wiring to protect downstream devices.
  - J. Install wiring devices plumb and level with mounting yoke held rigidly in place.
  - K. Install wall switches with OFF position down.
  - L. Install wall dimmers to achieve full rating specified and indicated after derating for ganging as instructed by manufacturer.
  - M. Do not share neutral conductor on branch circuits utilizing wall dimmers.
  - N. Install vertically mounted receptacles with grounding pole on top and horizontally mounted receptacles with grounding pole on left.
  - O. Install wall plates to fit completely flush to wall with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.

- P. Install blank wall plates on junction boxes and on outlet boxes with no wiring devices installed or designated for future use.
- Q. Install poke-through closure plugs in all unused core holes to maintain fire rating of floor.

### 3.4 FIELD QUALITY CONTROL

- A. Perform field inspection, testing, and adjusting in accordance with Section 014000.
- B. Inspect each wiring device for damage and defects.
- C. Operate each wall switch, wall dimmer, and fan speed controller with circuit energized to verify proper operation.
- D. Operate each wall switch with circuit energized and verify proper operation.
- E. Verify that each receptacle device is energized.
- F. Test each receptacle to verify operation and proper polarity.
- G. Test each GFCI receptacle for proper tripping operation according to manufacturer's instructions.
- H. Correct wiring deficiencies and replace damaged or defective wiring devices.

### 3.5 ADJUSTING

- A. Adjust devices and wall plates to be flush and level.

### 3.6 CLEANING

- A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

END OF SECTION 26 2726

## **SECTION 265100 - INTERIOR LIGHTING**

### **PART 1 GENERAL**

#### **1.1 PROJECT INCLUDES**

- A. Luminaires.
- B. Ballasts.
- C. Lamps.
- D. Luminaire accessories.

#### **1.2 RELATED REQUIREMENTS**

- A. Section 260537 - Boxes.
- B. Section 260553 - Identification for Electrical Systems: Identification products and requirements.
- C. Section 260918 - Remote Control Switching Devices: Remote controls for lighting, including remote control switching relays.
- D. Section 260919 - Enclosed Contactors: Lighting contactors.
- E. Section 260923 - Lighting Control Devices: Automatic controls for lighting including occupancy sensors, outdoor motion sensors, time switches, outdoor photo controls, and daylighting controls.
- F. Section 262726 - Wiring Devices: Manual wall switches and wall dimmers.
- G. Section 265600 - Exterior Lighting.

#### **1.3 REFERENCE STANDARDS**

- A. ANSI C82.4 - American National Standard for Ballasts for High-Intensity-Discharge and Low Pressure Sodium Lamps (Multiple-Supply Type); 2002.
- B. ANSI C82.11 - American National Standard for Lamp Ballasts - High Frequency Fluorescent Lamp Ballasts - Supplements; Consolidated-2002.

- C. IEEE C62.41.2 - Recommended Practice on Characterization of Surges in Low-Voltage (1000 V and less) AC Power Circuits; 2002 (R2008).
- D. IESNA LM-63 - ANSI Approved Standard File Format for Electronic Transfer of Photometric Data and Related Information; 2002.
- E. NECA/IESNA 500 - Standard for Installing Indoor Commercial Lighting Systems; National Electrical Contractors Association; 2006.
- F. NECA/IESNA 502 - Standard for Installing Industrial Lighting Systems; National Electrical Contractors Association; 2006.
- G. NEMA 410 - Performance Testing for Lighting Controls and Switching Devices with Electronic Fluorescent Ballasts; National Electrical Manufacturers Association; 2011.
- H. NEMA LE 4 - Recessed Luminaires, Ceiling Compatibility; National Electrical Manufacturers Association; 2006.
- I. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- J. UL 935 - Fluorescent-Lamp Ballasts; Current Edition, Including All Revisions.
- K. UL 1029 - High-Intensity-Discharge Lamp Ballasts; Current Edition, Including All Revisions.
- L. UL 1598 - Luminaires; Current Edition, Including All Revisions.
- M. UL 8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products; Current Edition, Including All Revisions.

#### 1.4 ADMINISTRATIVE REQUIREMENTS

##### A. Coordination:

1. Coordinate the installation of luminaires with mounting surfaces installed under other sections or by others. Coordinate the work with placement of supports, anchors, etc. required for mounting. Coordinate compatibility of luminaires and associated trims with mounting surfaces at installed locations.
2. Coordinate the placement of luminaires with structural members, ductwork, piping, equipment, diffusers, fire suppression system components, and other potential conflicts installed under other sections or by others.
3. Notify Architect of any conflicts or deviations from the contract documents to obtain direction prior to proceeding with work.

## 1.5 SUBMITTALS

- A. See Section 013000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings:
  - 1. Indicate dimensions and components for each luminaire that is not a standard product of the manufacturer.
- C. Product Data: Provide manufacturer's standard catalog pages and data sheets including detailed information on luminaire construction, dimensions, ratings, finishes, mounting requirements, listings, service conditions, photometric performance, installed accessories, and ceiling compatibility; include model number nomenclature clearly marked with all proposed features.
  - 1. Ballasts: Include wiring diagrams and list of compatible lamp configurations.
  - 2. Lamps: Include rated life, color temperature, color rendering index (CRI), and initial and mean lumen output.
  - 3. LED emitters and drivers: Include rated life, color temperature, lumen output of system.
- D. Certificates for Dimming Ballasts and Drivers: Manufacturer's documentation of compatibility with dimming controls to be installed. **The contractor shall be responsible for providing and installing all required wiring for control of 0-10v dimming systems.**
- E. Field Quality Control Reports.
- F. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.
- G. Operation and Maintenance Data: Instructions for each product including information on replacement parts.
- H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 016000 - Product Requirements, for additional provisions.
- I. Project Record Documents: Record actual connections and locations of luminaires and any associated remote components.

## 1.6 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Conform to requirements of NFPA 70 and NFPA 101.
- C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in



this section with minimum three years documented experience.

#### 1.7 DELIVERY, STORAGE, AND PROTECTION

- A. Receive, handle, and store products according to NECA/IESNA 500 (commercial lighting), NECA/IESNA 502 (industrial lighting), and manufacturer's written instructions.
- B. Keep products in original manufacturer's packaging and protect from damage until ready for installation.

#### 1.8 FIELD CONDITIONS

- A. Maintain field conditions within manufacturers required service conditions during and after installation.

#### 1.9 WARRANTY

- A. See Section 017800 - Closeout Submittals, for additional warranty requirements.
- B. Provide two year manufacturer warranty for all linear fluorescent ballasts.
- C. Provide minimum five year warranty for LED drivers.
- D. Products: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

### PART 2 PRODUCTS

#### 2.1 LUMINAIRE TYPES

- A. Furnish products as indicated in luminaire schedule included on the drawings.
- B. Substitutions: See Section 016000 - Product Requirements.
  - 1. If Alternates are to be installed, Contractor shall be responsible for verifying light levels, performance, and the circuiting is adequate and make any necessary changes to accommodate the new fixtures.

#### 2.2 LUMINAIRES

### INTERIOR LIGHTING

265100 - 4

- A. Provide products that comply with requirements of NFPA 70.
- B. Provide products that are listed and labeled as complying with UL 1598, where applicable.
- C. Provide products listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.
- D. Unless otherwise indicated, provide complete luminaires including lamp(s) and all sockets, ballasts, drivers, reflectors, lenses, housings, mounting accessories and other components required to position, energize and protect the lamp and distribute the light.
- E. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, hardware, supports, trims, accessories, etc. as necessary for a complete operating system.
- F. Provide products suitable to withstand normal handling, installation, and service without any damage, distortion, corrosion, fading, discoloring, etc.
- G. Recessed Luminaires:
  - 1. Ceiling Compatibility: Comply with NEMA LE 4.
  - 2. Luminaires Recessed in Insulated Ceilings: Listed and labeled as IC-rated, suitable for direct contact with insulation and combustible materials.
  - 3. Luminaires Recessed in Sloped Ceilings: Provide suitable sloped ceiling adapters.
- H. LED Luminaires: Listed and labeled as complying with UL 8750. Provide LED Drivers with the luminaire as a complete package.

## 2.4 LAMPS

- A. Manufacturers:
  - 1. Refer to Luminaire Fixture Schedule on the drawings
    - a. Substitutions: See Section 016000 - Product Requirements.
    - b. Manufacturer Limitations: Where possible, provide lamps produced by a single manufacturer.
    - c. Where a specific manufacturer or model is indicated elsewhere in the luminaire schedule or on the drawings, substitutions are not permitted unless explicitly indicated.
- B. All Lamps:
  - 1. Minimum Efficiency: Provide lamps complying with all current applicable federal and state lamp efficiency standards.
  - 2. Color Temperature Consistency: Unless otherwise indicated, for each type of lamp furnish products which are consistent in perceived color temperature. Replace lamps that

are determined by the Architect to be inconsistent in perceived color temperature.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Verify that field measurements are as shown on the drawings.
- B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate conductors in accordance with NFPA 70.
- C. Verify that suitable support frames are installed where required.
- D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to luminaires.
- E. Verify that conditions are satisfactory for installation prior to starting work.

#### 3.2 PREPARATION

- A. Provide extension rings to bring outlet boxes flush with finished surface.
- B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

#### 3.3 INSTALLATION

- A. Coordinate locations of outlet boxes provided under Section 260537 as required for installation of luminaires provided under this section.
- B. Install products according to manufacturer's instructions.
- C. Install luminaires securely, in a neat and workmanlike manner, as specified in NECA 1 (general workmanship), NECA 500 (commercial lighting), and NECA 502 (industrial lighting).
- D. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.
- E. Suspended Ceiling Mounted Luminaires:
  - 1. Do not use ceiling tiles to bear weight of luminaires.
  - 2. Do not use ceiling support system to bear weight of luminaires unless ceiling support system is certified as suitable to do so.
  - 3. Secure surface-mounted and recessed luminaires to ceiling support channels or framing

- members, or to building structure.
- 4. Secure pendant-mounted luminaires to building structure.
- 5. Secure lay-in luminaires to ceiling support channels using listed safety clips at four corners.
- 6. See appropriate Division 9 section where suspended grid ceiling is specified for additional requirements.
- 7. Provide steel cable support from opposing corners to structure above in addition to the safety clips provided with the luminaire.

F. Recessed Luminaires:

- 1. Install trims tight to mounting surface with no visible light leakage.
- 2. Non-IC Rated Luminaires: Maintain required separation from insulation and combustible materials according to listing.
- 3. Luminaires Recessed in Fire-Rated Ceilings: Install using accessories and firestopping materials to meet regulatory requirements for fire rating.

G. Suspended Luminaires:

- 1. Unless otherwise indicated, specified mounting heights are to bottom of luminaire.
- 2. Install using the suspension method indicated, with support lengths and accessories as required for specified mounting height.
- 3. Provide minimum of two supports for each luminaire equal to or exceeding 4 feet in length, with no more than 4 feet between supports.
- 4. Install canopies tight to mounting surface.
- 5. Unless otherwise indicated, support pendants from swivel hangers.

H. Wall-Mounted Luminaires: Unless otherwise indicated, specified mounting heights are to center of luminaire.

I. LED Luminaires as a single continuous fixture with emergency circuit: continuous fixture shall be rated as dual circuit.

J. Verify Maximum Remote wiring distances with manufacturer for remote mounted ballasts and drivers. Where distances exceed physical conditions, notify Engineer prior to release of fixtures for ordering.

### 3.4 FIELD QUALITY CONTROL

- A. See Section 014000 - Quality Requirements, for additional requirements.
- B. Inspect each product for damage and defects.
- C. Operate each luminaire after installation and connection to verify proper operation.

- D. Correct wiring deficiencies and repair or replace damaged or defective products. Repair or replace excessively noisy ballasts as determined by Architect.

### 3.5 ADJUSTING

- A. Aim and position adjustable luminaires to achieve desired illumination as indicated or as directed by Architect. Secure locking fittings in place.

### 3.6 CLEANING

- A. Clean surfaces according to NECA 500 (commercial lighting), NECA 502 (industrial lighting), and manufacturer's instructions to remove dirt, fingerprints, paint, or other foreign material and restore finishes to match original factory finish.

### 3.7 CLOSEOUT ACTIVITIES

- A. See Section 017800 - Closeout Submittals, for closeout submittals.
- B. See Section 017900 - Demonstration and Training, for additional requirements.
- C. Demonstration: Demonstrate proper operation of luminaires to Architect, and correct deficiencies or make adjustments as directed.
- D. Just prior to Substantial Completion, replace all lamps that have failed.

### 3.8 PROTECTION

- A. Protect installed luminaires from subsequent construction operations.

END OF SECTION 265100

# SUPPLEMENTAL STEP LIGHTING AT MAYO CONCERT HALL

FOR THE  
**THE COLLEGE OF NEW JERSEY**  
 2000 PENNINGTON ROAD, EWING NJ 08618



SITE MAP



SITE PLAN

DCA REVIEW NUMBER:



SPIEZE ARCHITECTURAL GROUP, INC  
 1395 YARDVILLE HAMILTON SQUARE ROAD  
 SUITE 2A  
 HAMILTON, NJ 08691  
 Phone: 609.695.7400 Fax: 609.394.2274  
 www.spieze.com

CODE SUBMISSION: 12/15/22  
 BID DATE: 01/20/23

ISSUED FOR CONSTRUCTION

SUPPLEMENTAL STEP  
 LIGHTING AT MAYO CONCERT  
 HALL  
 22U018  
 DRAWING NUMBER:  
 CS.1

3'-0" = 1'-0"  
 1'-0" = 1'-0"  
 3/4" = 1'-0"  
 1/2" = 1'-0"  
 1/4" = 1'-0"  
 1/8" = 1'-0"  
 1/16" = 1'-0"

ABBREVIATIONS	
CJ	CONTROL JOINT
CMU	CONCRETE MASONRY UNIT
CMF	COLD FORMED METAL FRAMING
DN	DOWN
DWG	DRAWING
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EL	ELEVATION
EQ	EQUAL
EJ	EXPANSION JOINT
EWC	ELECTRIC WATER COOLER
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER (BRACKET MOUNTED)
FEC	FIRE EXTINGUISHER CABINET
FT	FOOT or FEET
FRTW	FIRE RETARDANT TREATED WOOD
GALV	GALVANIZED
GSP	GROSS SQUARE FEET
GWB	GYPSUM WALL BOARD
HM	HOLLOW METAL
HP	HIGH POINT
LP	LOW POINT
MAX	MAXIMUM
MIN	MINIMUM
MO	MASONRY OPENING
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NSF	NET SQUARE FEET
OC	ON CENTER
OD	OVERFLOW DRAIN OR OUTSIDE DIAMETER
PTD	PAINT or PAINTED
PTW	PRESSURE TREATED WOOD
PVC	POLYVINYL CHLORIDE
RD	ROOF DRAIN
RENF	REINFORCED OR REINFORCING
RWC	RAIN WATER CONDUCTOR
SF	SQUARE FEET
TOS	TOP OF STEEL
TYP	TYPICAL
VIF	VERIFY IN FIELD

MATERIAL SYMBOLS	
	BATT INSULATION / SOUND ATTENUATION
	BRICK
	CONCRETE
	CONCRETE MASONRY UNIT (CMU)
	EARTH
	FIRE SAFING
	GYPSUM WALL AND/OR CEILING BOARD
	MORTAR NET
	MORTAR / GROUT
	PLYWOOD
	POROUS FILL or SUB-SLAB AGGREGATE
	RIGID INSULATION
	SPRAY FOAM INSULATION
	STEEL
	STONE
	CONTINUOUS WOOD BLOCKING
	WOOD SHIM OR BLOCKING

DRAWING SYMBOLS	
	SIMOPP TAG
	DETAIL NO.
	DRAWING NO.
	SIMOPP TAG
	OPEN HEAD
	SECTION NO.
	DRAWING NO.
	SIMOPP TAG
	CLOSED HEAD
	SECTION NO.
	DRAWING NO.
	EXTERIOR
	INTERIOR
	DETAIL NO.
	DRAWING NO.
	ROOM NAME
	ROOM NUMBER
	GROSS SF
	OCC. #
	COLUMN NUMBER
	REVISION NUMBER
	DOOR NUMBER
	WINDOW TYPE
	PARTITION TYPE
	CURTAIN WALL or STOREFRONT TAG
	DATUM or ELEVATION MARK
	CENTERLINE
	TOILET ACCESSORY TAG
	VIEW REFERENCE

DWG. NO.	TITLE	CURRENT REVISION
GENERAL		
CS.1	COVER	
CS.2	NOTES, ABBREVIATIONS AND LIST OF DRAWINGS	
ELECTRICAL		
E1.0	ELECTRICAL FLOOR PLAN - BASE BID	
E1.1	ELECTRICAL FLOOR PLAN - ALTERNATE BID	

CODE REVIEW:

CERTIFICATE:



SPIEZLE ARCHITECTURAL GROUP INC.  
 1385 YARDVILLE HAMILTON SQUARE ROAD  
 SUITE 2A  
 HAMILTON, NJ 08611  
 PHONE: 609-695-7400

SIGNATURE:

THOMAS S. PERINO	2140195406
SCOTT E. ZONNE	2140195406
STEVEN LEONE	2140119106
STEVEN BEGEL	2140195406
ANGELA ALBERTO	2140195406
JANET WISCHART	2140176400

SPIEZLE ARCHITECTURAL GROUP, INC. 2140200000

SEAL:

CONSULTANTS:

ISSUED FOR CONSTRUCTION

PROJECT:

**SUPPLEMENTAL LIGHTING AT MAYO CONCERT HALL**

2000 PENNINGTON ROAD, EWING NJ 08618

FOR

**THE COLLEGE OF NEW JERSEY**

321 STREET CITY USA 56789

FOR CODE REVIEW: 12/15/22

REVISIONS:	REVISION NAME	DATE
1		

FOR BID: 01/2023

DRAWING TITLE:

**NOTES, ABBREVIATIONS AND LIST OF DRAWINGS**

COMMISSION NUMBER:

**22U018**

DO NOT SCALE THE DRAWINGS

DRAWING NUMBER:

**CS.2**

CODE REVIEW:

CERTIFICATE:



SPIEZZLE ARCHITECTURAL GROUP INC.  
1365 YARDVILLE HAMILTON SQUARE ROAD  
SUITE 2A  
HAMILTON, NJ 08611  
PHONE: 609-695-7400

SIGNATURE:  
THOMAS S. PERRINO 2140190540  
SCOTT E. ZIMME 2140190460  
STEVEN LEONE 2140119106  
STEVEN BEDEL 2140190400  
ANGELA ALBERTO 2140194706  
JAMES F. PROFFER 2140174000  
SPIEZZLE ARCHITECTURAL GROUP, INC. 2140200000

SEAL:

CONSULTANTS:

ISSUED FOR  
CONSTRUCTION

PROJECT:  
**SUPPLEMENTAL STEP  
LIGHTING AT MAYO  
CONCERT HALL**  
  
2000 PENNINGTON ROAD, EWING NJ  
08618  
FOR  
**THE COLLEGE OF NEW  
JERSEY**  
  
321 STREET CITY USA 56789

FOR CODE REVIEW: 12/15/22

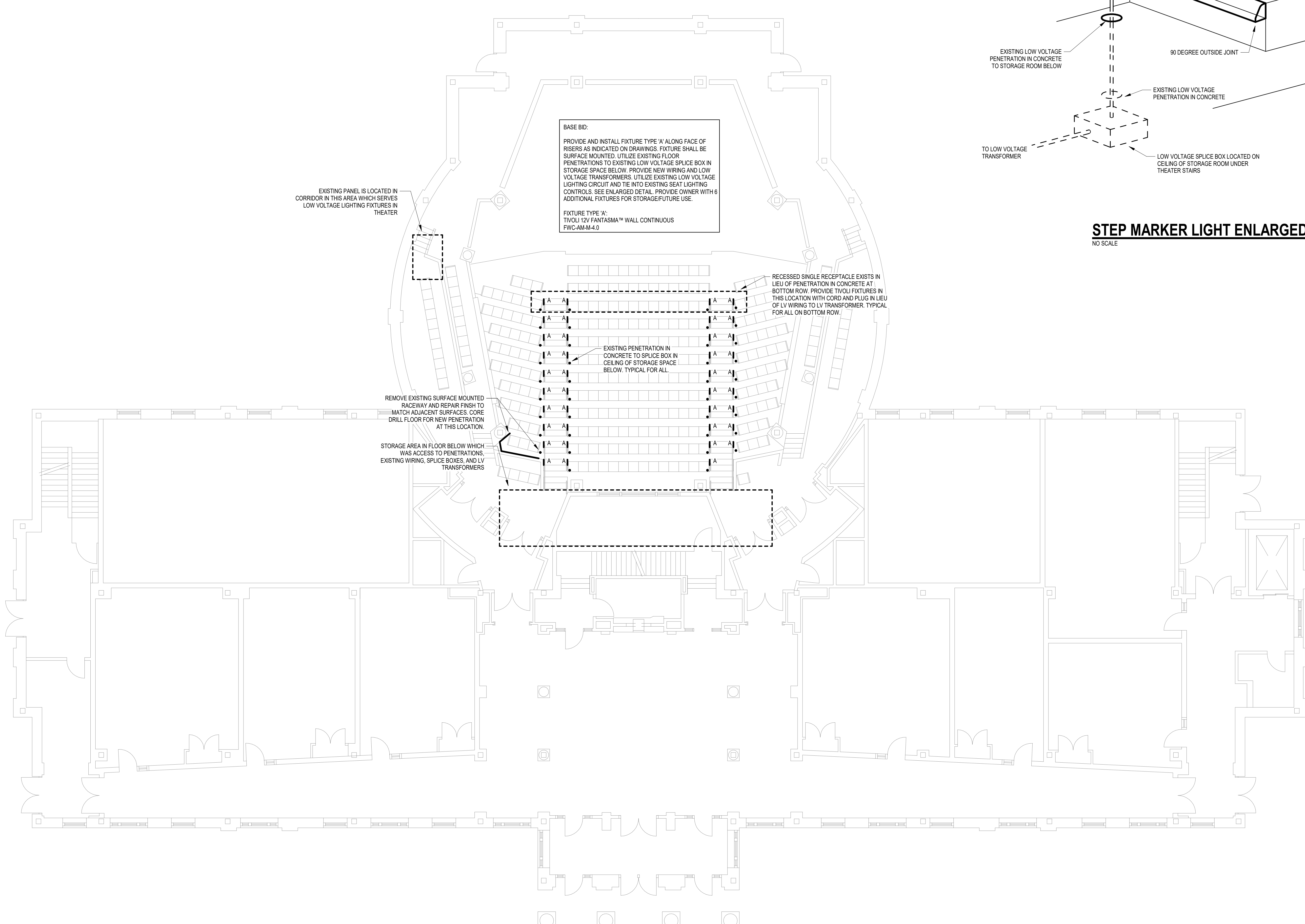
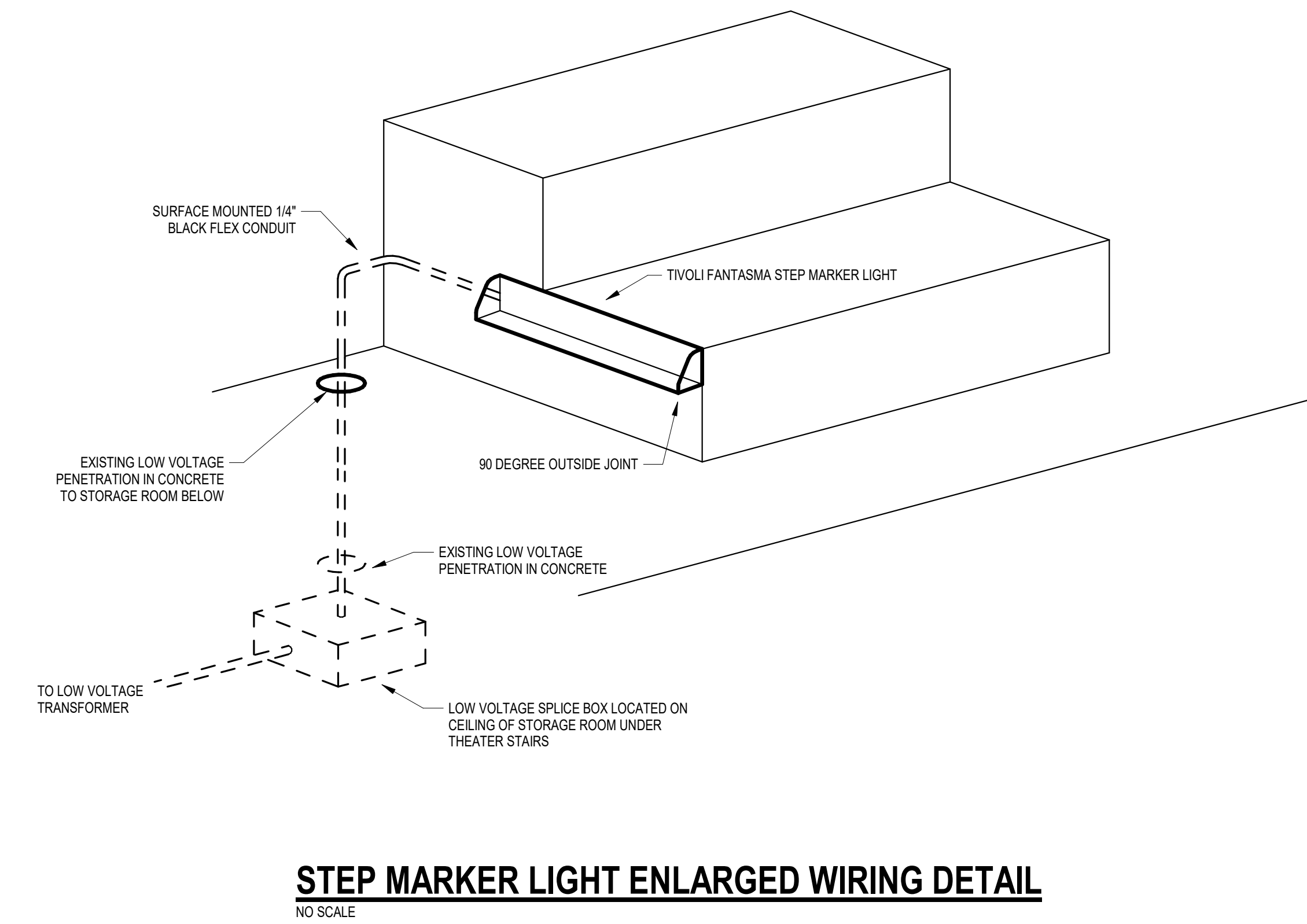
REVISIONS:	REVISION NAME	DATE
1		

FOR BID: 01/2023

DRAWING TITLE:  
**ELECTRICAL FLOOR  
PLAN - BASE BID**

COMMISSION NUMBER:  
**22U018**

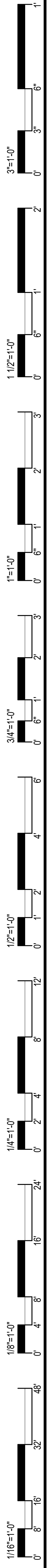
DO NOT SCALE THE DRAWINGS  
DRAWING NUMBER:  
**E1.0**



BASE BID:  
PROVIDE AND INSTALL FIXTURE TYPE 'A' ALONG FACE OF RISERS AS INDICATED ON DRAWINGS. FIXTURE SHALL BE SURFACE MOUNTED. UTILIZE EXISTING FLOOR PENETRATIONS TO EXISTING LOW VOLTAGE SPLICE BOX IN STORAGE SPACE BELOW. PROVIDE NEW WIRING AND LOW VOLTAGE TRANSFORMERS. UTILIZE EXISTING LOW VOLTAGE LIGHTING CIRCUIT AND TIE INTO EXISTING SEAT LIGHTING CONTROLS. SEE ENLARGED DETAIL. PROVIDE OWNER WITH 6 ADDITIONAL FIXTURES FOR STORAGE/FUTURE USE.

FIXTURE TYPE 'A':  
TIVOLI LV FANTASMA™ WALL CONTINUOUS  
FVC-AM-M-4.0

1 01 - FIRST FLOOR PLAN - ELECTRICAL BASE BID  
1/8" = 1'-0"









**TCNJ**

THE COLLEGE OF NEW JERSEY

# Mandatory Documents

<b>FORM #</b>	<b>TITLE OF FORM</b>
1	MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE
2	OWNERSHIP DISCLOSURE FORM
3	NON-COLLUSION STATEMENT
4	TWO-YEAR CHAPTER 51/EXECUTIVE ORDER 117 VENDOR CERTIFICATION AND DISCLOSURE OF POLITICAL CONTRIBUTIONS
5	DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN FORM
6	NON-INVOLVEMENT IN PROHIBITED ACTIVITIES IN RUSSIA OR BELARUS FORM
7	VENDOR QUALIFICATION SHEET



**MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE**  
**N.J.S.A. 10:5-31 et seq. (P.L. 1975, C. 127)**  
**N.J.A.C. 17:27 CONSTRUCTION CONTRACTS**  
**FORM # 1**

The College of New Jersey  
PO Box 7718  
Ewing, NJ 08628-0718

During the performance of this contract, the contractor agrees as follows:

The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, up-grading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

The contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

The contractor or subcontractor will send to each labor union, with which it has a collective bargaining agreement, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The contractor or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer, pursuant to N.J.S.A. 10:5-31 et seq., as amended and supplemented from time to time and the Americans with Disabilities Act.

When hiring or scheduling workers in each construction trade, the contractor or subcontractor agrees to make good faith efforts to employ minority and women workers in each construction trade consistent with the targeted employment goal prescribed by N.J.A.C. 17:27-7.2; provided, however, that the Dept. of LWD, Construction EEO Monitoring Program may, in its discretion, exempt a contractor or subcontractor from compliance with the good faith procedures prescribed by the following provisions, A, B and C, as long as the Dept. of LWD, Construction EEO Monitoring Program is satisfied that the contractor or subcontractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the Dept. of LWD, Construction EEO Monitoring Program, that its percentage of active "card carrying" members who are minority and women workers is equal to or greater than the targeted employment goal established in accordance with N.J.A.C. 17:27-7.2. The contractor or subcontractor agrees that a good faith effort shall include compliance with the following procedures:

(A) If the contractor or subcontractor has a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor shall, within three business days of the contract award, seek assurances from the union that it will cooperate with the contractor or subcontractor as it fulfills its affirmative action obligations under this contract and in accordance with the rules promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et seq., as supplemented and amended from time to time and the Americans with Disabilities Act. If the contractor or subcontractor is unable to obtain said assurances from the construction trade union at least five business days prior to the commencement of construction work, the contractor or subcontractor agrees to afford equal employment opportunities minority and women workers directly, consistent with this chapter. If the contractor's or subcontractor's prior experience with a construction trade union, regardless of whether the union has provided said assurances, indicates a significant possibility that the trade union will not refer sufficient minority and women workers consistent with affording equal employment opportunities as specified in this chapter, the contractor or subcontractor agrees to be prepared to provide such opportunities to minority and women workers directly, consistent with this chapter, by complying with the hiring or scheduling procedures prescribed under (B) below; and

the contractor or subcontractor further agrees to take said action immediately if it determines that the union is not referring minority and women workers consistent with the equal employment opportunity goals set forth in this chapter.

(B) If good faith efforts to meet targeted employment goals have not or cannot be met for each construction trade by adhering to the procedures of (A) above, or if the contractor does not have a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor agrees to take the following actions:

- (1) To notify the public agency compliance officer, the Dept. of LWD, Construction EEO Monitoring Program, and minority and women referral organizations listed by the Division pursuant to N.J.A.C. 17:27-5.3, of its workforce needs, and request referral of minority and women workers;
- (2) To notify any minority and women workers who have been listed with it as awaiting available vacancies;
- (3) Prior to commencement of work, to request that the local construction trade union refer minority and women workers to fill job openings, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade;
- (4) To leave standing requests for additional referral to minority and women workers with the local construction trade union, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade, the State Training and Employment Service and other approved referral sources in the area;
- (5) If it is necessary to lay off some of the workers in a given trade on the construction site, layoffs shall be conducted in compliance with the equal employment opportunity and non-discrimination standards set forth in this regulation, as well as with applicable Federal and State court decisions;
- (6) To adhere to the following procedure when minority and women workers apply or are referred to the contractor or subcontractor:
  - (i) The contractor or subcontractor shall interview the referred minority or women worker.
  - (ii) If said individuals have never previously received any document or certification signifying a level of qualification lower than that required in order to perform the work of the construction trade, the contractor or subcontractor shall in good faith determine the qualifications of such individuals. The contractor or subcontractor shall hire or schedule those individuals who satisfy appropriate qualification standards in conformity with the equal employment opportunity and non-discrimination principles set forth in this chapter. However, a contractor or subcontractor shall determine that the individual at least possesses the requisite skills, and experience recognized by a union, apprentice program or a referral agency, provided the referral agency is acceptable to the Dept. of LWD, Construction EEO Monitoring Program. If necessary, the contractor or subcontractor shall hire or schedule minority and women workers who qualify as trainees pursuant to these rules. All of the requirements, however, are limited by the provisions of (C) below.
  - (iii) The name of any interested women or minority individual shall be maintained on a waiting list, and shall be considered for employment as described in (i) above, whenever vacancies occur. At the request of the Dept. of LWD, Construction EEO Monitoring Program, the contractor or subcontractor shall provide evidence of its good faith efforts to employ women and minorities from the list to fill vacancies.
  - (iv) If, for any reason, said contractor or subcontractor determines that a minority individual or a woman is not qualified or if the individual qualifies as an advanced trainee or apprentice, the contractor or subcontractor shall inform the individual in writing of the reasons for the determination, maintain a copy of the determination in its files, and send a copy to the public agency compliance officer and to the Dept. of LWD, Construction EEO Monitoring Program.
- (3) To keep a complete and accurate record of all requests made for the referral of workers in any trade covered by the contract, on forms made available by the Dept. of LWD, Construction EEO Monitoring Program and submitted promptly to the Dept. of LWD, Construction EEO Monitoring Program upon request.

(C) The contractor or subcontractor agrees that nothing contained in (B) above shall preclude the contractor or subcontractor from complying with the union hiring hall or apprenticeship policies in any applicable collective bargaining agreement or union hiring hall arrangement, and, where required by custom or agreement, it shall send journeymen and trainees to the union for referral, or to the apprenticeship program for admission, pursuant to such agreement or arrangement. However, where the practices of a union or apprenticeship program will result in the exclusion of minorities and women or the failure to refer minorities and women consistent with the targeted county employment goal, the contractor or subcontractor

shall consider for employment persons referred pursuant to (B) above without regard to such agreement or arrangement; provided further, however, that the contractor or subcontractor shall not be required to employ women and minority advanced trainees and trainees in numbers which result in the employment of advanced trainees and trainees as a percentage of the total workforce for the construction trade, which percentage significantly exceeds the apprentice to journey worker ratio specified in the applicable collective bargaining agreement, or in the absence of a collective bargaining agreement, exceeds the ratio established by practice in the area for said construction trade. Also, the contractor or subcontractor agrees that, in implementing the procedures of (B) above, it shall, where applicable, employ minority and women workers residing within the geographical jurisdiction of the union.

After notification of award, but prior to signing a construction contract, the contractor shall submit to the public agency compliance officer and the Dept. of LWD, Construction EEO Monitoring Program an initial project workforce report (Form AA 201) electronically provided to the public agency by the Dept. of LWD, Construction EEO Monitoring Program, through its website, for distribution to and completion by the contractor, in accordance with N.J.A.C. 17:27-7. The contractor also agrees to submit a copy of the Monthly Project Workforce Report once a month thereafter for the duration of this contract to the Division and to the public agency compliance officer.

The contractor agrees to cooperate with the public agency in the payment of budgeted funds, as is necessary, for on-the-job and/or off-the-job programs for outreach and training of minorities and women.

(D) The contractor and its subcontractors shall furnish such reports or other documents to the Dept. of LWD, Construction EEO Monitoring Program as may be requested by the Dept. of LWD, Construction EEO Monitoring Program from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Dept. of LWD, Construction EEO Monitoring Program for conducting a compliance investigation pursuant to **Subchapter 10 of the Administrative Code (NJAC 17:27-1.1 et seq.)**.

## **Additional Mandatory Construction Contract Language For State Agencies, Independent Authorities, Colleges and Universities Only**

The Executive Order No. 151 (Corzine, August 28, 2009) and P.L. 2009, Chapter 335 include a provision which require all state agencies, independent authorities and colleges and universities to include additional mandatory equal employment and affirmative action language in its construction contracts. It is important to note that this language is in addition to and does not re- place the mandatory contract language and good faith efforts requirements for construction con- tracts required by N.J.A.C. 17:27-3.6, 3.7 and 3.8. The additional mandatory equal employment and affirmative action language is as follows:

It is the policy of The College of New Jersey that its contracts should create a work- force that reflects the diversity of the State of New Jersey. Therefore, contractors engaged by The College of New Jersey to perform under a construction contract shall put forth a good faith effort to engage in recruitment and employment practices that further the goal of fostering equal opportunities to minorities and women.

The contractor must demonstrate to The College of New Jersey's satisfaction that a good faith effort was made to ensure that minorities and women have been afforded equal opportunity to gain employment under The College of New Jersey's contract with the contractor. Payment may be withheld from a contractor's con- tract for failure to comply with these provisions.

Evidence of a "good faith effort" includes, but is not limited to:

1. The Contractor shall recruit prospective employees through the State Job bank website, managed by the Department of Labor and Workforce Development, available online at <http://NJ.gov/JobCentralNJ>;
2. The Contractor shall keep specific records of its efforts, including records of all individuals interviewed and hired, including the specific numbers of minorities and women;
3. The Contractor shall actively solicit and shall provide The College of New Jersey with proof of solicitations for employment, including but not limited to advertisements in general circulation media, professional service publications and electronic media; and
4. The Contractor shall provide evidence of efforts described at 2 above to The College of New Jersey no less frequently than once every 12 months.
5. The Contractor shall comply with the requirements set forth at N.J.A.C. 17:27-1.1 et seq.

To ensure successful implementation of the Executive Order and Law, state agencies, independent authorities and colleges and universities must forward an Initial Project Workforce Report (AA 201) for any projects funded with ARRA money to the Dept. of LWD, Construction EEO Monitoring Program immediately upon notification of award but prior to execution of the contract.

**IF AWARDED A CONTRACT YOUR COMPANY/FIRM WILL BE REQUIRED TO COMPLY WITH THE AFFIRMATIVE ACTION REQUIREMENTS LISTED ABOVE.**

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

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

Title: \_\_\_\_\_

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



OWNERSHIP DISCLOSURE FORM # 2

The College of New Jersey PO Box 7718 Ewing, NJ 08628-0718

BID SOLICITATION # AND TITLE: \_\_\_\_\_

VENDOR NAME: \_\_\_\_\_

PURSUANT TO N.J.S.A. 52:25-24.2, ALL PARTIES ENTERING INTO A CONTRACT WITH THE STATE ARE REQUIRED TO PROVIDE A STATEMENT OF OWNERSHIP.

- 1. The vendor is a Non-Profit Entity; and therefore, no disclosure is necessary.
2. The vendor is a Sole Proprietor; and therefore, no other disclosure is necessary. A Sole Proprietor is a person who owns an unincorporated business by himself or her-self. A limited liability company with a single member is not a Sole Proprietor.
3. The vendor is a corporation, partnership, or limited liability company; and therefore, disclosure is necessary.

If you answered YES to Question 3, you must disclose the following information below: (a) the names and addresses of all stockholders in the corporation who own 10% or more of its stock, of any class; (b) all individual partners in the partnership who own a 10% or greater interest therein; or, (c) all members in the limited liability company who own a 10% or greater interest therein.\*

Form with fields: NAME, ADDRESS, ADDRESS, CITY, STATE, ZIP

Form with fields: NAME, ADDRESS, ADDRESS, CITY, STATE, ZIP

Form with fields: NAME, ADDRESS, ADDRESS, CITY, STATE, ZIP

Form with fields: NAME, ADDRESS, ADDRESS, CITY, STATE, ZIP

- 4. For each of the corporations, partnerships, or limited liability companies identified in response to Question #3 above, are there any individuals, partners, members, stockholders, corporations, partnerships, or limited liability companies owning a 10% or greater interest of those listed business entities?

If you answered YES to Question 4, you must disclose the following information below: (a) the names and addresses of all stockholders in the corporation who own 10% or more of its stock, of any class; (b) all individual partners in the partnership who own a 10% or greater interest therein; or, (c) all members in the limited liability company who own a 10% or greater interest therein. The disclosure(s) shall be continued until the names and addresses of every non-corporate stockholder, individual partner, and/or member a 10% or greater interest has been identified.\*

Form with fields: NAME, ADDRESS, ADDRESS, CITY, STATE, ZIP

Form with fields: NAME, ADDRESS, ADDRESS, CITY, STATE, ZIP

Form with fields: NAME, ADDRESS, ADDRESS, CITY, STATE, ZIP

Form with fields: NAME, ADDRESS, ADDRESS, CITY, STATE, ZIP

- 5. As an alternative to completing this form, a Vendor with any direct or indirect parent entity which is publicly traded, may submit the name and address of each publicly traded entity and the name and address of each person that holds a 10% or greater beneficial interest in the publicly traded entity as of the last annual filing with the federal Securities and Exchange Commission or the foreign equivalent, and, if there is any person that holds a 10% or greater beneficial interest, also shall submit links to the websites containing the last annual filings with the federal Securities and Exchange Commission or the foreign equivalent and the relevant page numbers of the filings that contain the information on each person that holds a 10% or greater beneficial interest.\*

Blank lines for providing alternative information.

\* Attach additional sheets if necessary



**NON-COLLUSION STATEMENT  
FORM # 3**

The College of New Jersey  
PO Box 7718  
Ewing, NJ 08628-0718

Date:

\_\_\_\_\_  
The College of New Jersey  
The Office of Finance & Business Services, Purchasing Department  
Administrative Services Building, Room 201  
P.O. Box 7718  
Ewing, New Jersey 08628-0718  
To Whom It May Concern:

This is to certify that the undersigned bidder \_\_\_\_\_ as  
not, either directly or indirectly, entered into any agreement, participated in  
any collusion, or otherwise taken any action in restraint of free competitive  
bidding in connection with the proposal submitted to The College of New  
Jersey on the \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

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

\_\_\_\_\_  
Corporate Seal:

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

Sworn to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

My commission Expires: \_\_\_\_\_

Notary Public

**THIS STATEMENT MUST BE COMPLETED AND SIGNED**





**INFORMATION AND INSTRUCTIONS**  
**For Completing the "Two-Year Vendor Certification and Disclosure of**  
**Political Contributions Chapter 51**  
**FORM # 4**

The College of New Jersey  
PO Box 7718  
Ewing, NJ 08628-0718

**Background Information**

On September 22, 2004, then-Governor James E. McGreevey issued E.O. 134, the purpose of which was to insulate the negotiation and award of State contracts from political contributions that posed a risk of improper influence, purchase of access or the appearance thereof. To this end, E.O. 134 prohibited State departments, agencies and authorities from entering into contracts exceeding \$17,500 with individuals or entities that made certain political contributions. E.O. 134 was superseded by Public Law 2005, c. 51, signed into law on March 22, 2005 ("Chapter 51").

On September 24, 2008, Governor Jon S. Corzine issued E.O. 117 which is designed to enhance New Jersey's efforts to protect the integrity of procurement decisions and increase the public's confidence in government. The Executive Order builds upon the provisions of Chapter 51.

**Two-Year Certification Process**

Upon approval by the State Chapter 51 Review Unit, the Certification and Disclosure of Political Contributions form is valid for a two (2) year period. Thus, if a vendor receives approval on January 1, 2014, the certification expiration date would be December 31, 2015. Any change in the vendor's ownership status and/or political contributions during the two-year period will require the submission of new Chapter 51/Executive Order 117 forms to the State Review Unit. **Please note that it is the vendor's responsibility to file new forms with the State should these changes occur.**

**State Agency Instructions:** Prior to the awarding of a contract, the State Agency should first use NJSTART (<https://www.njstart.gov/bsol>) to check the status of a vendor's Chapter 51 certification before contacting the Review Unit's mailbox at [CD134@treas.nj.gov](mailto:CD134@treas.nj.gov). If the State Agency does not find any Chapter 51 Certification information in NJSTART and/or the vendor is not registered in NJSTART, then the State Agency should send an e-mail to [CD134@treas.nj.gov](mailto:CD134@treas.nj.gov) to verify the certification status of the vendor. If the response is that the vendor is NOT within an approved two-year period, then forms must be obtained from the vendor and forwarded for review. If the response is that the vendor is within an approved two-year period, then the response so stating should be placed with the bid/contract documentation for the subject project.

**Instructions for Completing the Form**

**Part 1: BUSINESS ENTITY INFORMATION**

**Business Name** – Enter the full legal name of the vendor, including trade name if applicable.

**Address, City, State, Zip and Phone Number** -- Enter the vendor's street address, city, state, zip code and telephone number.

**Vendor Email** – Enter the vendor's primary email address.

**Vendor FEIN** – Please enter the vendor's Federal Employment Identification Number.

**Business Type** - Check the appropriate box that represents the vendor's type of business formation.

**Listing of officers, shareholders, partners or members** - Based on the box checked for the business type, provide the corresponding information. (A complete list must be provided.)

## **Part 2: DISCLOSURE OF CONTRIBUTIONS**

Read the three types of political contributions that require disclosure and, if applicable, provide the recipient's information. The definition of "Business Entity/Vendor" and "Contribution" can be found on pages 3 and 4 of this form.

**Name of Recipient** - Enter the full legal name of the recipient.

**Address of Recipient** - Enter the recipient's street address.

**Date of Contribution** - Indicate the date the contribution was given.

**Amount of Contribution** - Enter the dollar amount of the contribution.

**Type of Contribution** - Select the type of contribution from the examples given.

**Contributor's Name** - Enter the full name of the contributor.

**Relationship of the Contributor to the Vendor** - Indicate the relationship of the contributor to the vendor. (e.g. officer or shareholder of the company, partner, member, parent company of the vendor, subsidiary of the vendor, etc.)

**NOTE:** If form is being completed electronically, click "Add a Contribution" to enter additional contributions. Otherwise, please attach additional pages as necessary.

Check the box under the recipient information if no reportable contributions have been solicited or made by the business entity. **This box must be checked if there are no contributions to report.**

## **Part 3: CERTIFICATION**

Check Box A if the representative completing the Certification and Disclosure form is doing so on behalf of the business entity and all individuals and/or entities whose contributions are attributable to the business entity.

**(No additional Certification and Disclosure forms are required if BOX A is checked.)**

Check Box B if the representative completing the Certification and Disclosure form is doing so on behalf of the business entity and all individuals and/or entities whose contributions are attributable to the business entity with the exception of those individuals and/or entities that submit their own separate form. For example, the representative is not signing on behalf of the vice president of a corporation, but all others. The vice president completes a separate Certification and Disclosure form. **(Additional Certification and Disclosure forms are required from those individuals and/or entities that the representative is not signing on behalf of and are included with the business entity's submittal.)**

Check Box C if the representative completing the Certification and Disclosure form is doing so on behalf of the business entity only. **(Additional Certification and Disclosure forms are required from all individuals and/or entities whose contributions are attributable to the business entity and must be included with the business entity submittal.)**

Check Box D when a sole proprietor is completing the Certification and Disclosure form or when an individual or entity whose contributions are attributable to the business entity is completing a separate Certification and Disclosure form.

### **Read the five statements of certification prior to signing.**

The representative authorized to complete the Certification and Disclosure form must sign and print her/his name, title or position and enter the date.

### **State Agency Procedure for Submitting Form(s)**

The State Agency should submit the completed and signed Two-Year Vendor Certification and Disclosure forms either electronically to: [cd134@treas.nj.gov](mailto:cd134@treas.nj.gov) or regular mail at: Chapter 51 Review Unit, P.O. Box 230, 33 West State Street, Trenton, NJ 08625-0230. Original forms should remain with the State Agency and copies should be sent to the Chapter 51 Review Unit.

### **Business Entity Procedure for Submitting Form(s)**

The business entity should return this form to the contracting State Agency.

The business entity can submit the Certification and Disclosure form directly to the Chapter 51 Review Unit only when:

- The business entity is approaching its two-year certification expiration date and is seeking certification renewal;
- The business entity had a change in its ownership structure; OR
- The business entity made any contributions during the period in which its last two-year certification was in effect, or during the term of a contract with a State Agency.

### **Questions & Information**

Questions regarding Public Law 2005, Chapter 51 (N.J.S.A. 19:44A-20.13) or E.O. 117 (2008) may be submitted electronically through the Division of Purchase and Property website at: <https://www.state.nj.us/treas/purchase/eo134questions.shtml>.

Reference materials and forms are posted on the Political Contributions Compliance website at: <http://www.state.nj.us/treasury/purchase/execorder134.shtml>.



Two-Year Chapter 51/Executive Order 117 Vendor Certification and Disclosure of Political Contributions FORM # 4

The College of New Jersey PO Box 7718 Ewing, NJ 08628-0718

FOR STATE USE ONLY

Solicitation, RFP, or Contract No. \_\_\_\_\_ Award Amount \_\_\_\_\_

Description of Services \_\_\_\_\_

State Agency Name \_\_\_\_\_ Contact Person \_\_\_\_\_

Phone Number \_\_\_\_\_ Contact Email \_\_\_\_\_

Check if the Contract / Agreement is Being Funded Using FHWA Funds

Please check if requesting recertification

Part 1: Business Entity Information

Full Legal Business Name \_\_\_\_\_ (Including trade name if applicable)

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Phone \_\_\_\_\_

Vendor Email \_\_\_\_\_ Vendor FEIN (SS# if sole proprietor/natural person) \_\_\_\_\_

Check off the business type and list below the required information for the type of business selected. MUST BE COMPLETED IN FULL

- Corporation: LIST ALL OFFICERS and any 10% and greater shareholder (If the corporation only has one officer, please write "sole officer" after the officer's name.)
Professional Corporation: LIST ALL OFFICERS and ALL SHAREHOLDERS
Partnership: LIST ALL PARTNERS with any equity interest
Limited Liability Company: LIST ALL MEMBERS with any equity interest
Sole Proprietor

Note: "Officers" means President, Vice President with senior management responsibility, Secretary, Treasurer, Chief Executive Officer or Chief Financial Officer of a corporation, or any person routinely performing such functions for a corporation.

Also Note: "N/A will not be accepted as a valid response. Where applicable, indicate "None."

All Officers of a Corporation or PC

10% and greater shareholders of a corporation or all shareholders of a PC

Blank lines for listing officers of a corporation or PC

Blank lines for listing 10% and greater shareholders of a corporation or all shareholders of a PC

All Equity partners of a Partnership

All Equity members of a LLC

Blank lines for listing equity partners of a Partnership

Blank lines for listing equity members of a LLC

If you need additional space for listing of Officers, Shareholders, Partners or Members, please attach separate page.

**Part 2: Disclosure of Contributions by the business entity or any person or entity whose contributions are attributable to the business entity.**

- 1. Report below all contributions solicited or made during the 4 years immediately preceding the commencement of negotiations or submission of a proposal to any:**

Political organization organized under Section 527 of the Internal Revenue Code and which also meets the definition of a continuing political committee as defined in N.J.S.A. 19:44A-3(n)

- 2. Report below all contributions solicited or made during the 5 ½ years immediately preceding the commencement of negotiations or submission of a proposal to any:**

Candidate Committee for or Election Fund of any Gubernatorial or Lieutenant Gubernatorial candidate  
State Political Party Committee  
County Political Party Committee

- 3. Report below all contributions solicited or made during the 18 months immediately preceding the commencement of negotiations or submission of a proposal to any:**

Municipal Political Party Committee  
Legislative Leadership Committee

Full Legal Name of Recipient _____
Address of Recipient _____
Date of Contribution _____ Amount of Contribution _____
Type of Contribution (i.e. currency, check, loan, in-kind) _____
Contributor Name _____
Relationship of Contributor to the Vendor _____
<b>If this form is not being completed electronically, please attach additional contributions on separate page. Click the "Add a Contribution" tab to enter additional contributions.</b>

Remove Contribution

Add a Contribution

**Check this box only if no political contributions have been solicited or made by the business entity or any person or entity whose contributions are attributable to the business entity.**

**Part 3: Certification** (Check one box only)

- (A)  I am certifying on behalf of the business entity and all individuals and/or entities whose contributions are attributable to the business entity as listed on Page 1 under **Part 1: Vendor Information**.
- (B)  I am certifying on behalf of the business entity and all individuals and/or entities whose contributions are attributable to the business entity as listed on Page 1 under **Part 1: Vendor Information**, except for the individuals and/or entities who are submitting separate Certification and Disclosure forms which are included with this submittal.
- (C)  I am certifying on behalf of the business entity only; any remaining persons or entities whose contributions are attributable to the business entity (as listed on Page 1) have completed separate Certification and Disclosure forms which are included with this submittal.
- (D)  I am certifying as an individual or entity whose contributions are attributable to the business entity.

I hereby certify as follows:

- I have read the Information and Instructions accompanying this form prior to completing the certification on behalf of the business entity.**
- All reportable contributions made by or attributable to the business entity have been listed above.**

**3. The business entity has not knowingly solicited or made any contribution of money, pledge of contribution, including in-kind contributions, that would bar the award of a contract to the business entity unless otherwise disclosed above:**

- a) Within the 18 months immediately preceding the commencement of negotiations or submission of a proposal for the contract or agreement to:
  - (i) A candidate committee or election fund of any candidate for the public office of Governor or Lieutenant Governor or to a campaign committee or election fund of holder of public office of Governor or Lieutenant Governor; OR
  - (ii) Any State, County or Municipal political party committee; OR
  - (iii) Any Legislative Leadership committee.
- b) During the term of office of the current Governor or Lieutenant Governor to:
  - (i) A candidate committee or election fund of a holder of the public office of Governor or Lieutenant Governor; OR
  - (ii) Any State or County political party committee of the political party that nominated the sitting Governor or Lieutenant Governor in the last gubernatorial election.
- c) Within the 18 months immediately preceding the last day of the sitting Governor or Lieutenant Governor's first term of office to:
  - (i) A candidate committee or election fund of the incumbent Governor or Lieutenant Governor; OR
  - (ii) Any State or County political party committee of the political party that nominated the sitting Governor or Lieutenant Governor in the last gubernatorial election.

**4. During the term of the contract/agreement the business entity has a continuing responsibility to report, by submitting a new Certification and Disclosure form, any contribution it solicits or makes to:**

- (a) Any candidate committee or election fund of any candidate or holder of the public office of Governor or Lieutenant Governor; OR
- (b) Any State, County or Municipal political party committee; OR
- (c) Any Legislative Leadership committee.

The business entity further acknowledges that contributions solicited or made during the term of the contract/agreement may be determined to be a material breach of the contract/agreement.

**5. During the two-year certification period the business entity will report any changes in its ownership structure (including the appointment of an officer within a corporation) by submitting a new Certification and Disclosure form indicating the new owner(s) and reporting said owner(s) contributions.**

I certify that the foregoing statements in Parts 1, 2 and 3 are true. I am aware that if any of the statements are willfully false, I may be subject to punishment.

Signed Name \_\_\_\_\_ Print Name \_\_\_\_\_

Title/Position \_\_\_\_\_ Date \_\_\_\_\_

**Procedure for Submitting Form(s)**

**The contracting State Agency should submit this form to the Chapter 51 Review Unit** when it has been required as part of a contracting process. The contracting State Agency should submit a copy of the completed and signed form(s), to the Chapter 51 Unit and retain the original for their records.

**The business entity should return this form to the contracting State Agency.** The business entity can submit this form directly to the Chapter 51 Review Unit only when it -

- Is approaching its two-year certification expiration date and wishes to renew certification;
- Had a change in its ownership structure; OR
- Made any contributions during the period in which its last two-year certification was in effect, or during the term of a contract with a State Agency.

**Forms should be submitted either electronically to: [cd134@treas.nj.gov](mailto:cd134@treas.nj.gov) , or regular mail at: Chapter 51 Review Unit, P.O. Box 230, 33 West State Street, Trenton, NJ 08625.**



DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN

FORM # 5

The College of New Jersey
PO Box 7718
Ewing, NJ 08628-0718

BID SOLICITATION # AND TITLE: \_\_\_\_\_

VENDOR NAME: \_\_\_\_\_

Pursuant to N.J.S.A. 52:32-57, et seq. (P.L. 2012, c.25 and P.L. 2021, c.4) any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must certify that neither the person nor entity, nor any of its parents, subsidiaries, or affiliates, is identified on the New Jersey Department of the Treasury's Chapter 25 List as a person or entity engaged in investment activities in Iran.

CHECK THE APPROPRIATE BOX

[ ] I certify, pursuant to N.J.S.A. 52:32-57, et seq. (P.L. 2012, c.25 and P.L. 2021, c.4), that neither the Vendor/Bidder listed above nor any of its parents, subsidiaries, or affiliates is listed on the New Jersey Department of the Treasury's Chapter 25 List of entities determined to be engaged in prohibited activities in Iran.

OR

[ ] I am unable to certify as above because the Vendor/Bidder and/or one or more of its parents, subsidiaries, or affiliates is listed on the New Jersey Department of the Treasury's Chapter 25 List. I will provide a detailed, accurate and precise description of the activities of the Vendor/Bidder, or one of its parents, subsidiaries or affiliates, has engaged in regarding investment activities in Iran by completing the information requested below.

Entity Engaged in Investment Activities
Relationship to Vendor/ Bidder
Description of Activities
Duration of Engagement
Anticipated Cessation Date

\*Attach Additional Sheets If Necessary.

CERTIFICATION

I, the undersigned, certify that I am authorized to execute this certification on behalf of the Vendor, that the foregoing information and any attachments hereto, to the best of my knowledge are true and complete. I acknowledge that the State of New Jersey is relying on the information contained herein, and that the Vendor is under a continuing obligation from the date of this certification through the completion of any contract(s) with the State to notify the State in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification. If I do so, I may be subject to criminal prosecution under the law, and it will constitute a material breach of my contract(s) with the State, permitting the State to declare any contract(s) resulting from this certification void and unenforceable.

Signature

Date

Print Name and Title



CERTIFICATION OF NON-INVOLVEMENT IN PROHIBITED ACTIVITIES  
IN RUSSIA OR BELARUS PURSUANT TO P.L.2022, c.3  
FORM # 6

The College of New Jersey  
PO Box 7718  
Ewing, NJ 08628-0718

BID SOLICITATION TITLE \_\_\_\_\_

BID SOLICITATION No. \_\_\_\_\_

**CHECK THE APPROPRIATE BOX**

I, the undersigned, am authorized by the person or entity seeking to enter into or renew the contract identified above, to certify that the Vendor/Bidder is not engaged in prohibited activities in Russia or Belarus as such term is defined in [P.L.2022, c.3](#),<sup>1</sup> section 1.e, except as permitted by federal law.

I understand that if this statement is willfully false, I may be subject to penalty, as set forth in P.L.2022, c.3, section 1.d.

**OR**

I, the undersigned am unable to certify above because the person or entity seeking to enter into or renew the contract identified above, or one of its parents, subsidiaries, or affiliates may have engaged in prohibited activities in Russia or Belarus. A detailed, accurate and precise description of the activities is provided below.

Failure to provide such description will result in the Bid being rendered as non-responsive, and the Department/Division will not be permitted to contract with such person or entity, and if a Bid is accepted or contract is entered into without delivery of the certification, appropriate penalties, fines and/or sanctions will be assessed as provided by law.

**Description of Prohibited Activity**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*Attach Additional Sheets If Necessary.*

If you certify that the bidder is engaged in activities prohibited by P.L. 2022, c. 3, the bidder shall have 90 days to cease engaging in any prohibited activities and on or before the 90<sup>th</sup> day after this certification, shall provide an updated certification. If the bidder does not provide the updated certification or at that time cannot certify on behalf of the entity that it is not engaged in prohibited activities, the College shall not award the business entity any contracts, renew any contracts, and shall be required to terminate any contract(s) the business entity holds with the College that were issued on or after the effective date of P.L. 2022, c. 3.

\_\_\_\_\_  
Signature of Vendor's Authorized Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print Name and Title of Vendor's Authorized Representative

\_\_\_\_\_  
Vendor Name

\_\_\_\_\_  
Vendor Phone Number

\_\_\_\_\_  
Vendor Address (Street Address)

\_\_\_\_\_  
Vendor Fax Number

\_\_\_\_\_  
Vendor Address (City/State/Zip Code)

\_\_\_\_\_  
Vendor Email Address for Authorized Representative

<sup>1</sup> Engaged in prohibited activities in Russia or Belarus" means (1) companies in which the Government of Russia or Belarus has any direct equity share; (2) having any business operations commencing after the effective date of this act that involve contracts with or the provision of goods or services to the Government of Russia or Belarus; (3) being headquartered in Russia or having its principal place of business in Russia or Belarus, or (4) supporting, assisting or facilitating the Government of Russia or Belarus in their campaigns to invade the sovereign country of Ukraine, either through in-kind support or for profit.





VENDOR QUALIFICATION SHEET
FORM # 7

The College of New Jersey
PO Box 7718
Ewing, NJ 08628-0718

Vendors are required to submit evidence of qualifications to meet all requirements as required by the Office of Finance & Business Services at The College of New Jersey by providing the information listed below. Vendors must comply with the College's terms and conditions available on the Purchasing website.

If this information is being requested as part of an RFP or RFQ, vendors may be requested to furnish additional information for clarification purposes. This will in no way change the vendor's original proposal.

All vendors are encouraged to register with the State of New Jersey, Division of Purchase and Property via NJSTART.

TO BE COMPLETED BY VENDOR

1. Please list the types of commodities that your company can provide.

- A.
B.
C.

2. The number of years your firm has been providing these services. Year(s)

3. Location of vendor's office and personnel that will be responsible for managing contract/service:

Name:
Title:
Telephone Number:
Email Address:
Street Address:
City/State/Zip:
Federal Identification Number:

4. Does your firm have a New Jersey Business Registration Certificate? Yes No
If yes, please attach a copy of the certificate. If you would like to register, visit the State website here.

5. Is your firm registered under any of the following categories in the State of New Jersey? If yes, please attach a copy of the certificate or certification statement from the New Jersey Division of Revenue and Enterprise Services. If no and you would like to register, please contact the New Jersey Division of Revenue and Enterprise Services at 609-292-2146.

Small Business Enterprise (SBE): Yes No
Women-Owned Business Enterprise (WBE): Yes No
Minority-Owned Business Enterprise (MBE): Yes No
Veteran-Owned Business (VOB): Yes No
Disabled Veteran-Owned Business (DVOB): Yes No

**VENDOR QUALIFICATIONS- continued**

Under NJ Executive Order 34, TCNJ is responsible for soliciting demographic, ethnic, and gender information from its vendors. Your response, however, is **strictly voluntary**. Please be advised that any contracting decisions made by TCNJ will **not** be influenced in any way by your decision to provide the above information. TCNJ is required to seek the following information from each firm under contract with us:

1. Is more than fifty percent (50%) of your company minority owned (African-American, Hispanic, Asian, and/or Native American) Yes  No
2. Is more than fifty percent (50%) of your company woman owned? Yes  No
3. What is the ethnicity of the owner of your company: (check applicable according to 51% ownership)

- Asian American
- Multiple Ethnicities
- Non-Minority
- Hispanic American
- African American
- Caucasian American Female
- Native American
- Unspecified

11. Please provide a list of former or present clients. Also, indicate the name of a contact person and telephone number for reference purposes. **Any personnel from The College of New Jersey listed as a reference will not be considered a valid reference.**

A. Client Name: \_\_\_\_\_

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

Telephone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

B. Client Name: \_\_\_\_\_

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

Telephone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

C. Client Name: \_\_\_\_\_

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

Telephone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

**VENDOR QUALIFICATIONS- continued**

12. Please answer the questions below related to your prior experience. If any of the responses are yes, attach a summary of details on a separate sheet.

Has the bidder:

- a. been found, through either court adjudication, arbitration, mediation, or other contractually stipulated alternate dispute resolution mechanism, to have: failed to provide or perform goods or services; or failed to complete the contract in a timely manner; or otherwise performed unsatisfactorily under a prior contract with the contracting unit? Yes  No
  
- b. defaulted on a contract, thereby requiring the local unit to utilize the services of another contractor to provide the goods or perform the services or to correct or complete the contract or requiring the local unit to look to the bidder's surety for completion of the contract or tender of the costs of completion? Yes  No
  
- c. been debarred or suspended from contracting with any of the agencies or departments of the executive branch of the State of New Jersey at the time of contract award, whether or not the action was based on experience with the contracting unit. Yes  No

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

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

Title: \_\_\_\_\_

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



## CONTRACT FOR CONSTRUCTION

This AGREEMENT is entered into as of the \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, between

The College:           The College of New Jersey (“TCNJ” or the “College”)  
PO Box 7718  
2000 Pennington Road  
Ewing, New Jersey 08628-0718

and

the Contractor:       \_\_\_\_\_ (the “Contractor”)  
\_\_\_\_\_  
\_\_\_\_\_

in connection with

the Project:           [ Mayo Concert Hall Step Lighting ] (the “Project”)

The Architect:        SPIEZLE ARCHITECTURAL GROUP, INC.  
1395 YARDVILLE-HAMILTON SQUARE ROAD SUITE 2A  
HAMILTON, NEW JERSEY 08691

### **ARTICLE 1**

#### **EMPLOYMENT OF THE CONTRACTOR/THE PROJECT DESCRIPTION**

**1.1**     The College employs the Contractor and the Contractor agrees to perform the construction for the Project identified above. The Project is described in more detail in the College’s Plans and Specifications prepared by the Architect.

### **ARTICLE 2**

#### **THE CONTRACT DOCUMENTS**

**2.1**     The Contract Documents consist of this Contract for Construction and the Exhibits attached hereto (“Contract for Construction”), the General Conditions of the Contract for Construction (the “General Conditions”) (and any other General, Supplementary and other Conditions), the Plans and Specifications, and also the following documents:

- (a) The Contractor's Bid excluding limitations and qualifications unless such limitation or qualification is specifically accepted in writing by the College;
- (c) Addenda and Clarifications issued before the bid due date;
- (d) The Project Bidding Schedule; and
- (e) Modifications issued after execution of this Contract for Construction.

These documents all form the "Contract," and are as fully a part of this Contract as if attached hereto or repeated herein. This Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral.

### **ARTICLE 3** **SCOPE OF WORK**

**3.1** The Contractor shall fully perform the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others. The Contractor shall assume full responsibility for constructing and completing the Project and all the Work, including providing all labor, Subcontractors, materials, equipment, and services reasonably inferable from the Contract Documents and all applicable laws, codes and professional standards, and providing all supervision, management, and scheduling required in the General Conditions and as noted throughout the Contract Documents.

### **ARTICLE 4** **CONTRACT TIMES**

**4.1 TIME OF THE ESSENCE.** All dates and durations specified in this Contract, including the Construction Start Date(s), any Milestones Dates, any Substantial Completion Date(s) and any Final Completion Date(s) (collectively, "Contract Times") are agreed to be of the essence.

**4.2 CONSTRUCTION START.** The Work shall start no later than ten (10) calendar days after the College issues a Notice to Proceed to the Contractor ("Construction Start Date"). If the Work is to be performed in phases, the College may issue a separate Notice to Proceed with respect to each phase (e.g., Phase 1 Notice to Proceed, Phase 2 Notice to Proceed, etc.) thereby establishing different Construction Start Dates for each phase (e.g., Phase 1 Construction Start Date, Phase 2 Construction Start Date, etc.). The College may, in its sole discretion and at no cost to the College, choose to delay the issuance of a Notice to Proceed and the Construction Start Date for any phase until after the Contractor has achieved Substantial or Final Completion of any other phase.

**4.3 MILESTONES.** The construction tasks or activities shall be completed within the number of calendar days after the Construction Start Date as set forth in the Notice to Proceed ("Milestone Dates"). If the Work is to be performed in phases, each phase may have

separate Milestone Dates (e.g., Phase 1 Milestone Dates, Phase 2 Milestone Dates, etc.), which dates shall be set forth in the Notice to Proceed for that phase.

**4.4 SUBSTANTIAL COMPLETION.** The Contractor shall diligently prosecute the Work and shall achieve Substantial Completion of the entire Work as set forth in the Notice to Proceed (“Substantial Completion Date”). If the Work is to be performed in phases, each phase may have a separate Substantial Completion Date (e.g., Phase 1 Substantial Completion Date, Phase 2 Substantial Completion Date, etc.), which date shall be set forth in the Notice to Proceed for that phase. The definition and requirements of Substantial Completion are set forth in the General Conditions. The Substantial Completion Date(s) shall only be changed by a written change order.

**4.5 FINAL COMPLETION.** The Contractor shall achieve Final Completion of the entire Work as set forth in the Notice to Proceed (“Final Completion Date”). If the Work is to be performed in phases, each phase may have a separate Final Completion Date (e.g., Phase 1 Final Completion Date, Phase 2 Final Completion Date, etc.), which date shall be set forth in the Notice to Proceed for that phase. The requirements for Final Completion are defined in the General Conditions as well as the Specifications of the Project. The Final Completion Date(s) shall only be changed by written change order.

**4.6 LIQUIDATED DAMAGES FOR DELAY.** If the Contractor fails to achieve Substantial Completion of a phase of the Work or of the entire Work by the Substantial Completion Date(s) set forth in the applicable Notice to Proceed (as extended by Change Order, if applicable), and the delay is not excused by the College, then the Contractor shall pay the College the following amounts as liquidated damages for delay (“Liquidated Damages”) for each calendar day that the phase of the Work or the entire Work is not substantially completed beyond the applicable Substantial Completion Date:

\$ 1/20th of 1% per calendar day.

The College and the Contractor agree that the actual loss to the College from construction delays and the inability to use the Project or any phase of the Project in a substantially completed state are for the most part difficult to quantify, and that the foregoing Liquidated Damages formula results in damages amounts that are a reasonable estimate of the damage to the College for not being able to use the Project in a substantially completed state and are not penalties and are not intended to be penalties. The College may deduct Liquidated Damages from payments due under this Contract, but its failure to withhold Liquidated Damages or to assert a claim for Liquidated Damages shall not be deemed a waiver of the College’s right to withhold or to assert a claim for damages for any delay that occurs at any time on the Project.

**ARTICLE 5**  
**CONTRACT PRICE**

**5.1 CONTRACT PRICE.** The Contractor shall be paid \$\_\_\_\_\_ for the complete performance of this Contract, which was proposed by the Contractor in its bid and accepted by the College (the "Contract Price"). The Contractor shall be entitled to additional compensation for authorized changes which include the cost of the changes and mark-ups included in change orders approved in writing by the College in accordance with the change order provision set forth in the General Conditions.

**5.2 ALTERNATES.** The Contract Price is based upon and includes the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the College:

[\_\_\_\_\_]

**5.3 UNIT PRICES.** The Contract Price is based upon and includes the following unit prices, if any, which are described in the Contract Documents:

[\_\_\_\_\_]

**5.4 ALLOWANCES.** The Contract Price is based upon and includes the following allowances, if any, which are described in the Contract Documents:

[\_\_\_\_\_]

**ARTICLE 6**  
**PAYMENTS TO THE CONTRACTOR**

**6.1 PAYMENT.** The Contractor will be paid by the College in accordance with this Article and the payment provision in the General Conditions.

**6.2 MONTHLY PROGRESS PAYMENTS.** The College will make progress payments as the Work proceeds based on written invoices submitted monthly by the Contractor and approved by the Architect and the College. No payments will be made until the Contractor submits a unit schedule break down showing the portions of the total Contract Price for each principal category of Work and value loaded CPM schedule allocating the Contract Price among the schedule activities. Monthly progress payment amounts shall be based on the percentages of the Work completed as of the end of the pay period (less earlier payments). All payment requests or invoices and all payments shall be governed by the payment provision of the General Conditions as well as any special requirements of this Contract, including the requirement that progress payments shall be based on a unit schedule breakdown and a value loaded CPM schedule.

**6.3 RETAINAGE.** The College will retain 2% of the amount due on each progress payment pending Final Completion of the Work. The holding and release of retainage shall be governed by the payment provision of the General Conditions.

**6.4 CHANGE ORDERS.** The Contractor shall invoice for change order work in the monthly progress payment invoices as the change order work is performed, but only after a written change order and TCNJ issued Purchase Order has been signed by the College. Changes in the Work shall be governed by the change order provision of the General Conditions.

**6.5 FINAL PAYMENT.** Upon final completion of all Work included in the Contract Documents including all change orders, acceptance of the Work by the Architect and the College, the satisfactory completion of all of the requirements in the General Conditions for final completion, and the issuance of the Certificate of Final Completion, the Contractor will be paid the fully adjusted Contract Price including any retainage withheld (less earlier payments). The invoice for final payment and final payment shall also be subject to the payment provision of the General Conditions and any special requirements of this Contract.

**6.6 PAYMENT TERMS.** All invoices and payments shall also be subject to the General Conditions, including the provisions regarding payments, to the right of the College to withhold payments or to make deductions from payments, and to the Prevailing Wage Act requirements set forth in the General Conditions. The College will pay proper final invoices within thirty (30) days of their submission to the College with the approval of the Architect.

**6.7 SUBMISSION OF INVOICES.** Prior to the submission of the invoice, the Contractor will submit to the College and the Architect, in draft form, a “pencil copy” of the monthly invoice for review and approval setting forth each line item for which the Contractor intends to request payment in that invoice based on the claimed percent completed for that line item. Upon receipt of said “pencil copy”, the College and the Architect shall observe the Work in place and, on the basis of such observations, will either approve the amounts requested or modify the Contractor’s request, based on the College’s independent assessment of the Work in place. The College will then return the pencil copy invoice to the Contractor for the Contractor to then adjust and submit the final invoice with the agreed to percentages completed per line item to the College for payment. No invoice shall be submitted for payment until all amounts and completion percentages have been determined in this manner.

**6.8 PROMPT PAYMENT ACT.** For the purposes of the State’s Prompt Payment Act, N.J.S.A. 2A:30A-1, et seq.:

(a) An invoice will be deemed to have been received when it is received by the College at the address designated in the pre-construction conference for receipt of the invoices.

(b) The “billing date” as that term is used in N.J.S.A. 2A:30A-2 shall be the earlier of the date upon which an invoice for payment is approved for payment or 20 days after the invoice is received, unless within such 20 day period the invoice is found to be incomplete or



otherwise unacceptable and returned to the Contractor, with a written explanation of deficiencies, the amount withheld and the reasons for withholding payment.

(c) In the event that an invoice is found to be deficient and returned to the Contractor, the “billing date” shall be calculated from the date that a corrected invoice is received.

(d) Payment shall be considered to have been made on the date on which a check for such payment is dated.

(e) Payment terms (e.g., “net 20”) offered by the Contractor shall not govern the College’s obligation to make payment.

(f) The following periods of time will not be included in the calculation of the due date of the Contractor’s invoice:

(i) Any time elapsed between receipt of an improper invoice and its return to the Contractor, not to exceed 20 calendar days; or

(ii) Any time elapsed between the College’s return of an improper invoice to the Contractor and the College’s receipt of a corrected invoice.

If the State’s Prompt Payment Act is amended, or the language stated herein is inconsistent with the language contained in the State’s Prompt Payment Act, the language of the State’s Prompt Payment Act shall control.

**6.9 LIMITATIONS ON APPLICABILITY.** The provisions of this Article shall not govern the College’s payment obligations nor shall they supersede or modify any other contractual provision allowing the withholding of monies from the Contractor to the extent that the Contractor has not performed in accordance with the provisions of the Contract Documents. This Article also shall not govern the College’s payment obligations nor supersede or modify any other contractual provision governing the Contractor claims for additional compensation beyond the base Contract Price and approved change orders.

**6.10 INTEREST.** Interest shall be payable on amounts due the Contractor if not paid within thirty (30) calendar days after the billing date specified above, as provided under the State’s Prompt Payment Act, N.J.S.A. 2A:30A-1, et seq. Interest on amounts due shall be payable to the Contractor for the period beginning on the day after the required payment date and ending on the date on which the check for payment is drawn. Interest may be paid by separate payment to the Contractor, but shall be paid within 30 days of payment of the principal amount of the approved invoice. Nothing in this Article shall be construed as entitling the Contractor to payment of interest on any sum withheld by the College for any reason permitted under the Contract Documents or applicable law, or on any claim for additional compensation, over and above sums due under the base Contract Price or approved change orders.

**ARTICLE 7**  
**DISPUTE RESOLUTION**

**7.1** If a dispute or claim arises out of or relates to this Contract, or the breach thereof, and if the dispute cannot be settled through negotiation, the method for resolution of such dispute or claim shall be as provided in the dispute resolution provision of the General Conditions.

**ARTICLE 8**  
**TERMINATION OR SUSPENSION**

**8.1** This Contract may be terminated by the College as provided in the termination and suspension provision in the General Conditions.

**8.2** The Work may be suspended by the College or the Contractor as provided in termination and suspension provision in the General Conditions.

**ARTICLE 9**  
**INSURANCE AND BONDS**

**9.1 CONTRACTOR'S INSURANCE.** The Contractor shall purchase and maintain insurance as set forth in the insurance and bonds provision of the General Conditions. To the extent the Contractor shall be required to purchase and maintain additional insurance or insurance that differs from that set forth in the General Conditions, such requirements are set forth below:

[\_\_\_\_\_]

**9.2 SUBCONTRACTOR'S INSURANCE.** The Contractor shall ensure that its Subcontractors purchase and maintain insurance as set forth in the insurance and bond provision of the General Conditions.

**9.3 PAYMENT AND PERFORMANCE BOND.** The Contractor shall furnish the College with a payment bond and a performance bond as set forth in the insurance and bond provision of the General Conditions.

**ARTICLE 10**  
**OTHER PROVISIONS**

**10.1 CONTRACTOR REPRESENTATIONS.** The Contractor represents to the College that it has:

(a) **Examination of the Contract Documents.** Examined and carefully studied the Contract Documents and the other documents in the bid documents, and that they are sufficient for performing the Work at the Contract Price.

(b) **Examination of Site.** Visited the site and become familiar with and is satisfied as to the general, local and site conditions that may affect the cost, progress, and performance of the Work.

(c) **Familiarity with Law.** Familiarized itself with all federal, state, and local laws and regulations that may affect the cost, progress, and performance of the Work.

(d) **Familiarity with Other Information and Other Documents.** Carefully studied all reports of investigations and tests of the site and subsurface conditions at or contiguous to the site and all drawings of physical conditions at the site including surface or subsurface composition, water, structures and utilities at or near to the site.

(e) **Additional Information Not Required for Bidding or Contract Performance.** Does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price.

**10.2 ASSIGNMENT OF CONTRACT.** The Contractor may not assign this Contract or any rights under or interests in this Contract including its right to payments under this Contract.

**10.3 CONTRACTOR PERSONNEL ASSIGNED.** The Contractor's team for this Project shall consist of the following personnel, who shall not be reassigned without the College's prior written consent:

<u>Name</u>	<u>Position</u>
_____	<u>Project Executive</u>
_____	<u>Project Manager</u>
_____	<u>Project Superintendent</u>
_____	<u>Project Scheduler</u>

The College reserves the right to request and have any member of the Contractor's or Subcontractor's staff replaced on the Project for any non-discriminatory reason.

**10.4 NOTIFICATIONS/AUTHORIZED REPRESENTATIVE.** All Notices required under this Contract shall be in writing, signed by the party giving same, and shall be deemed properly given only if hand delivered, sent by reputable overnight courier, or by registered or certified U.S. mail, return receipt requested, postage pre-paid and addressed as provided below.

**Notice to the Contractor/Contractor's Representative.** Written notices from the College and/or the Architect to the Contractor should be addressed to the Contractor's Representative:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Attn: \_\_\_\_\_

**Notice to the College/College's Representative:** Written notices from the Contractor to the College should be addressed to the College's Representative:

The College of New Jersey  
PO Box 7718,  
Ewing, New Jersey 08628  
Attn: \_\_\_\_\_

with a copy to the College's General Counsel as follows:

Thomas Mahoney, Esq.  
Vice President and General Counsel  
The College of New Jersey  
PO Box 7718  
Ewing, NJ 08628-0718

The College's Contracting Officer hereby authorizes the College's Representative to receive all Contract related correspondence.

**Notice to the Architect:** Written notices from the Contractor to the Architect should be addressed to:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Attn: \_\_\_\_\_

Neither the College's nor the Contractor's Authorized Representatives shall be changed without 7 days' written notice to the other party.

**10.5 CONTRACT TERMS, CHANGES, AND LAW.** This Contract constitutes the entire agreement between the College and the Contractor, and it shall be governed by the law of the State of New Jersey. The terms and conditions of this Contract may not be changed except by a writing signed by the Contractor and the College.

**10.6 COUNTERPARTS AND SIGNATURES.** This Contract may be executed in counterparts. All executed counterparts shall constitute one contract, and each counterpart shall be deemed an original. The parties hereby acknowledge and agree that facsimile signatures or signatures transmitted by electronic mail in so-called “pdf” format shall be legal and binding and shall have the same full force and effect as if an original of this Contract had been delivered. The College and the Contractor (1) intend to be bound by the signatures on any document sent by facsimile or electronic mail, (2) are aware that the other party will rely on such signatures, and (3) hereby waive any defenses to the enforcement of the terms of this Contract based on the foregoing forms of signature.

**10.7 NO IMPLIED COVENANTS OR WARRANTIES.** The Contractor acknowledges that there are no implied covenants or warranties from the College under this Contract.

**10.8 SEVERABILITY.** If any term or provision of the Contract Documents are to any extent held invalid or unenforceable, and if the provisions of the Contract Documents that are essential to each party’s interests otherwise remain valid and enforceable, then (i) the remaining terms and provisions in the Contract Documents will not be affected thereby, (ii) each term and provision of the Contract Documents will be valid and enforceable to the fullest extent permitted by law, and (iii) the court/arbitrator(s) will give the offending provision the fullest meaning and effect permitted by law.

**10.9 HEADINGS.** The headings used in this Contract are for convenience and reference only, and are not part of this Contract, and do not in any way control, define, limit or add to the terms and conditions hereof.

**10.10 INTERPRETATION/RULES OF CONSTRUCTION.** The parties acknowledge that each party, and if it so chooses, its counsel, have reviewed and revised this Contract and that the normal rule of construction to the effect that any ambiguities be resolved in favor of the non-drafting party shall not be employed in the interpretation of this Contract or any amendments or exhibits thereto.

**THE COLLEGE OF NEW JERSEY**

By \_\_\_\_\_  
William Rudeau,  
Director of Construction

By \_\_\_\_\_  
Valarie McDuffie,  
Interim Treasurer

Date \_\_\_\_\_

Date \_\_\_\_\_

By \_\_\_\_\_  
Sharon Blanton,  
Vice President for Operations

Date \_\_\_\_\_

By \_\_\_\_\_  
Anup Kapur,  
Executive Director of Procurement

Date \_\_\_\_\_

By \_\_\_\_\_  
Dave McNamara,  
Associate Vice President for Facilities Management

Date \_\_\_\_\_

**CONTRACTOR:**

By \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_



GENERAL CONDITIONS  
OF THE  
CONTRACT FOR CONSTRUCTION

Last Revised May 2021

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**ARTICLE 1**  
**CONTRACT DOCUMENTS, INTERPRETATION, INFORMATION FOR BIDDERS,  
CLAIMS BASED ON BID AND CONTRACT DOCUMENTS**

**1.1 Definitions.**

Terms defined in the Contract for Construction shall have the meaning provided therein. Definitions for the purpose of these General Conditions include the following:

Addendum: A document issued to bidders by the College prior to the bid due date which supplements, revises or modifies the bid solicitation documents furnished for bidding purposes, and which must be identified and included in bids for the Contract.

Architect: The Architect (A/E) engaged by the College to design the Project, to prepare the design documents and assist with bid documents, and may administer the Contract and act as the agent of the College as described in the Contract.

Bulletin: A document prepared by the Architect describing proposed changes or additions to the Work in the Contract Documents that is issued after Contract award. If the College decides to implement the change, it will provide the bulletin to the Contractor and ask it to submit a change order proposal or request (in accordance with the change order provisions in the Contract for Construction, these General Conditions and other sections of the bidding documents).

Change Order Proposal or Change Order Request: A written proposal or request submitted by the Contractor in accordance with the change order provision of the Contract for Construction, these General Conditions and other sections of the bidding documents, including proposals submitted in response to Contract Change Directives, which proposes cost, time and other terms under which the Contractor will perform changed work under the Contract. If accepted by the College, a written change order signed by the Vice President for Administration and a TCNJ Purchase Order signed by the Contracting Officer of the College, and if accepted by the Contractor in writing, it will become part of the Contract as a change order.

The College's Representative: The College's Representative is a person or persons designated by the College to act on its behalf in administering the Contract for the College. The College's Representative may include the Director of Campus Construction, the Project Manager or an independent construction manager working for the Office of Campus Construction.

College Site Superintendent: The College Site Superintendent is a person or persons designated by the College to witness, observe, record and report on activities in and around the construction site. The Site Superintendent does not have the authority to stop or change the scope of the Work of the Contract Documents.

Contract: The Contract Documents all form the Contract. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual

relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the College and a Subcontractor or a Sub-subcontractor, (3) between the College and the Architect or the Architect's consultants or (4) between any persons or entities other than the College and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's Contractor's duties.

Contract Amendment: The Contract can only be amended by (1) a written amendment identified as such that is signed by the College and the Contractor, (2) a change order signed in accordance with the Contract Documents, (3) a written Contract Change Directive (CCD) issued by the College that should result in a change order unless issued to address some fault of the Contractor, (4) a written approval or acceptance by the College or the Architect of a change requested by the Contractor in writing, provided the request for a change is specifically identified in a submittal.

Contract Change Directive (CCD): A Contract Change Directive (CCD) is a written directive issued by the College which orders an addition, deletion, clarification of a disputed item or revision in the Work, or a response to an emergency. A CCD does not by itself change the Contract, but it should result in a change order which does change the Contract Price or Contract Times if warranted. A CCD should specify the terms of the change order (if deemed warranted by the College) which will result, and/or specify a deadline for the submission by the Contractor of a proper change order request, and/or contain other similar terms.

Contract Documents: The Contract Documents are enumerated in Article 2 of the Contract for Construction.

Contract Limit Lines: The lines shown on the Plans that limit the boundaries of the Project site, and beyond which no construction work or activities shall be performed by the Contractor unless otherwise specified in the Contract Documents, including the Plans and Specifications and supplemental General Conditions.

Contracting Officer: The Associate Treasurer of the College shall be the Contracting Officer in connection with the Contract and the Project. The Contracting Officer and other designee shall have authority to act on behalf of the College under the Contract.

Field Order (FO): A written order issued by the Architect or the College which requires minor changes in the Work that do not result in a change in the Contract Price or the Contract Times. If the Contractor believes that a field order warrants the issuance of a change order that changes the Contract Times or Contract Price, it must notify the College and the Architect in writing within 48 hours, and its notice must specify the terms of the change order that it believes are warranted, including specific time and price change requests.

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

Project: The Project is the total construction of the Work performed under the Contract Documents and may include construction by the College and by separate contractors that the College has specifically identified.

Specifications: The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services prepared by the Architect or the College.

Supplemental General Conditions: The part of the Contract Documents which amends or supplements these General Conditions for the Project.

Work: The construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

## **1.2 Intent Of Contract Documents.**

The intent of the Contract Documents is to describe a functionally complete and aesthetically acceptable Project to be constructed and completed by the Contractor in every detail in accordance with the Contract Documents. Any Work, services, materials, equipment or documentation that may be reasonably inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce a complete Project shall be supplied by the Contractor whether or not specifically identified at no additional cost to the College. Where the Contract Documents describe portions of the Work in general terms but not in complete detail, only the best construction practices and only materials and workmanship of the first quality are to be used. Only where the Contract Documents specifically describe a portion of the Project as being performed by others is the Work to be considered to include less than the entire Project.

## **1.3 Interpretation Of Contract Documents.**

When two or more interpretations of a Specification for the Work are possible, the most stringent or the highest cost interpretation shall apply as determined by the Architect. The Architect (or in the absence of the Architect, the College) shall be the sole interpreter of the Plans and Specifications and the Contractor's performance therewith. It is the intent of these Plans and Specifications to provide materials of a quality consistent with the highest standards provided under similar circumstances in the same general geographical area and that will result in long-term use and efficient operation.

## **1.4 Law And Referenced Standards.**

The Contractor is required to comply with all federal, state and local laws and regulations that apply to the Project, the Work and the Contract. Where the Contract Documents refer to any publication, including but not limited to any standard, which affects any portion of the Work or the Project, it shall be considered to mean the edition or revision in effect on the bid due date unless otherwise specified in the Contract Documents. No provision in any publication including

any standard shall create an obligation on the part of the College or the Architect to supervise or direct the Contractor's Work.

### **1.5 Plans And Specifications.**

The Plans will include general plans and such details as deemed necessary to give a comprehensive representation of the construction required. The Contractor shall keep one set of Plans available at the Project site, which shall be available for inspection by the College and the Architect at all times. All alterations affecting the requirements in the Plans must be authorized by the College and the Architect in writing, and shall be promptly noted on the Contractor's record set of Plans, which are maintained at the site for inspection by the Contractor, the College and the Architect.

### **1.6 Order Of Precedence Of Contract Documents.**

Each of the Contract Documents is an essential part of the Contract, and a requirement specified in one part of the documents is binding as if specified in all. The Contract Documents are intended to be complementary and to describe and provide for a complete Project. The obligations of the Contractor under the various Contract Documents shall be cumulative and to the extent that one of the Contract Documents imposes a stricter or more costly requirement or higher standard upon the Contractor than does another Contract Document, the more stringent or more costly requirement or higher standard, as determined by the Architect, shall apply. Otherwise, if there is any conflict among the Contract Documents, the signed Contract for Construction and all approved change orders shall control. As to the other Contract Documents, the order of precedence shall be as follows:

- (a) Contract for Construction
- (b) Addenda
- (c) Supplemental General Conditions
- (d) General Conditions
- (e) Specifications
- (f) Plans
  - i. Notes
  - ii. Large Scale Details
  - iii. Sections
  - iv. Elevations
- (g) Scope of Work Description

### **1.7 Organization Of Plans And Specifications.**

The arrangement of the Plans and the organization of the Specifications into divisions, sections or articles shall not be construed by the Contractor as being intended to divide or allocate the Work among Subcontractors or trades or to establish the scope of the Work to be performed by particular Subcontractors or trades. The College is not liable for the Contractor dividing and separating the Contract Documents into individual packages to Subcontractors. Items that the Contractor fails to include or provide for shall be at the Contractor's sole risk and



cost. The Contract Documents work together as a whole and, therefore, the Contractor is required to coordinate the entire package with all its Subcontractors.

### **1.8 Required Approvals.**

In all cases where approvals or decisions under the Contract Documents are required from the College, the Work shall not proceed without the required approvals and decisions in writing.

### **1.9 Conformity Of Work To Contract Documents.**

All Work performed shall conform to the lines, grades, cross-sections, dimensions, material requirements, tolerances, details and other information in the Contract Documents. The purpose of tolerances is to accommodate occasional minor variations from the middle portion of the tolerance range that are unavoidable despite reasonable construction practices. When a maximum or minimum tolerance value is specified, the material and the Work shall be controlled so that they shall not be preponderantly of borderline quality or dimension.

### **1.10 Work Involving Existing Structures.**

On projects involving alterations, remodeling, repairs, installations or other work in pre-existing structures or systems, the Contractor shall by personal inspection of the existing structures and systems satisfy itself as to the accuracy of any information provided that may affect the quantity, size and/or quality of materials required for a satisfactorily completed Project, including information that is not identified or included in the Plans and Specifications. The Contractor shall provide all material and labor required to complete the Work based on conditions that can be reasonably observed by a competent and diligent contractor before bidding.

### **1.11 Verification Of Dimensions.**

The Contractor shall verify all dimensions at the job site and shall take any and all measurements necessary to verify the information in the Plans. The Contractor shall properly and accurately layout and survey the Work. Any errors or discrepancies affecting the layout of the Work shall be reported to the Architect and the College immediately in writing. No Work affected by any error or discrepancy shall proceed until such discrepancy is resolved by a written decision of the Architect with the consent of the College.

### **1.12 Manufacturer Literature.**

Manufactured articles, materials and equipment shall be installed, applied, connected, erected, used, cleaned and conditioned in accordance with the manufacturer's written instructions unless otherwise specified in the Contract Documents. If there is any conflict between manufacturer literature and the Contract Documents, it shall be reported by the Contractor to the Architect and the College in writing, and the Contractor shall not proceed without a written decision by the Architect with the consent of the College.

### **1.13 Quality -- General Requirement.**

Where no explicit quality or standard are specified for Work, materials or equipment, they shall be new, of good quality, free of defects, suitable for their intended use, in conformity with the Contract Documents, and consistent with the highest quality of the surrounding Work and of the construction of the Project generally.

### **1.14 Examination Of Contract Documents Before Bidding/Errors.**

The Contractor represents and warrants that before bidding it examined and carefully studied the Contract Documents and other documents included or referred to in the bid documents. The Contractor also represents and warrants that the documents are sufficient for bidding and performing the Work at the Contract Price. Should it appear that any of the Work or materials are not sufficiently or properly detailed or explained in the Contract Documents, the Contractor shall notify the College in writing before the bid deadline for submitting questions.

Errors, omissions, conflicts, discrepancies, inconsistencies or other defects in the Contract Documents or between the Contract Documents and any codes, standards or other applicable documents which are capable of being discovered by a diligent and competent contractor before bidding shall be reported to the College in writing before the bid deadline for submitting questions. If errors, omissions, inconsistencies or other defects in the Contract Documents are not discovered until after the bid due date, the Contractor shall promptly notify the College and the Architect of them in writing, provide written recommendations regarding changes or corrections to resolve any such errors, omissions, inconsistencies or defects, and obtain the Architect's written interpretation and approval with the consent of the College before proceeding with the Work affected.

### **1.15 Site Information.**

Soil borings, test pits or other subsurface or site information regarding the physical site and subsurface conditions on or near the site may have been obtained from independent contractors for the purpose of preparing the design documents for the Project rather than for the purpose of contractor estimating or bidding. Such information may be identified or included in the Contract Documents so that it can be reviewed by bidders during the bidding phase, but because of the limited nature and purpose of the information, it shall not be considered to be part of the Contract Documents, and the Contractor must assume responsibility for interpreting and relying upon the information.

### **1.16 Sufficiency Of Documents Provided For Bidding.**

The Contractor represents and warrants that before bidding it carefully studied all reports, surveys and documents included or identified in the bid documents regarding observations, inspections, investigations and tests of the site and subsurface conditions at or near the site, and all information provided to bidders regarding physical conditions at or near the site, including surface and subsurface composition, water, structures and utilities, and that it determined that no further examinations, investigations, tests, studies or data were necessary for bidding or the performance of the Work at the Contract Price. If the Contractor concluded that additional

information is required, it must notify the College in writing before the bid deadline for submitting questions.

### **1.17 Examination Of Site Before Bidding.**

The Contractor represents and warrants that before bidding it visited the site and familiarized itself with and was satisfied as to the general, local and site conditions which may affect the cost, progress and performance of the Work and the Contract, and that its bid and bid price take into account all such conditions. No additional costs will be borne by the College for conditions that existed and were reasonably observable or described at the time of bidding.

### **1.18 Hazardous Materials On Site.**

The Contractor will not be responsible for hazardous environmental conditions uncovered or discovered on the site that were not disclosed in the Contract Documents and that were not caused by the Contractor or anyone working through or under the Contractor. If such conditions are discovered, the Contractor shall stop work and notify the College in writing immediately. The College may issue a written directive to the Contractor requiring it to stop work until the hazardous environmental condition is remedied, and the Contractor will be entitled to an extension of the Contract Times if an extension is warranted under the provisions of the Contract for Construction and these General Conditions regarding extensions. The College may also make changes in the Contract in response to the conditions, and the Contract will be changed in accordance with the change order provisions in the Contract for Construction and these General Conditions.

### **1.19 Limitation On Claims Based On Contract Documents And Information Provided For Bidding.**

The Contractor may not assert claims for extra compensation beyond the bid and Contract Price for constructing the completed Project by reason of any errors, omissions, inconsistencies, or defects in the Contract Documents that are discoverable by a diligent and competent contractor, because of (i) its obligation to review and study the bid documents before submitting its bid, (ii) its representation in the Contract Documents that it did so, and (iii) its obligation to notify the College in writing of any such errors, omissions, inconsistencies, or defects before submitting its bid,. In addition, the Contractor may not assert claims for extra compensation beyond the bid and Contract Price for constructing the completed Project by reason of any lack of information affecting the construction of the Project at the time of bidding, or errors in the information included or referenced in the bid documents except to the extent explicitly permitted by the Contract for Construction or these General Conditions. The Contractor shall notify the College in writing before submitting its bid of any errors or omissions in the information provided or be precluded from seeking extra compensation or asserting a claim. This limitation on claims may be modified and further restricted in the signed Contract for Construction when the Contract Documents explicitly require the Contractor to participate in any aspect of the design phase.

The Contractor may assert claims for extensions and additional compensation in accordance with the provisions of the Contract for Construction and these General Conditions if

information regarding the site that is identified in the bid or Contract Documents is factually inaccurate, and the inaccuracy is one that a reasonably competent and diligent contractor would not discover in preparing a bid. The Contractor may not assert a claim for an extension or extra compensation when it claims, not that the information is factually inaccurate, but rather that conclusions, inferences or judgments made in reliance on accurate information prove to be incorrect.

## **ARTICLE 2** **THE COLLEGE**

### **2.1 General Rights And Responsibilities Of The College.**

The College as the owner of the Project is entitled to have the Contractor perform and complete the Work in accordance with the Contract Documents, including the time of completion, quality and documentation requirements of the Contract. The College for its part undertakes to furnish the site, to notify the Contractor of any restrictions on the site that could affect the Contractor's performance of the Contract, to obtain approvals relating to the site that are needed for the construction to proceed, to pay the Contractor in accordance with the Contract, and to act reasonably in reviewing all documentation, claims and questions properly submitted to it under the Contract. The College also undertakes to provide the information and items that it expressly agrees in the Contract Documents to provide.

The College shall also have such other rights and responsibilities as are specified in the Contract Documents. The College will not supervise the Contractor's Work or be responsible for the Contractor's construction means and methods, or the Contractor's safety practices, or any failure of the Contractor to comply with the Contract Documents or any laws or regulations.

### **2.2 The College's Representative, Authority To Decide Contract Questions.**

The Contracting Officer delegates its authority to the College's Representative who is authorized to act and make decisions on behalf of the College regarding matters specified in the Contract Documents. However, the College's Representative is not authorized to make or agree to material changes to the Contract Documents or changes involving the Contract Times or Contract Price.

All changes to the Contract Documents including change orders that modify Contract Price, Contract Times or other material change to the Contract Documents must be reviewed and approved by the Contracting Officer or his/her designee. The Contracting Officer designates that the Vice President for Administration is authorized to approve change orders.

The College's Representative, in consultation with the Architect, is authorized to decide on behalf of the College, all questions regarding the quality, acceptability and rate of progress of the Work, all questions regarding the interpretation of the Contract Documents, the acceptability of the performance of the Contract by the Contractor, and the compensation due to the Contractor. Where the College's Representative is authorized to render decisions under the

Contract for Construction or these General Conditions regarding disputes or claims, he/she shall consult with the Architect and shall not act arbitrarily so as to unfairly benefit either the College or the Contractor.

### **2.3 Required Approvals.**

In all cases where approvals or decisions are required from the College under the Contract Documents, such approvals or decisions shall be made reasonably, except in cases where a specific standard applies such as, for example, situations where the College is entitled to exercise unqualified discretion in selecting the types of materials, products or construction which it decides to procure.

### **2.4 Information Required From The College.**

Information which the Contract Documents specify the College will provide shall be provided with reasonable promptness.

### **2.5 Permits.**

The College will arrange and pay for permits and permit inspections, including building code permits except to the extent that the Specifications specify otherwise. The Contractor will arrange for and coordinate all inspections and the dates and times for all inspections with local, state and independent agencies and include the College's Representative or the Site Superintendent.

### **2.6 The College's Inspection Of The Project.**

The College shall have the right to be represented at the site by the College's Representative(s), the Site Superintendent and other College employees designated by the College, the Architect, and other consultants designated by the College or the Architect. The College and its representatives shall have the right to visit the site, inspect Work and materials, inspect Project documentation, conduct tests, attend meetings, meet with the Contractor' and the Subcontractors' representatives, investigate problems, conduct studies, and make reports. The College and its representatives shall be allowed access to all parts of the Work, and the Contractor shall furnish them with information and assistance when they request it.

The Contractor shall give the College and the Architect timely notice of readiness of Work for observation, inspection and testing, and shall cooperate with these efforts. The Contractor shall also comply with any inspection and testing procedures specified in the Contract Documents.

The Contracting Officer, the Architect and the College's Representative shall have the right to direct the Contractor to remove or uncover unfinished Work if deemed necessary to inspect Work or materials in place.

If Work is covered before it is inspected because the College, the Architect or any consultant were not afforded reasonable notice and an opportunity to inspect, or where the

Contract Documents or any law require an inspection, the Contractor shall uncover and replace Work at its own expense if required to do so by the College.

If any other portion of the Work not specifically required to be inspected is covered, and the College or the Architect did not ask to observe or inspect the Work before it was covered, the College may nonetheless ask to inspect the Work. If the College makes such a request, the Contractor shall uncover the Work for inspection. If the Work uncovered is found to be in accordance with the Contract Documents, the cost of uncovering and replacement shall be paid by the College by a change order. If the Work uncovered is found not to be in compliance with the Contract Documents, the Contractor shall pay all costs of uncovering and replacement, and also remedy the defect or deficiency at its own cost.

The College at all times retains the right to stop all or part of the Work by a written direction because of defective Work until the defect is eliminated. This right shall not give rise to any duty on the part of the College to exercise the right for the benefit of the Contractor or those performing its Contract.

The College at all times retains the right to stop all or part of the Work due to concerns with the effectiveness of the Contractor's safety program required under Article 5.2. The College may require the Contractor to provide a written plan to correct safety deficiencies, an on-site safety supervisor, or other administrative or engineering controls to ensure the safety of personnel impacted or potentially impacted by Contractor operations. The Contractor shall indemnify, defend and hold the College harmless from fines issued by Federal, State or Local OSHA enforcement.

## **2.7 The College's Inspectors, Duties And Limitations**

If the College designates inspectors to inspect Work and materials and Project documentation, they will not be authorized to alter or waive any requirements or provisions in the Contract Documents. The College's inspectors will not be authorized to issue instructions contrary to the Contract Documents or to act as foremen or employees of the Contractor. The College's inspectors have the authority to reject unsuitable Work or materials, subject to written confirmation by the College's Representative. If the Contractor believes that any action of a College inspector is contrary to the Contract Documents, it shall notify the College's Representative and the Architect in writing within 48 hours. The College does not undertake to have inspectors sufficient in number to inspect every item of Work or material as it is provided, or to have inspectors with the expertise needed to judge every aspect of the Work.

The Contractor shall remain responsible for defective Work or materials irrespective of any inspections or lack of inspections during the Work. If the Contractor seeks a binding determination of the acceptability of Work or materials during the performance of the Contract, it shall do so by making a written request for such a determination to the College's Representative with a copy to the Architect.

## **2.8 The College's Rejection Of Defective Work.**

The College shall have the right to reject defective Work, materials, or equipment at any time, and to require the Contractor to remove and replace it at the Contractor's expense. The Contractor shall also be responsible for repairing damage to other work caused by defects or deficiencies in its Work. The College's Representative, upon consultation with the Architect, may elect to accept Work or materials that do not conform to the Contract Documents and to credit or reduce the Contract Price, but the College shall have no contractual obligation to elect this remedy. Changes to the Contract Documents in these circumstances shall be recorded as a change order under the change order provision of the Contract for Construction and these General Conditions.

## **ARTICLE 3** **THE ARCHITECT**

### **3.1 The Architect's General Role.**

The Architect is, by contract with the College, responsible for the design of the Project. During construction, the Architect is responsible for reviewing the Contractor's submittals to determine if they conform to the Contract Documents and good industry practice, to provide some level of inspection to determine if Work and materials provided by the Contractor conform to the Contract Documents and good industry practice, and to review the Contractor's payment applications. During the performance of the Work, the Architect may investigate any defects and deficiencies in the Work or materials provided and make recommendations to the College regarding the defects or deficiencies. The Architect will conduct inspections to determine if the Contractor has achieved proper Substantial and Final Completion and submitted all documents required at Substantial and Final Completion. The Contractor shall cooperate with and render assistance to the Architect in the performance of these duties.

### **3.2 The Architect's Access And Facilities.**

The Contractor shall allow the Architect and its consultants access to the Project at all times and shall facilitate their access to inspect Work and materials and Project documentation. The Architect and its consultants shall be permitted to attend job meetings, scheduling meetings and other meetings at the site and the Contractor shall facilitate their ability to do so. The Contractor shall provide an office at the site for the Architect if the Specifications require it to do so.

### **3.3 Limitation Of The Architect's Responsibilities.**

The Architect will not be responsible for or have control of construction means and methods or safety precautions and programs in connection with the Work. The Architect will not be responsible for or have control of acts or omissions of the Contractor, its Subcontractors, or any of their agents or employees, or any other person performing any of the Contract Work.

### **3.4 The Architect's Rejection Of Work.**

The Architect may recommend rejection of Work or materials that it believes does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, it may recommend to the College special inspections or testing of Work or materials, including completed Work and materials.

### **3.5 The Architect's Review Of The Contractor's Submittals.**

The Architect will review, approve or take other appropriate action regarding the Contractor's submittals, such as shop drawings, product data and samples, to assure that they conform with the design requirements and Contract Documents. The approval of a specific item shall not be deemed to constitute approval of an assembly of which the item is a component.

### **3.6 The Architect's Review Of The Contractor's As-Built Plans.**

The Architect will periodically review the Contractor's as-built plans maintained at the site to ensure that they are up-to-date, and shall review the completed as-built plans at Project completion to ensure that they are complete and are provided to the College.

### **3.7 The Architect's Determination Of Substantial and Final Completion.**

The Architect will conduct inspections to determine the dates of Substantial and Final Completion and to determine if the Contractor has properly Substantially and Finally completed the Project. The Architect will obtain from the Contractor all written warranties and all other documents that the Contractor is required to provide at Substantial and Final Completion of the Project.

## **ARTICLE 4** **THE CONTRACTOR**

### **4.1 The Contractor's Responsibility For Performance Of The Contract And Work.**

The Contractor is the person or entity identified as such in the Contract. The Contractor shall be lawfully licensed in the jurisdiction where the Project is located.

The Contractor shall perform all of the duties in the Contract Documents, shall furnish the labor, materials and equipment to complete the construction of the Project in accordance with the Contract Documents, and furnish all services, labor, materials and equipment necessary or appropriate to construct the Project. The Contractor shall manage, supervise, schedule, direct, and inspect the Work as competently, skillfully, and efficiently as possible, and shall be solely responsible for all construction means, methods, techniques, safety, security, sequences, procedures, and coordination.



The Contractor shall comply with all applicable laws, and shall establish and maintain reasonable quality assurance and safety programs in connection with its Work. The Contractor shall complete the Work in compliance with the Contract Documents and by Milestone, Substantial Completion and Final Completion Dates in the Contract for Construction or any authorized extensions thereof. The Contractor shall maintain good order and discipline at the site at all times.

#### **4.2 The Contractor's Key Personnel.**

The Contractor shall assign to the Project a Project executive, Project manager, superintendent, and scheduler, and such other key personnel as are specified in the Contract for Construction or as required to carry out the requirements of the Project. The Contractor shall not remove or replace such key personnel without the College's written approval. The College has the authority to reject and have replaced any staff member of the Contractor or any of the Subcontractors for any non-discriminatory reason.

#### **4.3 The Contractor's Supervision Of Contract Work/The Superintendent.**

The Contractor shall supervise and be responsible for the acts and omissions of the Contractor's employees, agents, Subcontractors, sub-subcontractors, suppliers and other persons performing portions of the Work and the Contract. The Contractor's designated Project superintendent shall be at the Project site at all times when Work is in progress. The Contractor may designate in writing an alternate superintendent who must be approved in writing by the College. The superintendent (or alternate) shall have full authority to represent and act for the Contractor at the site and shall have full authority to execute orders and directives of the College without delay.

Communications from the College or the Architect to the superintendent shall be deemed to have been given to the Contractor. The superintendent shall be capable of and authorized to respond to all hazardous and unsafe conditions at the Project site and to implement prompt corrective measures to eliminate all unsanitary, hazardous or dangerous conditions at the site. The College may suspend all or part of the Work at the Project site if the superintendent (or alternate) is not present at the Project site. Such a suspension shall not be the basis of a claim against the College, including without limitation any claim for additional time or extra cost.

The superintendent shall attend all meetings at the Project site including job meetings, scheduling meetings, and meetings with the College and/or the Architect. The superintendent shall have a written plan that must be approved in writing by the College for responding to emergencies when the Work is not in progress. The Contractor shall also utilize qualified competent craftsmen on the Project.

#### **4.4 Cooperation With The College And Other Contractors.**

The College reserves the right to contract for and perform other or additional work on or adjacent to the Project site. When separate contracts are let within the limits of the Project site, or in areas adjacent to the site, the Contractor shall perform its Work so as not to interfere with or

hinder the progress or completion of the work being performed by other contractors. The Contractor shall also affirmatively cooperate with such other contractors and coordinate its activities with theirs, and include coordination measures in the Project Schedule. The Contractor shall arrange its Work and shall place and dispose of materials being used so as not to interfere with the operation of other contractors within the limits of the Project site. The Contractor shall join its Work with that of the other contractors in an acceptable manner and shall perform its Work in proper sequence with that of other contractors.

If there is a disagreement as to the respective rights of the Contractor and others doing work within the limits of or adjacent to the Project site, the College shall determine the respective rights of the contractors involved to secure the satisfactory completion of all affected work. The Contractor shall not be entitled to additional compensation beyond its Contract Price that may arise because of inconvenience, delay, or loss experienced by it as a result of the presence and operations of other contractors working within the limits of or adjacent to the Project site.

The College reserves the right to occupy any portion of the Project that is ready for occupancy prior to Final Completion and acceptance of the Project, after Local and State Construction Enforcing Agency approval.

The occupancy of any portion of the Project does not constitute an acceptance of any Work nor does it waive the College's right to liquidated damages or constitute an acceptance of any Work, as the Project will be accepted as a whole and not in units. Prior to such occupancy, however, the Architect, a representative of the College, and the Contractor shall fully inspect the portions of the Project to be occupied, preparing a complete list of omissions of materials, faulty workmanship, or any items to be repaired, torn out or replaced. The College will assume responsibility for damage to premises so occupied of any items not on this list when such damage is due to greater than normal wear and tear, but does not assume responsibility for improper or defective workmanship or materials.

#### **4.5 Performance Of The College Directives.**

When the College issues a written directive to the Contractor under the authority of any provision in the Contract for Construction or these General Conditions, the Contractor shall perform as directed in a diligent manner and without delay. Compliance with written directives shall not adversely affect the rights of the Contractor under the Contract for Construction, these General Conditions or law, but if the Contractor objects to a directive of the College, or claims that a directive infringes upon its rights or entitles it to a change order, it shall notify the College in writing within 2 business days of any directive and describe any objection it has to the directive and the reasons for its objection. Objection to a written directive does not relieve the Contractor of the obligation to comply with the directive and proceed in a diligent manner to implement the directive without delay.

**ARTICLE 5**  
**PERFORMANCE OF WORK**

**5.1 Protection Of Work/Materials.**

The Contractor, shall at its own expense, protect all finished Work and materials from damage and keep them protected until the Project is accepted as Substantially Completed, and shall repair or replace any Work or material damaged before acceptance. After the Project is accepted as Substantially Complete, the Contractor will remain responsible up through Final Completion for damage to Work and materials caused by it or its Subcontractors or others participating in the performance of its obligations under the Contract Documents. The Contractor shall also secure and protect its own tools, equipment, materials and supplies, and the College shall have no liability for damage, theft or injury to the Contractor's property.

**5.2 Safety And Safety Programs.**

The Contractor shall have full responsibility for safety at the Project site at all times up to Final Completion and acceptance of the Project and the Contract. The Contractor shall provide for the safety of all individuals on the Project site, and take measures to ensure that individuals on or near the Project site are not injured by the performance of the Contract. The Contractor shall establish and maintain a Project safety program in accordance with all applicable laws including OSHA, good industry practice, and any additional requirements in the Contract Documents. If the College or the Architect become aware of an unsafe situation, the Contractor will immediately respond to remedy the safety concern and shall take all other actions necessary to comply with Article 2.6.

**5.3 Emergencies Affecting Safety.**

If there is an emergency affecting the safety of persons or property, the Contractor shall take immediate action to prevent damage, injury or loss. The Contractor shall notify the College in writing of the situation and all actions being taken immediately or as soon as possible. If, in the opinion of the Contractor, immediate action is not required, the Contractor shall notify the College in writing of the emergency situation and proceed in accordance with the College's instructions. However, if loss, damage, injury or death occurs that could have been prevented by the Contractor's prompt and immediate action, the Contractor shall be liable for all costs, damages, claims, actions, suits, attorney's fees and other expenses that result.

Any additional compensation or extension of time claims by the Contractor on account of emergency Work shall be determined in accordance with the change provisions of the Contract for Construction and these General Conditions. The Contractor shall be responsible for emergencies and costs and delays resulting therefrom that could have been foreseen or prevented with normal diligence, planning, and supervision of the Work, or that are caused by the Contractor's failure to properly perform the Contract.

The Contractor shall provide the College with a list of the names and telephone numbers of its employees and employees of each Subcontractor designated to be contacted in case of an emergency during non-working hours. A copy of this list shall be displayed prominently at the

Project site so that it is visible when the Project site is secured and shall be provided to the College's campus police department.

#### **5.4 Working Hours.**

Except as required for the safety or protection of persons or property, or as specified in the Contract Documents, all Work at the site shall be performed during regular working hours, and not on Saturdays, Sundays, legal holidays, the College's commencement days, resident move-in and move-out days or other days specifically noted in the Contract Documents without the prior written consent of the College, which will not be unreasonably withheld.

#### **5.5 Site Security.**

The Contractor shall provide, maintain and oversee security at the site if required in the Specifications. The Project site shall be fenced as specified in the Specifications, and the Contractor shall control access when gates are unlocked or open. The fence shall provide a physical barrier to the site and protection from visible nuisance. At a minimum, the fence shall be firmly secured with buried posts or weighted feet, top rails, metal fabric, and locking gates. Contractor shall immediately notify the College in the event of unauthorized entry to the site.

#### **5.6 Site Use.**

The Contractor shall confine construction equipment, storage and Work to the Project site absent written approval from the College. Any request by the Contractor to use areas outside the Project site must be described in written form and included with the Contractor's bid.

#### **5.7 Building Access.**

The Contractor shall be responsible for the sign out, distribution, safe use and return of all building keys and/or access cards, and shall be responsible for all costs associated with failure to return these items (e.g., the cost to re-key/re-implement the system).

#### **5.8 Minimize Interruption.**

The Contractor acknowledges that the College is an existing educational facility and that classes may be in session during construction. The Contractor agrees to conduct its Work with as little disruption as reasonably possible to the College's students, faculty, employees and guests, and will maintain a safe environment for the College's students, faculty, employees and guests, in addition to the Contractor's employees and workers of all tiers. The Contractor and its Subcontractors and employees of all tiers must display courtesy and consideration with and shall refrain from discriminating against or harassing the College's students, faculty, employees, visitors and guests at all times. The Contractor will not allow smoking, vaping, alcohol, drugs, any firearms, or other weapons on the College's property at any time. The Contractor shall abide by all campus traffic regulations.

## **5.9 Submittals (Shop Drawings, Product Data, Samples).**

Prior to the beginning of Work on the Project, the Contractor shall furnish to the Architect and the College for their review and approval, a schedule setting forth all the submittals, including shop drawings, product data and samples required by the Contract Documents, that the Contractor intends to submit to the Architect for review and approval, the date upon which the Contractor shall make each such submittal and the date upon which the Architect shall complete its review of each such submittal, which in no event shall be less than ten (10) days from receipt (“Submittal Schedule”). The Architect and the College shall identify all submittals that will require more than ten (10) days to review and notify the Contractor of the required review period. The Contractor shall adjust the Submittal Schedule to accommodate the extended review period. The Architect shall endeavor to conduct its review and approval of all submittals in accordance with the Submittal Schedule. In the event that a submittal is made that is not set forth on the Submittal Schedule, the Architect shall review and return such submittal within ten (10) working days from receipt.

Submittals shall be complete as to quantities, details, dimensions and design criteria. The Architect will approve and the College will review submittals if they conform to the Contract Documents, the design concept and good industry practice. The Contractor shall note its approval of all submittals and the date for any submittals prepared by any Subcontractor or supplier, and it shall be responsible for determining and verifying all materials, field dimensions, field construction criteria, and coordination requirements pertaining to the submittal.

The Contractor will not be relieved of responsibility of deviations in submittals from the requirements in the Contract Documents by reason of approvals of the submittals unless the Contractor specifically identifies the deviation in the submittal and the Architect and the College expressly approve the deviation in writing. The Contractor shall be responsible for errors or omission in its submittals. No Work or materials included in a submittal shall begin until the submittal is approved by the Architect and the College.

## **5.10 Layout And Dimensional Control.**

The Contractor shall be responsible for locating and laying out the Project components and all of the Project parts on the Project site in strict accordance with the Plans, and shall accurately establish and maintain dimensional control. The Contractor shall employ a competent and licensed New Jersey engineer or land surveyor as appropriate to perform all layout Work and to fix the level and location of excavations, footing base plates, columns, walls, floors and roof lines. The Contractor shall furnish to the College and the Architect certifications that each such level is as required by the Plans as the Work progresses.

The plumb lines of vertical surfaces shall be tested and certified by the Contractor's engineer or surveyor as the Work proceeds. The engineer or surveyor shall establish all points, lines, elevations, grades and bench marks for the proper control and execution of the Work. The engineer or surveyor shall establish a single permanent benchmark to be approved by the Architect, to which all three coordinates of dimensional control can and shall be based. The engineer or surveyor shall verify all topographical and utility survey data, and all points, lines, elevations, grades and benchmarks furnished by the College.

Should any discrepancies be found between information in the Plans and the actual site or field conditions, the Contractor shall notify the Architect and the College in writing, and shall not proceed with any Work affected until it receives written instructions from the College.

The Contractor is required to provide a final “as built” survey from a New Jersey licensed/certified surveyor of the Project site showing all structures, elevations, grades and required information on the Project site and submit to the College in CADD format.

### **5.11 Construction Access, Roads, Walks, And Parking.**

The Contractor shall construct and keep all roadways, drives, walkways and parking areas within or near the site free and clear of debris, gravel, mud or any other site materials, including, for example, the cleaning of muddy wheels and undercarriages on vehicles before they exit the site. The Contractor shall be responsible for any citations, fines, or penalties imposed on it or the College for failing to comply with applicable local rules or laws regarding its use of roads and the like.

The Contractor shall obtain permission in writing from the College before using for construction purposes any existing driveways, parking areas, walkways or areas not specifically designated for such use in the Contract Documents. The Contractor shall maintain such driveways and areas in good and clean condition during construction and not damage them. At Final Completion, the Contractor shall leave them in the same condition as they were at the start of the Work. Conditions of such facilities before use shall be photographed and otherwise documented by the Contractor. The Contractor shall not commence construction of permanent driveways, parking areas or walks on the Project site without the written approval of the College.

Any existing walkways, driveways, aprons, or curbs damaged by the Work of the Contract Documents shall be replaced in kind, at the Contractor’s expense, immediately upon Project completion, or as required to maintain campus safety and campus aesthetics.

### **5.12 Construction Site Condition, Storage, Dust Control.**

The Contractor shall provide reasonable, safe and orderly storage for its equipment, tools and materials, and shall not unreasonably encumber the site. The Contractor shall keep the site and the Project free from the accumulation of refuse, debris and scrap materials caused by its operations so that the site has a neat, orderly and workman-like appearance. Loading, cartage, hauling and dumping will be at the Contractor’s expense. The Contractor shall provide, at its expense, temporary dust-proof partitions around areas of work in existing buildings, and where reasonably required, in new building areas.

### **5.13 Photographs.**

The Contractor shall provide, at its expense, monthly progress photographs of the Project. The photographs shall be 8 inches by 10 inches and shall be submitted to the College in duplicate monthly. Unless otherwise specified in the supplemental general requirements, four photographs

shall be submitted each month which provide views of the Project taken from the same four points each, which points shall be selected by the Architect.

#### **5.14 Project Sign.**

The Contractor shall, at its expense, provide, erect and maintain two Project signs at the site, which shall be described in the Contract Documents. The College will specify the location of the signs. The signs shall be painted by a professional sign painter or prepared by a professional graphic artist. No other signage will be permitted at the site. The signs shall include the name and cell phone number of a Contractor-designated project lead that is available for 24-hour contact in case of emergency. The Contractor shall remove the signs when the Project is finally accepted unless the College requests that they be removed earlier.

#### **5.15 Soil Conservation.**

The Contractor shall employ reasonable measures to conserve the soil at the site, and determine and comply with all soil conservation measures required by the Mercer County Soil Conservation District.

The Contractor shall coordinate and schedule all soil conservation inspections, shall provide the College with written notice of all such inspections so that the College may attend the inspections if it chooses in its sole discretion to do so, and shall provide the College with all site inspection notes, approvals or notices.

#### **5.16 Temporary Facilities, Services, Electric, Heat And Enclosures.**

The Contractor shall provide storage areas, temporary drives and sidewalks, employee parking areas, staging areas, excavation borrow/spoil areas, commercial canteen areas, field offices including a meeting room, telephones, toilet facilities, and other temporary facilities that are necessary to perform the Work or that may be required by the Project Specifications. The Contractor shall locate these facilities on the Project site, and the location shall be subject to the approval of the College.

The Contractor shall provide adequate and clean temporary toilet facilities on the Project site in locations to be approved by the College, and they shall be serviced at least twice a week by a firm qualified and experienced in such functions. The Contractor shall provide such temporary electricity, water, and other utilities that are necessary to perform the Work, or that may be required by the Project Specifications. The Contractor shall also supply such temporary enclosures and heat that are necessary to perform the Work or that may be required by the Project Specifications. The Contractor and the Subcontractors will not enter or use any College facilities not required by the Work of the Contract.

Temporary electric and heat shall be furnished by the Contractor for the benefit of other contractors working on the Project if specified in the Project Specifications.

The Contractor shall not anticipate using the permanent heating or air conditioning system in a building for temporary heat or air conditioning prior to the acceptance of the Project as Substantially Complete unless specified otherwise.

Any natural gas, combustible material, or hazardous material containers utilized by the Contractor must be stored in a safe, ventilated location approved by the College. The Contractor must also submit for approval a reasonable safety plan for the operation of temporary heat equipment. The Contractor shall be solely responsible for any natural gas, combustible material or hazardous materials containers utilized by the Contractor or any of its Subcontractors and shall indemnify, defend and hold harmless the College from any fines, costs, expenses, liabilities, damages, etc. resulting from the Contractor's or any of its Subcontractors' use of such materials.

### **5.17 Substitutions.**

To the extent that the Contractor includes in its bid substitute materials or equipment or construction methods in lieu of those specified in the Contract Documents, it does so at its own risk. Any substitution must be equal in type, function and quality to the item required in the Contract. The Contractor must submit all information required within 20 days of the Contract award to determine if the proposed substitute is equal to the requirements of the Contract Documents, and any substitution must be approved in writing by the Architect and the College.

The College shall have complete discretion to decide whether it will accept any substitution. No substitution shall result in any increase in the Contract Price or Contract Times. The Contractor in its application for the substitution must certify in writing that the substitution is equal to what is specified in the Contract Documents in all material respects and will not increase the Contract Times or Contract Price of the Work.

Should the substitution be rejected, the Contractor will then be required to provide the specified product, material or method at no additional cost to the College and no change in the Project Schedule.

### **5.18 License Fees.**

The Contractor shall be responsible for obtaining the right to use any equipment, design, device or material required to perform the Contract, and shall include in its Contract Price any license fee or royalty required.

## **ARTICLE 6** **SUBCONTRACTORS**

### **6.1 The Contractor's Responsibility For Subcontracted Work.**

The Contractor shall be fully responsible to the College for the proper performance of the Contract irrespective of whether the Work is performed by the Contractor's own forces or by Subcontractors employed by the Contractor. The Contractor shall be responsible for the acts and



omissions of its Subcontractors and suppliers on the Project and shall take appropriate measures if they are not properly supervising or performing their Work.

## **6.2 Subcontractor Identification And Approval.**

The Contractor shall have included with its bid for the Contract, the names, addresses and license numbers of all Subcontractors that it proposes to utilize on the Project for plumbing and gas fitting work, HVAC work, electrical work, structural steel and ornamental iron work. No Subcontractor may perform Work on the Project until it has been approved in writing by the College.

Within 20 days after issuance of the Notice to Proceed, the Contractor shall furnish to the Architect and the College in writing for review by the Architect and the College a list of the names of all Subcontractors, sub-subcontractors, fabricators, manufacturers, sources of supply, articles, devices, fixtures, pieces of equipment, materials and processes proposed for each item of Work using AIA Document G705-2001, List of Subcontractors. The Architect and the College will notify the Contractor in writing if either the College or the Architect, after due investigation, has reasonable objection to any names on such list.

In submitting the names of Subcontractors, the Contractor shall (1) list the name and address of the Subcontractor, (2) provide the name and address of all sub-subcontractors for each significant subdivision of the trade or work, and (3) reference in the form of a list at least 3 jobs similar in size and quality to the Project performed by the subcontractor in the last 5 years, with name and location of work, dollar value and names of the College and the Architect.

In submitting sources of supply, articles, devices, fixtures, piece of equipment and materials, including those under subcontracts and sub-subcontracts, the Contractor shall list (1) the name and address of the source of supply, and (2) the name of the manufacturer of the items.

If the College disapproves of a proposed Subcontractor, it will provide the reason for its decision in writing. The College will not be liable for any extra cost or delays caused by the reasonable disapproval of proposed Subcontractors. The approval of Subcontractors by the College shall not relieve the Contractor of the responsibility for complying with all of the provisions of the Contract Documents including those performed by the Subcontractors. Subcontractors approved by the College may not be changed without prior notice to and written approval by the College.

Payment to the Contractor shall not be made until the list of Subcontractors (as required above) has been provided to the Architect and College.

## **6.3 Subcontractor Qualifications.**

The College may disapprove of a proposed Subcontractor if (i) it has a reasonable objection to the Subcontractor, (ii) there is evidence of poor performance on other Projects or financial problems, (iii) the Subcontractor has been suspended or debarred by any public agency within the State of New Jersey, (iv) the Subcontractor is not properly licensed and registered to do business in New Jersey or with the New Jersey Department of Labor regarding prevailing

wages, or (v) the Subcontractor has been charged with or convicted of violating any laws, including but not limited to, the New Jersey Prevailing Wage Act, criminal laws, public procurement laws, anti-trust laws, election laws, laws against employment discrimination, environmental laws, tax laws, professional licensing laws, or laws regarding attempts to improperly influence the College or other public officials.

Subcontractors shall utilize qualified, competent craftsmen on the Project.

#### **6.4 Subcontractor Compliance With Contract/Subcontractor Supervisors.**

The Contractor shall require its Subcontractors on the Project to comply with all pertinent terms of the Contract Documents, and shall include all appropriate terms and provisions in written subcontracts on the Project to achieve proper Contract performance. Each Subcontractor shall have competent superintendents and foremen supervising their work, and the Contractor shall take appropriate measures if they fail to do so.

#### **6.5 No Contractual Relationship Between The College And Subcontractors.**

The Contractor shall enter into written subcontracts with each and every Subcontractor and supplier solely in its own name. No approval by the College of any Subcontractor or supplier and nothing in the Contract Documents shall create any contractual relationship or duties between the Contractor's Subcontractors and the College. Nothing in the Contract Documents shall cause any of the Contractor's Subcontractors or suppliers to be deemed a third- party beneficiary of the Contract between the College and the Contractor, and nothing herein shall give any of the Contractor's Subcontractors or suppliers any rights or claims directly against the College.

#### **6.6 Contingent Assignment of Subcontracts.**

Each subcontract agreement for a portion of the Work and any purchase order for materials or equipment may, in the College's sole discretion, be assigned by the Contractor to the College, provided that

- (a) assignment is effective only after termination of the Contract by the College for cause or for convenience and only for those subcontract agreements that the College accepts by notifying the Subcontractor and the Contractor in writing and only on such terms and conditions acceptable to the College;
- (b) assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract;
- (c) if the College elects to take an assignment of any subcontract or purchase order, the Contractor shall execute all papers necessary to effectuate the assignment; and
- (d) the assignment shall not relieve the Contractor of its existing obligations to any Subcontractor or Supplier, nor shall it cause the College to assume

any of the Contractor's obligations to any Subcontractor or Supplier that arose prior to the termination.

When the College accepts the assignment of a subcontract agreement or purchase order, the College assumes the Contractor's rights and obligations under the subcontract going forward. Upon such assignment to the College, the College may further assign the subcontract to a successor contractor or other entity.

**ARTICLE 7**  
**TIME, LIQUIDATED DAMAGES, DELAY CLAIMS AGAINST THE COLLEGE.**

**7.1 Contract Times.**

The Contractor shall begin the Work within 10 days after the issuance of a Notice to Proceed by the College, and shall perform the Work in the Contract Documents by the dates specified in the Notice to Proceed, including Construction Start, Milestone, Substantial Completion and Final Completion Dates (collectively, "Contract Times"). As specified in the Contract for Construction, if the Work is to be performed in phases, the College may issue separate Notices to Proceed for each phase, which shall specify the Construction Start, Milestone, Substantial Completion and Final Completion Dates for that phase. The College may, in its sole discretion and at no cost to the College, choose to delay the issuance of a Notice to Proceed and the Construction Start Date for any phase until after the Contractor has achieved Substantial or Final Completion of any other phase.

**7.2 Liquidated Damages For Delay.**

If the Contractor fails to Substantially Complete any phase of the Work or the entire Work by the Substantial Completion Date(s) set forth in the applicable Notice to Proceed (as extended by Change Order, if applicable), and the delay is not excused by the College, then the Contractor shall pay the College the amounts specified in the Contract for Construction as liquidated damages for delay for each calendar day that the phase of the Work or the entire Work is not Substantially Completed beyond the applicable Substantial Completion Date

**7.3 Delay Claims By The Contractor Against The College --  
Limitations.**

The Contractor may not assert claims against the College for extra compensation by reason of any delays in its Work resulting from acts or omissions of any third parties irrespective of extensions granted under the Contract, including but not limited to delays caused by third parties such as the Architect, other contractors, utilities and governmental authorities.

The College shall only be required to pay additional compensation for delays caused by the College itself, and only to the extent required by N.J.S.A. 2A:58B-3 (delayed performance caused by the College's own negligence, bad faith, active interference or other tortious conduct, but not for reasons contemplated by the parties and not for the negligence of others including

others under contract with the College on the theory that such negligence should be imputed to the College). The College shall not be liable for any period of delay when there is a concurrent delay for which the College is not responsible.

When the Contractor is entitled to extra compensation for delay under the Contract for Construction and these General Conditions, it can only assert claims for extra costs at the job site, and may not assert claims for extra costs for home office expenses, home office overhead, lost profit or revenue, or consequential losses as that term is defined by New Jersey law. Any additional compensation under this Article shall also be subject to the provisions in the Contract for Construction and these General Conditions regarding claims, and the provisions in the Contract for Construction and these General Conditions regarding the maintenance and availability of cost records.

## **ARTICLE 8** **PROJECT SCHEDULE**

### **8.1 General Project Schedule Requirements.**

The Contractor shall schedule the construction Work and determine the most feasible means and order for the Work to complete the Project within the times required by the Contract. The Contractor shall prepare a Project Schedule and monthly schedule updates, which must be approved in writing by the College and the Architect. The Contractor shall perform the Contract and the Work in accordance with the Project Schedule. The Project Schedule should include a schedule of submittals for approval as required herein. The Project Schedule must be submitted before any Work (other than mobilization to site and general layout and site preparatory work) on the Project can begin under the Notice to Proceed. When the Contractor's Project Schedule is approved in writing by the College, it shall become an additional Contract Document and the Contractor shall be required by the Contract to comply with it. The Project Schedule and any updates to it shall be used in determining the amount of the monthly progress payments to the Contractor. The College may also use the Project Schedule and updates to determine if the Contractor is adequately planning and performing the Work in accordance with the Contract Documents.

### **8.2 Form And Content Of Project Schedule.**

The Contractor shall prepare the Project Schedule using Critical Path Method (CPM) scheduling techniques. The Contractor shall utilize the latest revision of Primavera P3 or Microsoft Scheduling software. The Contractor shall prepare a detailed schedule which shows how it will plan, organize, execute and complete the Work. The Project Schedule shall be in the form of an activity oriented network diagram (CPM). The principles and definitions used in this Article shall be as set forth in the Associated General Contractors of America (AGC) publication "Construction Planning and Scheduling", copyright 1994.

The detailed network diagram shall provide sufficient detail and clarity of form and technique so that the Contractor can plan, schedule and control the Work properly, and the College and the Architect can readily monitor and follow the progress of all portions of the

Work. The network diagram shall comply with the limitations imposed by the scope of the Work and contractually specified Milestone, Substantial Completion, and Final Completion Dates. The Project Schedule shall include the arrow or network diagram and the computer produced schedule with dates. The Project Schedule shall include and reflect the following factors:

- (a) Project phasing, contract Milestone, Substantial and Final Completion Dates.
- (b) The structural breakdown of the Project.
- (c) The types of Work to be performed and the labor trades involved.
- (d) Reasonable logic and activity durations.
- (e) Reasonable coordination of all activities.
- (f) Purchase, manufacture and delivery activities for all major materials and equipment.
- (g) Deliveries of equipment furnished by the College.
- (h) Allowances for work by separate contractors identified in writing by the College at the time of Contract award.
- (i) Submittals and approvals of shop drawings, material samples, and other required submittals.
- (j) Subcontract Work.
- (k) Crew flows and sizes (manpower).
- (l) Assignment of responsibility for performing all activities.
- (m) Access and availability to Work areas.
- (n) Identification of interfaces and dependencies with preceding, concurrent and follow-on contractors, and sequences and interdependence of activities.
- (o) Testing and inspections.
- (p) Phased or total inspection, acceptance, and takeover by the College.
- (q) Utilization of the Project Schedule to determine amounts of monthly progress payments.
- (r) Activities required of the College and the Architect such as approvals, including reasonable durations for the activities.

Activities should be set forth in working days and have a maximum duration of 60 days, except for non-construction activities such as the procurement and delivery of materials and equipment. All durations shall be the result of definitive manpower and resource planning by the Contractor. The level of detail in the Project Schedule shall be subject to the approval of the College. The Project Schedule shall include a reasonable approach to achieve Milestone, Substantial Completion and Final Completion Dates in the Contract. Any failure of the Contractor to include any element of the Work in the Project Schedule shall not excuse the Contractor from completing that Work and all of the Work needed to complete the Project by the Milestone, Substantial Completion and Final Completion Dates in the Contract.

The network diagram is to be prepared by a computer plotter. The logic diagram will be pure logic and shall not be drawn to time scale. The logic diagram shall be drawn on 30" x 42" size sheets and prepared on a tracing/mylar or similar material suitable for reproducing high quality prints.

### **8.3 Computerization Of Project Schedule.**

The mathematical analysis of the detailed network diagram shall be made by computer, and the tabulation for each activity shall include the following:

- (a) Activity numbers.
- (b) Activity descriptions.
- (c) Durations in work days for each activity.
- (d) Earliest start date (by calendar date).
- (e) Earliest finish date (by calendar date).
- (f) Latest start date (by calendar date).
- (g) Latest finish date (by calendar date).
- (h) Slack or total float in work days.

The following computer documents shall be prepared as part of the initial Project Schedule submission and each update:

- (a) Activity file sort, including sorts listing activities required of the College and the Architect, such as approvals.
- (b) Eight week "lookahead" detailed bar chart.
- (c) Eight week summary bar chart.
- (d) Additional computer sorts requested by the College.
- (e) High density CDs or thumb drives of all computer files.

### **8.4 Weather Inclusion In Project Schedule.**

Seasonal weather conditions shall be included in the Project Schedule, including average precipitation, temperature and other weather conditions typical in the geographic area over a 5 year period by month.

### **8.5 Project Schedule Updates.**

The Contractor shall prepare Project Schedule updates monthly until the Project is completed. The first update shall be issued 30 calendar days after the Construction Start Date specified in the Notice to Proceed. Updates shall include the following information:

- (a) Actual start and completion dates for activities.
- (b) Activity percent completion.
- (c) Remaining durations for activities in progress.

Each Project Schedule update shall also include a narrative report that includes the following information:

- (a) Summary of Work completed during update period.
- (b) Comparison of actual progress and status to activities and dates in original Project Schedule.

- (c) Analysis of critical path including effect of activity progress on the Project critical path.
- (d) Analysis of secondary critical paths, meaning float within 10 days of the Project critical path.
- (e) Analysis of time lost or gained during the update period.
- (f) Identification of problem areas.
- (g) Identification of change orders and delays impacting or delaying the Project under the Project Schedule.
- (h) Solutions or proposed solutions to current problems and delays.
- (i) Extensions requested by the Contractor, including activities affected and the amounts, and the reasons for the requests.
- (j) Extensions granted by the College for delays and changes, including the activities affected and the amounts, and any effect on the critical path and Contract Milestone, Substantial Completion and Final Completion Dates.
- (k) Delays in activities required of the College and the Architect, and activities that they are required to complete in the update period following the issuance of the update.

All Project Schedule updates must be submitted to the College and the Architect for written approval. Project Schedule updates, including the reports which are approved by the College, shall be deemed to be official records of the progress and status of the Project under the Project Schedule and the Contract, and may be utilized by the College in determining if the Contractor is adequately planning and performing the Work under the Contract Documents.

#### **8.6 Meetings/Eight Week Bar Charts.**

The Contractor's Project Manager and Scheduler shall arrange for and attend monthly progress and scheduling meetings with the College and the Architect. Monthly progress meetings shall be scheduled 3 to 7 days after monthly Project Schedule updates and reports are issued and provided to the College and the Architect. The purpose of these meetings will be to review past progress, current status, problem areas, delays, measures to reduce delays, future progress, and the Contractor's most recent Project Schedule update and report. At the monthly progress meetings, the Contractor shall provide a look ahead summary and detailed bar charts showing the Work and activities to be performed and/or completed during the 8 week period following the Project Schedule update.

#### **8.7 Project Schedule Documentation For Contract Payments.**

The Contractor will not be entitled to payments under the Contract until a Project Schedule has been submitted to and approved in writing by the College. No payment will be made under the Contract if, when the payment is due, a Project Schedule update and narrative report is due under this Article but has not been submitted to and approved in writing by the College. The original Project Schedule shall include a breakdown allocating the total Contract Price among the network activities in the Project Schedule, which must be approved by the College.

### **8.8 Progress and Recovery Project Schedules.**

The Contractor shall perform its Work in accordance with the Project Schedule. If the Contractor's Work falls behind the requirements of the Project Schedule, it shall, at its own cost, institute measures to improve its progress and bring its Work in compliance with the Project Schedule, including but not limited to increasing manpower, increasing work hours per shift, increasing shifts, increasing working days per week, and rescheduling Work activities to perform them concurrently where feasible.

If monthly Project Schedule updates show that the Contractor's progress has fallen behind the Project Schedule so as to jeopardize the achievement of Milestone, Substantial Completion or Final Completion Dates by more than 10 work days, the Contractor shall, if requested by the College in writing, prepare a recovery schedule with acceleration measures to regain the lost time, and shall proceed in accordance with the recovery schedule in addition to the Project Schedule at its own cost.

### **8.9 The Contractor's Failure to Provide Project Schedule Updates.**

If the Contractor fails to provide monthly Project Schedule updates and reports when required, the College can elect in its sole discretion to employ any of the following remedies: (i) not make progress payments; (ii) on 10 days written notice to the Contractor, retain its own consultant to provide Project Schedule updates and reports and deduct the cost from the Contract Price; (iii) terminate the Contract for default in accordance with the termination provisions in the Contract for Construction and these General Conditions and/or (iv) make a claim on the performance bond.

### **8.10 Scheduler Qualifications.**

The Contractor must utilize a Project Scheduler that satisfies the qualification requirements for the Project. If at any time during the Project it appears that the Contractor's Project Scheduler is not competent to provide the scheduling services required in this Article, the Contractor shall, within 10 days after a written notice and demand from the College, retain a replacement scheduler that is competent to provide the services required. The College may also utilize any of the remedies provided in the Contract for Construction or these General Conditions for the Contractor's failure to provide proper Project Schedule updates and reports.

## **ARTICLE 9**

### **EXTENSIONS, COMPENSATION FOR CERTAIN EXTENSIONS.**

#### **9.1 Delays Warranting Extensions Of Contract Times.**

If the Contractor is unavoidably prevented from completing any part of the Work within the Milestone, Substantial Completion or Final Completion Dates by causes beyond the control and without the fault of the Contractor or its Subcontractors, those Contract Times will be extended by amounts equal to the time lost due to such delays, provided the Contractor requests extensions in accordance with this Article. Delays warranting extensions of the Contract Times



include unforeseeable and unavoidable delays caused by the College, the Architect, other contractors employed by the College, utility owners or other third parties, acts of God, acts of governmental authorities, wars, abnormally severe weather conditions of unusual duration (specifically excluding weather conditions of the type and duration that have been encountered in the area in which the Project is located) that prevent timely delivery of materials or equipment necessary to the completion of portions of the Work or hamper access to the Work by workmen or Subcontractors, fires, floods, earthquakes, epidemics, plagues, and other unavoidable casualties.

Apart from an extension of time, no payment or allowance of any kind shall be made to the Contractor as compensation for damages on account of hindrance or delay from any cause in the progress of the Work, whether such delay be avoidable or unavoidable. The Contractor agrees that it will make no claim for compensation, damages for any such delays, and will accept in full satisfaction for such delays said extension of time.

### **9.2 Weather Delays.**

The Project Schedule shall take into account normally anticipatable adverse weather plus an additional five (5) days of severe and unusual weather conditions that will materially interfere with the timely prosecution of the Work. No time extensions will be granted for time lost due to weather conditions that do not meet the criteria set forth in Article 9.1, and then only to the extent more than five (5) days of delay result from such severe and unusual weather conditions. Owner shall not be required to keep a record of days of precipitation or low temperatures and the burden of proof with respect to weather delays shall be upon Contractor. No time extensions will be considered for any weather conditions that do not affect Work on the critical path or Contract Times.

### **9.3 Float Time Use.**

Float time in the Project Schedule is not for the exclusive use of either the Contractor or the College. Float time is available for use by both parties to facilitate the effective use of available resources and to minimize the impact of problems and delays that may arise during construction. No time extension will be granted as a result of any problem, change order or delay which only results in the loss of available positive float on the Project Schedule. Float time shown on the Project Schedule shall not be used by the Contractor in a manner that is detrimental to the interests of the College or the Project.

### **9.4 Calculation Of Extensions.**

Extensions will be calculated based on the effect of delays on the Project Schedule and the activities in the Project Schedule. If the Contractor is entitled to an extension for a delay based on the nature of the delay under this Article, the activities in the Project Schedule affected by the delay will be extended by the amount they are affected. If extensions of activities in the Project Schedule affect the critical path and delay the Contract Milestone, Substantial Completion or Final Completion Dates, they too will be extended to the extent affected. The critical path and Contract Times will only be extended to the extent that they are actually

affected under the Project Schedule by a delay for which the Contractor is entitled to an extension.

If, for any scheduled activity or period, there are concurrent delays that include delays for which the Contractor is entitled to an extension and delays for which the Contractor is not entitled to an extension, the Contractor will be given an extension for the delays for which it is entitled to extension so that it will not be liable to pay liquidated damages for delay, unless the College eliminates or reduces that delay. A concurrent delay will not justify an extension to the Contractor if it has minimal effect on the completion of the Project, and/or if it would likely have been avoided if it had become apparent that it was having an effect on the progress of the Project and the Final Completion Date.

#### **9.5 Elimination of Delays and Extensions (Acceleration).**

If the effect of a delay for which the Contractor is entitled to an extension can be reduced or eliminated by changes in the Project Schedule or other measures which have no material adverse impact on the Contractor in terms of cost or otherwise, the Contractor shall employ those measures so that no extension is required or so that a shorter extension is required. If the Contractor is entitled to extensions for delays, and if the College (in its sole discretion) notifies the Contractor in writing that it prefers to eliminate the lost time to avoid or reduce the extension required, by changes or additional efforts such as acceleration efforts, the Contractor shall perform those measures as a change to the Contract to be compensated under the change order provisions in the Contract for Construction and these General Conditions.

#### **9.6 Requests For Extensions Required.**

The Contractor must provide the College with a written notice of delay and request for an extension within 24 hours of the beginning of a delay. The written notice of delay and request for extension must include the nature and cause of the delay, the known extent of the delay, the Work activities on the Project Schedule affected by the delay, and the extent of the effect to each, and suggestions or proposals to reduce or eliminate the delay. This limited time frame is to provide the College the opportunity to immediately address the issue and limit the amount of time in the potential delay and its potential impact on the Project Schedule.

#### **9.7 Compensation For Certain Extensions And Limitations.**

Under the Contract for Construction and these General Conditions, the College does not assume responsibility for many types of delays, including additional costs resulting from extensions granted because of those delays. Where the College is responsible for a delay under the express terms of the Contract for Construction and these General Conditions, it will pay extra compensation for any extension granted because of the delay.

Compensation by the College for delays (and extensions) for which it is responsible under the Contract for Construction and these General Conditions shall only include additional costs actually incurred at the site, and shall not include home office expense, home office overhead, lost profit or consequential losses. Any additional compensation under this Article shall be subject to the provisions in the Contract for Construction and these General Conditions

regarding claims, and the provisions in the Contract for Construction and these General Conditions regarding the maintenance and availability of cost records.

No compensation will be paid if an extension for a delay for which the College is responsible is concurrent with another delay for which the Contractor is not entitled to an extension, or is concurrent with another delay for which the Contractor is entitled to an extension but the College is not responsible for the other delay.

If the College requests a change in the Contract Work, potential delays and extensions that result from the change and any resulting extra compensation for the change shall be addressed under the change order provisions in the Contract for Construction and these General Conditions in addition to this Article.

## **ARTICLE 10** **PAYMENTS TO THE CONTRACTOR.**

### **10.1 Contract Price.**

The College will pay the Contractor as full compensation for performing the Work the Contract Price as adjusted by approved change orders that increase or decrease the Contract Price. The College will do so in accordance with this Article, any supplemental General Conditions regarding payment, and the payment terms in the Contract for Construction. Payment provisions in the supplemental General Conditions that add to or modify this Article shall take precedence over this Article. Payment provisions in the Contract for Construction that add to or modify payment terms shall take precedence over the supplemental General Conditions and this Article.

### **10.2 Monthly Progress Payments.**

The College will pay the Contractor monthly progress payments as the Work proceeds and will pay for the Work completed, less retainage. The Contractor shall submit monthly invoices using the College's invoice form for the Work completed in each calendar month, and the monthly invoice shall be submitted in accordance with the Contract. The Contractor shall be entitled to monthly progress payments based on the percentage of the Work completed (less earlier payments), and that amount shall be based on the Unit Schedule Breakdown and the update of the Project Schedule for the billing period showing schedule activities completed and progress on incomplete activities, in conjunction with the values assigned to those activities. If there is a discrepancy between the amount due based on the Unit Schedule Breakdown and the amount due based on the Project Schedule update, the Contractor shall only be entitled to the lesser amount unless the College's Representative, in his/her sole discretion, decides otherwise. Payments made by the College shall be used by the Contractor solely for purposes of this Project and for paying Subcontractors, suppliers, and for labor and materials, and shall not be used to pay debts owed by the Contractor outside of the Project.

### **10.3 Unit Schedule Breakdown/CPM Activity Price Breakdown.**

Before the Contract for Construction is signed, the Contractor shall submit to the College and the Architect a Unit Schedule Breakdown (schedule of values) utilizing the College's form (AIA Documents G702/G703) which reasonably allocates the Contract Price among the principal categories of Work and materials in the Contract. The Unit Schedule Breakdown must be signed by the Contractor and is subject to written approval by the Architect and the College for use in calculating monthly progress payments under the Contract. The Contractor shall not "front end load" the Unit Schedule Breakdown. The Unit Schedule Breakdown may include line items for mobilization, bonds and insurance.

The Contractor's proposed Project Schedule shall reasonably allocate the Contract Price among the activities in the schedule so that monthly Project Schedule updates can be utilized in connection with the Unit Schedule Breakdown in determining the amount of monthly progress payments. The Contractor's Unit Schedule Breakdown and Project Schedule activity price breakdown must be approved in writing by the Architect and the College before any payments are made under the Contract.

### **10.4 Invoices For Monthly Progress Payments: Form and Content.**

The Contractor must utilize the College's invoice form and the invoice forms (AIA Documents G702/G703 and waiver attachments) must be completed before they are submitted for payment. Each invoice must be signed by the Contractor, and shall certify that the Work and materials represented as having been provided have been provided, and that all Subcontractors and suppliers on the Project have been paid all amounts legitimately due for Work and materials billed to the College in earlier invoices that were paid by the College. The Contractor's submission of an invoice constitutes an affirmative representation and warranty by the Contractor that it performed the Work in compliance with the Contract Documents and applicable laws, codes and regulations.

Invoices for monthly Project payments must include the status of the Work in the Unit Schedule Breakdown and the Project Schedule update for the billing period that shows the activities completed or started and the value of them based on the Project Schedule. Invoices must also include certified payrolls for the Contractor and all Subcontractors for the billing period, affirmative action monthly manning reports, a certification of Subcontractor/supplier payments, the College's acknowledgment of progress payment and release of liens and claims form duly executed by the Contractor, the College's acknowledgment of progress payment and release of liens and claims form duly executed by each Subcontractor and supplier who has furnished labor or materials that are the subject of the current invoice, a list of all materials stored to date including descriptions, values, quantities and location, and any other documents required in the Contract Documents.

The Contractor will be entitled to have an invoice paid if the Architect and the College approve in writing the invoice including the percentage of Work completed, and if the quality of the Work and materials conform to the Contract Documents. The approval of invoices shall not waive claims for defects or deficiencies in the Work or materials provided, or the right to subsequently inspect the Project as a complete and functioning whole.

## **10.5 Payment For Materials And Equipment Procured But Not Installed.**

The Contractor may seek payment in monthly invoices for materials and equipment delivered to the Project site but not yet incorporated into the Work. The Contractor shall include with its monthly invoices a list of the stored equipment, the amount and type of stored materials, and the place where they are stored. Each invoice that seeks payment for materials and equipment delivered to the Project site but not installed or incorporated into the Work shall include a signed bill of sale to the College and an invoice from the supplier. All risk of loss or damage for materials and equipment delivered to the Project site shall remain with the Contractor.

The College will only rarely pay for material or equipment stored offsite, and only when it determines, in its sole discretion, that there is good cause. The College will consider no request to pay for materials or equipment stored off site unless the Contractor includes a written request for such payment with its bid for the Project. If the College does agree to pay for material or equipment stored offsite during the performance of the Contract, it will do so when the Contract for Construction is signed.

If the College does agree to pay for materials and equipment stored offsite, such payments shall be subject to any conditions in the signed Contract, and in all cases, a bill of sale to the College, a paid invoice, insurance and proof the storage facility is bonded will have to be provided to the College when each payment is sought. The location will have to be specified in writing and the material or equipment will have to be inspected by the College. The Contractor and its performance bond surety must agree in writing that they retain all risk of loss or damage, and each payment application must contain a consent to payments for materials stored offsite signed by the Contractor's bonding company.

Payments on account of materials or equipment not incorporated into the Work but delivered and suitably stored at the site, or at some other location agreed upon in writing, may be made by the College subject to the following conditions:

- (a) Such materials or equipment shall have been fabricated or assembled specifically for the Project and delivered to storage no earlier than needed for the orderly progress of the Work as demonstrated by the Project Schedule.
- (b) Title to such materials or equipment shall pass to the College pursuant to the Contractor's bill of sale, which shall contain guarantee of replacement thereof in the event of damage thereto or disappearance thereof due to any cause. The Contractor shall also affirm that it will pay for such materials or equipment immediately upon receipt of payment therefore from the College.

In the case of offsite storage, the Contractor shall also provide Consent of Surety to such payment and insurance of such materials or equipment against the perils set forth in these General Conditions both while storage and during transportation to the site. Raw materials or other materials or equipment readily duplicated or usable on other projects will be paid for only

after the materials are incorporated into the construction.

#### **10.6 Retainage.**

The College will retain 2% of the amount due on each partial payment pending Final Completion of the Contract.

Retainage amounts being withheld by the College shall be released and paid in full to the Contractor within 45 days of the Final Completion Date agreed upon by the Contractor and the College, without further withholding of any amounts for any purpose whatsoever, provided that the Work has been Finally Completed as indicated.

#### **10.7 Payment For Change Order Work.**

The Contractor shall invoice for change order work in the monthly progress payment invoices as the change order work is performed, but may only do so after a written change order has been signed by the appropriate College personnel and a TCNJ Purchase Order is issued by the College.

#### **10.8 Final Payment.**

Upon Final Completion of all the Work including all change orders, upon final acceptance of the Work by the Architect and the College, and upon the issuance of the Certificate of Final Completion, the Contractor will be paid the fully adjusted Contract Price including any retainage. The Contractor shall submit an invoice for the final payment. The final invoice must be accompanied by the College's acceptance of final payment and release of liens and claims form duly executed by the Contractor, the College's acceptance of final payment and release of liens and claims form duly executed by each Subcontractor and supplier who has furnished labor or materials that are the subject of the final invoice, all warranties, guarantees, manufacturer literature, approved as-built drawings, shop drawings required, and any other documents that the Contractor is required by the Contract Documents to provide to the College at the time of Final Completion. The final invoice must also include a written signed consent to the final payment signed by the Contractor's bonding company.

#### **10.9 Payment Terms.**

All invoices and payments shall be subject to the terms of the Contract for Construction and these General Conditions, including the provisions regarding payments, and to the right of the College to withhold payments or to make deductions from payments for damages, defective work, liquidated damages, third-party claims, failure to complete Work, failure to comply with requirements of the Contract Documents, failure to comply with Prevailing Wage Act requirements set forth in the Contract for Construction and these General Conditions, failure to comply with Project Schedule obligations, or other causes authorized by the Contract Documents.

### **10.10 Payment Based On Partial Acceptance (Limitation).**

The College will not accept portions of the Project as Substantially or Finally Complete unless specified elsewhere in the Contract Documents. If the Specifications authorize partial acceptances, they will also specify the terms and conditions of such acceptances.

### **10.11 Failure To Pay Amounts In Dispute Not To Affect Performance.**

The failure of the College to pay any amount requested by the Contractor in an invoice based on a determination that the invoice is improper or some other dispute shall not entitle the Contractor to stop or slow down the performance of the Work.

### **10.12 Reasons For Withholding Payment.**

In addition to the reasons set forth elsewhere in the Contract for Construction and these General Conditions, the Architect or the College may also withhold payments to the Contractor, or, because of subsequently discovered evidence, may nullify the whole or a part of a payments previously issued to the Contractor, to such extent as may be necessary in the Architect's or the College's opinion to protect the College from loss for which the Contractor is responsible because of

- (a) defective Work not remedied;
- (b) third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the College is provided by the Contractor;
- (c) failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- (d) reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;
- (e) damage to the College or a separate contractor;
- (f) reasonable evidence that the Work will not be completed within the Contract Times, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;
- (g) failure to comply with requirements for monthly progress payments pursuant to Article 10.4; or
- (h) failure to carry out the Work in accordance with the Contract Documents.

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

If the College withholds or the Architect recommends that the College should withhold payment from the Contractor under subsection (c) above, the College may, after providing the Contractor with written notice and an opportunity to cure, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. However, by doing so, the College is not undertaking any payment obligation on the part of the

Contractor, nor does any Subcontractor have any claims against the College or any right to future joint check payments.

### **10.13 Set-Off For State Tax Indebtedness.**

Pursuant to N.J.S.A. 54:49-19, and notwithstanding any other provision of law to the contrary, if the Contractor or any of its Subcontractors or suppliers are indebted to the State of New Jersey for any State tax, the College may withhold and/or set off any payments due to the Contractor as may be necessary to satisfy such indebtedness and/or pending resolution of the indebtedness.

### **10.14 Maintenance Of Cost And Accounting Records.**

The Contractor shall maintain and retain weekly payroll, material, Subcontractor, supplier, overhead and other cost and accounting records for the Project, and for additional services or extras required by the College, including all costs that the Contractor is entitled to be paid under the Contract. The Contractor shall require its Subcontractors on the Project to do likewise. The Contractor shall also maintain all estimates and takeoffs used in preparing and calculating its bid price for the Contract and change orders. Pursuant to N.J.A.C. 17:44-2.2, the Contractor shall also maintain all documentation related to products, transactions or services under the Contract. The records shall be maintained and shall be made available to the College or its representatives when requested. These records shall be maintained in accordance with generally accepted accounting principles and practices for a period of 5 years after final payment is received by the Contractor, or the duration of any dispute or lawsuit arising out of the Project, whichever is later, and shall be made available to the College or its representatives and the New Jersey Office of the State Comptroller when requested.

Any failure to maintain or produce the records required by this Article shall preclude the Contractor from claiming or being paid or retaining any payments or being paid on any claims that are based on costs or that should be, and expenses or losses incurred by the Contractor or its Subcontractors including extra costs that are or that should be reflected in the records required by this Article or good business practices. This record keeping requirement applies to records related to the basic Contract Price as well as extra compensation for change orders and claims of all kinds.

No claim by the Contractor against the College for payment, whether for Contract Work, extras, changes or claims that is based to any degree on costs that should be recorded in cost records required by this Article or good business practices may be asserted against the College to the extent the cost records do not exist or are not provided to the College upon demand.

The College reserves the right to audit the records of the Contractor and its Subcontractors at any time and for up to 3 years after the Final Completion of the Project. If an audit reveals overpayment by the College, the Contractor shall refund the cost of the audit and the overpayment to the College, or the College may deduct the cost of the audit and the overpayment from future payments under the Contract, or the College may assert claims against the Contractor and/or its surety for the cost of the audit and such overpayments.



### **10.15 Written Evidence of Payment to Subcontractors.**

The College has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers' amounts paid by the College to the Contractor for subcontracted Work. Such evidence shall include acknowledgment of progress payment and release of liens and claims forms duly executed by each Subcontractor and supplier for payments previously made to the Contractor. If the Contractor fails to furnish the College with the written evidence that it has properly paid Subcontractors and material and equipment suppliers, the College shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the College nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law. The College may, in its sole discretion, issue checks made payable jointly to the Contractor and a Subcontractor; however, by doing so, the College is not undertaking any obligation on the part of the Contractor, nor does the Subcontractor have any claims against the College nor any right to future joint check payments.

## **ARTICLE 11** **CHANGES.**

### **11.1 Changes Authorized.**

The College may at any time authorize and direct changes in the Work or accelerations of the Work that change the scope of the Work and that increase or decrease the Contract Price. All changes including changes in the Contract Price shall be governed by this Article. All changes must be in a written change order signed by the Vice President for Administration, the College's Representative, the Architect and the Contractor. A TCNJ Purchase Order will then be issued by the College and signed by the Contracting Officer, after which time, the Contractor can then bill for the completed change order Work. Any extensions in the Contract Times and increases in the Contract Price because of extensions resulting from changes shall be governed by Article 9 of these General Conditions regarding extensions, but the authorization for the extra compensation itself resulting from an extension must be contained in a change order that complies with this Article as well. The College may elect to have changed Work on the Project that is within the scope of the Contract Documents performed by another contractor. Changes in the Work shall not affect the surety bond protection or insurance coverage required by the Contract Documents.

### **11.2 Change Request Or Directive.**

The College may request a change in the Work or materials to be provided under the Contract Documents by a written Contract Change Directive ("CCD") signed by the College's Representative. If the College is of the opinion that no change in the Contract Price or Contract Times is required because of the change request, it shall so state in the CCD. A CCD may include provisions regarding the scope of the changed Work or materials, and may also include conditions including time parameters. A CCD may provide that specified Work shall stop until further notice, but the Contractor shall not stop or delay any Work because of a CCD unless the CCD provides that Work should stop because of the change. A CCD may provide that the performance of changes shall not commence until a change order is issued and a subsequent

TCNJ Purchase Order is issued and signed by the Contracting Officer, or that changed Work should proceed before a change order and TCNJ Purchase Order are issued by the College to maintain the progress of the Project.

### **11.3 Change Orders Which Are Protested.**

If the Contractor protests the terms of a change order, it shall notify the College of its protest in writing within 2 business days of the issuance of the Change Order. It shall describe the terms that it objects to and the reasons for its protest. It shall include supporting documentation if appropriate, including detailed justification for any Contractor requested additional compensation based upon unavoidable additional costs. The College may elect to direct the Contractor in writing to perform the change order requirements despite the protest. If it does so, the Contractor's right to pursue further relief based on the protest shall be preserved and the Contractor shall immediately proceed with the change Work

### **11.4 Changes Affecting Contract Times.**

Changes and change orders shall not affect or extend any of the Contract Times unless the change order itself specifies that it changes Contract Times. If a change order issued by the College delays the completion of any activity in the Project Schedule, the time allowed for that activity shall be extended, and if a delay in that activity delays other activities, the critical path or the Completion Dates in the Contract, they too will be extended. The Contractor shall make reasonable efforts in scheduling changed Work so that it does not delay or extend activities in the Project Schedule critical path, including any Milestone Dates, the Substantial Completion Date and the Final Completion Date. The Contractor shall also make alternate proposals for change order Work that include acceleration for the changed Work where feasible to achieve this goal, and shall include the cost of such efforts in its change order requests and proposals.

Change orders must specify whether they result in any delay (or extension) to any critical path activities in the Project Schedule, including an identification of the activities and the amount of delay in each. If no delay or extension is set forth in a change order, it will be deemed an agreement by the College and the Contractor that no delay or extension results from the change order.

### **11.5 Contractor Initiated Change Order Requests.**

If the Contractor contends that any directive or communication from the College or Architect, or any condition, event or circumstance entitles it to a change order changing the scope of the Work, terms of the Contract Documents, Contract Price or Contract Times, it shall submit a written change order request to the College's Representative within 5 days of the event upon which the request is based. The written request shall specify the terms of the change order requested, and include all documentation and information that the Contractor seeks to have considered in support of the request, or that is necessary to a proper consideration of the request.

## 11.6 Change Order Amounts.

All price changes or amounts in change orders shall be based on (i) lump sum, (ii) actual work time and materials plus mark-ups for overhead and profit, or (iii) unit prices times actual quantities that may or may not include separate mark-ups for overhead and profit. If a change order price is to be based on a lump sum price or a unit price, the College may request the submission of such documentation regarding market price or cost which it reasonably deems necessary to determine a lump sum or unit price. If a change order is based on actual work time and material costs, it will include a not-to-exceed price.

Applications for payment for change order Work shall be included in monthly progress payment invoices as the change order work is performed, but only after a TCNJ Purchase Order has been issued to the Contractor by the College. For change orders based on time and material costs or unit prices times actual quantities, the time spent, material provided, and quantities performed shall be recorded in daily time slips, material invoices, and quantity of work performed tickets that are signed by the College's Representative to certify that the Work and materials were provided, and the quantities. Labor costs and material costs for change orders shall be based on actual costs to the Contractor without any mark-ups except as provided in this Article.

Mark-ups may be added to time and material costs where a change order is authorized to be paid on a time and material basis, and also unit price change orders if the change order price term expressly authorizes mark-ups as a separate additional charge to be added to the unit price. When mark-ups for overhead and profit are authorized, the standard mark-up for overhead and profit shall be 15% of net costs properly invoiced in the change order. The schedule for mark ups is as follows:

- 15% of direct costs for overhead, profit, bond, and insurance for Work performed directly by the Contractor;
- 15% of direct costs for overhead, profit, bond, and insurance for Work performed directly by the Subcontractor and 5% of the direct and indirect costs of the Work performed by the Subcontractor for the Contractor; and
- 15% of direct costs for overhead, profit, bond, and insurance for Work performed directly by the Subcontractor's subcontractor and 5% of the direct and indirect costs of the Work performed by the Subcontractor's subcontractor for the Subcontractor and 5% of the direct and indirect costs of the Work performed by the Subcontractor for the Contractor.

There shall be no additional mark-ups for materials or supplies. Bond and insurance costs are included in the noted mark ups above. Refer to Division 1 Specifications also for further delineation of items included in mark-ups.

**THE CONTRACTOR MUST USE THE COLLEGE'S CHANGE ORDER FORM INCLUDED IN THE PAYMENT PROCEDURE DOCUMENTS.**

### **11.7 Right To Audit Extra Costs (Before And After Payment).**

The College reserves the right to audit all change orders and additional costs claimed and/or paid under the Contract at any time. The obligation of the Contractor, Subcontractors and suppliers to establish, maintain and produce cost records and remedies for failing to do as specified elsewhere in these General Conditions and the Contract for Construction shall govern. If an audit reveals that actual costs invoiced to the College and/or paid by the College in change orders exceed the actual costs incurred, the Contractor shall refund the excess, or the College may deduct the excess from future payments under the Contract, or the College may assert claims against the Contractor and/or its surety for such overpayments.

### **11.8 Change Orders With Both Price Increases and Decreases.**

If a change order reduces the scope of the Work or materials to be provided by the Contractor under the Contract, the change order shall provide for a reduction in the Contract Price in the amount of the actual reduction in cost. If a change order results in both added costs and reduced costs, they shall be combined for a net plus or minus Contract Price adjustment, and when mark-ups are applicable, they shall only be added to a net increase in the Contract Price which results from a combination of additions and deductions in the change order.

### **11.9 Waiver Of Rights In Connection With Change Orders Issued Without Protest.**

The Contractor shall not be entitled to seek any additional compensation or any extension of the Contract Times beyond the amounts and any extensions included in a change order signed by the College or a written change order request submitted by the Contractor to the College for approval, the intent being that the Contractor must disclose all additional costs and delays claimed to result from a change so that the College can take measures in considering the change to effect cost savings and avoid delays. The failure to include extra costs or delays in a change order request will preclude the Contractor from later claiming such costs or delays in connection with the change in any form or fashion.

## **ARTICLE 12** **COMPLETION.**

### **12.1 Substantial Completion.**

When the Contractor believes that the Project (or a specific phase of the Work, if the Work is to be performed in phases) is Substantially Complete, meaning all essential requirements of the Work have been sufficiently completed so that the Project (or a specific phase) can be occupied and used for its intended purpose (and as further defined in the College's Division 1 specifications for capital projects), it can make a written request to the Architect and the College to conduct an inspection and to issue a Certificate of Substantial Completion. The Contractor's request shall list all Work and requirements of the Contract Documents that remain to be completed or corrected and an estimate of the value of the incomplete items and the dates by which those items of the Work will be completed, but in no event shall it be more than thirty (30) days from Substantial Completion.

The Architect and the College will conduct an inspection, and if they determine the Contractor has Substantially Completed the Project (or a specific phase of the Work, if the Work is to be performed in phases), the College will issue a Certificate of Substantial Completion. If the Architect and the College determine that the Contractor has not achieved Substantial Completion, the College will notify the Contractor in writing and will list the Work and requirements of the Contract Documents that must be completed for Substantial Completion and provide a punchlist. The Architect and the College will also assign a value to the incomplete items to be added to the 2% retainage held after the Certificate of Substantial Completion is issued. The College and the Architect will re-inspect when the Contractor notifies them in writing that those items have been completed.

Any failure of the College or Architect to include incomplete or deficient items in a Certificate of Substantial Completion or a notice regarding a Substantial Completion inspection shall not affect the Contractor's obligation to properly complete all requirements of the Contract.

The College will not issue a Certificate of Substantial Completion unless it can occupy and use the Project (or the phase of the Work) for its intended purpose, and the Contractor agrees that the College's use and occupancy of the Project (or the phase of the Work) shall not affect the Contractor's obligation to complete the Project and requirements of the Contract Documents. The Contractor also agrees that its completion of the Project will not unreasonably interfere with the College's occupancy and use of the Project (or the phase of the Work) and that the College's occupancy will not impede the Contractor's completion of the Work to Final Completion.

Unless otherwise specified in the supplemental General Conditions, a Certificate of Substantial Completion will not be issued unless an unqualified temporary or permanent certificate of occupancy is issued, and the College is able to use and occupy the Project (or the phase of the Work) without interruption.

The issuance of a Certificate of Substantial Completion shall not void or alter any of the other terms of the Contract Documents, including but not limited to terms relating to warranties, or relieve the Contractor of its obligation to complete the Work or remedy defective Work or materials, unless such terms are expressly modified by the Certificate of Substantial Completion.

Guarantee periods for equipment, workmanship and materials shall commence when the Certificate of Substantial Completion is issued or from the completion and acceptance of equipment, workmanship or materials, whichever is later, unless otherwise specified in the supplemental General Conditions or the Certificate of Substantial Completion.

The rights of the Contractor regarding payments upon the issuance of the Certificate of Substantial Completion shall be as provided in the payment provisions of the Contract for Construction and these General Conditions.

## **12.2 Final Completion.**

The Contractor shall notify the Architect and the College in writing when it has completed the entire Project (or a specific phase of the Work, if the Work is to be performed in

phases) and has satisfied all of the requirements of the Contract Documents for Final Completion. The Architect and the College will then conduct an inspection, and if they determine that the Contractor has completed the entire Project (or a specific phase of the Work, if the Work is to be performed in phases) and has satisfied all of the requirements of the Contract Documents for Final Completion, the College will then issue a Certificate of Final Completion. If any items remain incomplete or unsatisfactory, the College will notify the Contractor in writing and list the incomplete or unsatisfactory items. The Contractor shall immediately complete and correct any unfinished items and notify the Architect and the College in writing and request a follow-up inspection for Final Completion.

The Certificate of Final Completion will not be issued until all documents required by the Contract Documents have been provided, including the College's acceptance of final payment and release of liens and claims forms duly executed by the Contractor and any Subcontractors and suppliers who have furnished labor or materials under the Contract, warranties, maintenance and operating instructions, certificates, insurance, shop drawings required, and as-built drawings approved by the Architect. Final Completion must include leaving the entire Project site and the Project (or the phase of the Work) clean, neat and orderly. All distortions, cracks, delaminating and deteriorations of finished surfaces must be remedied. All broken items shall be repaired. All paint spots, stains and plaster must be removed. All unused equipment and excess material shall be removed. The Project and the Project site (or the phase of the Work) shall be clean and finished.

If the Contractor unreasonably delays completing and correcting items needed for the issuance of the Certificate of Final Completion, the College may unilaterally issue a Certificate of Final Completion that lists incomplete and defective items, and that deducts any applicable liquidated damages and the cost of remedying incomplete and defective items from the final amount due to the Contractor under the Contract.

Final payment will not be made until the Certificate of Final Completion is issued, and the final payment shall be subject to the payment provisions in the Contract for Construction and these General Conditions.

## **ARTICLE 13** **SUSPENSION AND TERMINATION OF CONTRACT.**

### **13.1 Suspension By The College.**

The College shall have the right to stop or suspend the Work in whole or in part at any time. The Work may only be stopped or suspended by a written directive of the College's Representative, except in an emergency. The College's Representative may stop or suspend the Work in whole or in part on an emergent basis, either verbally or in writing, but any such emergent suspension or stop Work order shall be confirmed by a written directive from the College's Representative within 48 hours. The College may stop or suspend the Work because of any conditions affecting health or safety on or off site, any dangerous condition, any environmental hazard, the convenience of the College, or the public interest. If a directive to

stop or suspend all or part of the Work includes directions to secure the site, the Contractor shall perform the Work required in the directive. The Contractor shall also maintain the safety and security of the Project during the suspension for the protection of the site, Work in place, materials and equipment on site, persons on or near the site, and the College's property.

If all or part of the Work is suspended in response to a problem or condition caused by the Contractor's performance of its Contract, or parties other than the College itself, or conditions over which the College has no control, the Contractor will not be entitled to any additional compensation for the suspension. If the College directs the suspension of Work because of the improper performance of the Contract by the Contractor or those performing its Contract, the Contractor will not be entitled to any extension of any Contract Times or additional compensation by reason of the suspension. If a suspension is directed for reasons other than the fault of the Contractor or others involved in its performance of the Contract, the Contractor will be entitled to an extension under and to the extent authorized in Article 9, and additional compensation under and to the extent authorized by Article 11.

### **13.2 Termination For Convenience.**

The College may, by a written directive, terminate the Contract at any time before completion for the College's convenience or where it concludes that it is in the public interest to do so. The Contractor shall complete any items of Work specified in the notice of termination for convenience and any Work necessary to make the site safe for all persons and property at or near the Project site when the College terminates the Contract for convenience under this Article.

Absent the Contractor fault or violation of the Contract, the Contractor shall be paid in full for all properly completed Work, subject to the payment provisions in the Contract for Construction and these General Conditions. The Contractor will not be entitled to payment for costs and mark-ups for Work or materials not provided before the termination, or costs for Work and materials not provided unless the Contractor cannot avoid liability to pay those costs, or profit or overhead on the portion of the Contract that will not be performed because of the termination, or other types of damages. The extra compensation payable to the Contractor in connection with a termination for convenience may include the cost of materials or equipment purchased for the Project before termination but not installed if the Contractor cannot otherwise use or sell them.

The Contractor will also be entitled to reasonable termination costs in reasonable amounts for additional direct costs in connection with the termination, but not administrative, home office or overhead costs, lost profit, or consequential damages. In addition, any claims shall be subject to the provisions in the Contract for Construction and these General Conditions regarding claims and the maintenance of cost records.

The Contractor shall include provisions similar to this Article in subcontracts and supply contracts for the Project. When a termination for convenience is directed by the College, the Contract shall be closed out in accordance with the provisions of the Contract for Construction and these General Conditions regarding payment and Project completion.

### **13.3 Termination For Cause.**

The College may terminate the Contract for cause if the Contractor (i) commits violations of the Contract Documents, (ii) fails to perform the Work in accordance with the Contract Documents including the Project Schedule, (iii) fails to comply with applicable laws, rules or regulations, (iv) fails to pay Subcontractors or suppliers to the extent reasonably required, (v) becomes insolvent or becomes a debtor in a bankruptcy proceeding, (vi) fails to pay its debts, (vii) is found to have made false or misleading statements to the College in writing in obtaining the Contract or payments, (viii) fails to comply with employment discrimination laws, (ix) fails to pay prevailing wages, (x) fails to maintain or renew the required insurance, (xi) fails to maintain proper protection for the safety of persons or property on the site, (xii) fails to comply with reasonable and authorized directives of the College under the Contract, or (xiii) assigns its rights or interests under the Contract or payments under the Contract to any third party.

If the College terminates the Contract for cause, it shall first send a notice of intent to terminate to the Contractor and the Contractor's surety. The notice shall direct the Contractor to remedy or eliminate the deficiency within a specified time if the problem is one that can be eliminated. If the Contractor fails to reasonably comply with the directive and notice, the College may after 10 days issue a notice of termination to the Contractor and its surety which terminates the Contract effective immediately and specifies the reason for the termination.

If the Contract is terminated, the Contractor shall secure the site and take measures to leave the site safe for persons, material, Work in place and equipment before departing the site, and shall remove all tools and equipment within 5 days of the termination effective date. The Contractor shall not remove any materials or equipment stored on site unless directed to do so by the College. When the Contract is terminated, the Contractor shall deliver materials purchased for the Project and paid for by the College, but not stored on site, together with all appropriate warranties and guaranties to any location designated by the College.

If the Contractor's surety does not take over the completion of the Work in accordance with this Article, the College may appropriate any or all materials on the site that may be suitable and acceptable and may enter into an agreement for the completion of the Work with another contractor, or use other methods to complete the Work.

All damages, costs and charges incurred by the College together with the cost of completing the Work, will be deducted from any monies due or which may become due to the Contractor for Work properly completed by it before the termination. If such expenses exceed the sum available from the unpaid Contract Price, the Contractor and its surety shall be liable and shall pay to the College the amount of such excess in addition to other damages.

The rights and remedies of the College in connection with a termination for cause shall be in addition to other rights and remedies which it has under law, the Contract, and the Contractor's bond.

If the College terminates the Contract for cause and it is subsequently determined by a court that the Contractor was not in default, or that the termination was legally unjustified, the termination will be deemed to be a termination for convenience under this Article, and the rights



and remedies of the Contractor and its surety for the termination will be limited to those which exist in connection with a termination for convenience. If the College terminates the Contract for cause, the Contractor may not file a suit to recover on any claims arising out of the Project before the Work is Substantially Complete.

#### **13.4 Surety Takeover Following Termination For Cause.**

If the College terminates the Contractor for cause, the Contractor's performance bond surety may elect to takeover and complete the Contractor's Work and obligations under its Contract. If the surety elects to take over the completion of the Contract, it may only do so on the following conditions:

- (a) The surety must notify the College that it will take over completion of the Contract by a written notice of intent signed by a representative authorized to bind the surety within 5 calendar days of the surety's receipt of the College's notice of termination.
- (b) The surety and the College must execute a written takeover agreement within 10 days after the surety sends its notice of intent to takeover. The takeover agreement signed by the surety and the College, must:
  - i. contain an acknowledgement and agreement by the surety to assume the obligation to complete the balance of the Work under the Contract and to perform all of the Contractor's obligations under the Contract at the surety's sole cost and expense, and to utilize only contractors approved by the College to complete the Work, which approval shall not be unreasonably withheld;
  - ii. provide that the surety is entitled to be paid the unpaid balance under the terminated Contractor's Contract in accordance with and subject to the terms of the Contract for Construction and these General Conditions;
  - iii. provide that the surety is not relieved of any of its obligations under its payment and performance bond for the Project, and that the College retains its right to withhold money for Contract payments to compensate for damages or for other reasons where authorized under the Contract for Construction or these General Conditions; and
  - iv. provide that it is without prejudice to and is subject to all of the rights and remedies of the College, the surety, and the defaulted Contractor, and the surety may not require the College to agree to a takeover agreement that seeks to extinguish any such rights.
- (c) The surety must also pay without delay all obligations of the terminated Contractor for Work and materials on the Project, subject to a reasonable allowance of time to investigate and verify claims.

#### **13.5 Suspension By The Contractor For Non-Payment.**

If the Contractor is not paid sums due under an approved invoice within thirty (30) days of the billing date, it may suspend performance without penalty for breach of Contract, but only

after providing the College with 7 days written notice of non-payment, and only in the event that the College fails to furnish the Contractor, within that 7 day period, with a written statement of the amount withheld and the reasons for the withholding. Nothing herein shall be construed to excuse the Contractor's nonperformance, or to limit the College's rights and remedies relating to such nonperformance, with regard to any monies withheld from the Contractor upon the proper notice provided under this Article, or with regard to any Contractor claim disputed by the College.

## **ARTICLE 14** **WARRANTY/DEFECTIVE WORK AND MATERIALS**

### **14.1 General Work One Year Warranty; HVAC Systems Two Year Warranty**

The Contractor warrants and guarantees for a one year period that all Work, materials and equipment (and for a two year period that all HVAC work) conform to the Contract Documents and will not fail or manifest defects, that the Project and all its components will be fit for their intended functions, and that all material and equipment will be new and of good quality.

The general one year warranty period (or two year warranty period for HVAC work) shall commence when the Certificate of Substantial Completion is issued, and the one year period (or two year period for HVAC work) shall commence on that date for all components of the Project, including any equipment activated and operated before Substantial Completion, such as HVAC systems, electrical systems and elevators.

During the one year warranty period (or two year warranty period for HVAC work), the Contractor shall repair and remedy at its own expense any premature failure, defects or deficiencies in any Work, materials or equipment that are discovered or that develop during the one year period (or two year period for HVAC work), and shall do so within 5 days after receipt of a written warranty claim from the College. The Contractor shall also repair damages caused by any failure or defect covered by this warranty. A failure to provide the warranty service required shall constitute a breach of this warranty obligation as well as other applicable provisions of the Contract. This warranty shall not cover failures caused solely by substantial misuse or abuse by the College.

This general one year warranty (or two year warranty for HVAC work) is intended to provide the College with prompt warranty service for all aspects of the Project for the one year period (or two year period for HVAC work). It is not intended to limit or extinguish any additional warranties required by any of the Contract Documents, or provided by manufacturers of systems, equipment or materials provided under the Contract. It is not intended to eliminate or reduce the College's rights and remedies under the Contract Documents and law for defects and deficiencies in the Work, materials and equipment, or the time period of the Contractor's general responsibility and liability.

## **14.2 Defective Work, Materials And Equipment.**

Apart from the general one year warranty (or two year warranty for HVAC work) provided for in this Article, the Contractor shall be responsible for defective Work, materials and equipment and any failure of these items to comply with the Contract Documents. This obligation shall extend beyond Substantial Completion, Final Completion and the general one year warranty (or two year warranty for HVAC work) in this Article.

If defects in the Work, materials or equipment or non-conforming items are discovered during construction and before Final Completion, the Contractor shall promptly correct them at its own expense. If the Contractor fails to correct defective or non-conforming Work, material or equipment in response to a written notice from the College, either during construction or after Final Completion, the College may employ others to provide the remedial work and the Contractor and its surety shall be liable for the cost thereof and damages incurred by the College. The Contractor and its surety shall also be liable for the cost of making good all Work and material destroyed or damaged by defects or the correction of defects.

If any portion of the Contractor's Contract Price remains in the custody of the College, either earned or unearned, the College may deduct money paid to others to remedy defects after notice is sent to the Contractor and damages incurred by the College when the Contractor fails to provide a remedy in response. The Contractor's responsibility for defects and non-conforming Work, material and equipment shall not be limited in time except by applicable law.

The Contractor's responsibility for defective Work shall not be affected by either the performance or the lack of performance of inspections by the College or the Architect. The issuance of payments, a Certificate of Substantial Completion or a Certificate of Final Completion shall not constitute acceptance of Work, material or equipment that is deficient or not in compliance with the Contract, or limit the Contractor's warranty or the other Contract obligations.

## **ARTICLE 15**

### **INDEMNIFICATION/LIABILITY TO THIRD PARTIES.**

#### **15.1 The Contractor's Indemnification Obligation.**

To the fullest extent permitted by law, the Contractor shall defend, indemnify, and hold harmless the College, the State of New Jersey, the New Jersey Educational Facilities Authority, Trenton State College Corporation, and any other persons or entities designated by the College, and the officers, directors, principals, attorneys, agents, servants, and employees of any of them (collectively the "Indemnified Parties") from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from: (1) performance of the Work, whether such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including loss of use resulting therefrom caused in whole or in part by the negligent or willful acts or omissions of the Contractor, Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder or (2) any one or more of the items set forth in

this Article. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Article.

In claims against any person or entity indemnified under this Article by an employee of the Contractor, a Subcontractor or anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Article shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts, nor shall the same be limited by the types or limits of insurance carried or to be carried by the Contractor or any Subcontractor pursuant to the Contract Documents or otherwise.

The indemnity, defense, and hold harmless obligation set forth in this Article shall be supplemented by the following:

- (a) any claims or liens of Subcontractors, except to the extent that the non-payment upon which the claim or lien is predicated resulted solely from the College's wrongful failure to pay the Contractor sums due under the Contract;
- (b) any fines, penalties, liquidated damages, assessments or other executions imposed by any governmental authority having jurisdiction over the Project by reason of the Contractor's failure to comply with any requirement of the Contract;
- (c) any losses, damages, or expenses incurred by reason of the Contractor's failure to obtain and maintain in force or cause to be obtained and maintained, the insurance required by the terms of the Contract;
- (d) any losses, damages, or expenses incurred by reason of any failure (whether or not specifically identified herein) by the Contractor to perform its obligations under the Contract Documents or any breach of the Contract;
- (e) any claims, damages, or expenses incurred by reason of the Contractor's infringement or alleged infringement of any patent, copyright, or other intellectual property or similar rights; and
- (f) any claims, damages, liquidated damages, penalties, or fines assessed against the College, directly or indirectly, solely or partially by reason of the Contractor's failure to comply with any applicable laws, codes, statutes, or regulations.

If any judgment is rendered against the Indemnified Parties for which indemnification is required under this Article, the Contractor shall satisfy and discharge it. The Contractor shall reimburse the College for reasonable attorney fees, costs and expenses incurred by the Indemnified Parties in the defense of such suit or claim.

The College shall give written notice to the Contractor of claims and suits for which indemnification may be claimed pursuant to this Article.

The foregoing obligations shall survive the completion of the Work and final payment to the Contractor (or the sooner termination of the Contract) with respect to all matters accrued during the term of the Contract and such obligations shall not be construed to negate, abridge or reduce any other rights, obligations or indemnity which would otherwise exist as to a party or person indemnified by this Article.

### **15.2 The Subcontractor's Indemnification Obligation.**

The Contractor shall cause the indemnification obligations set forth in this Article to be included in all contracts with its Subcontractors.

## **ARTICLE 16** **INSURANCE AND BONDS.**

### **16.1 The Contractor's Insurance.**

The Contractor shall purchase from, and maintain with a company or companies lawfully authorized to do business in the State of New Jersey, insurance for protection from claims under workers' compensation and other employee benefit acts which are applicable, claims for damages because of bodily injury, including death, and claims for damages, including the Work itself, to property which may arise out of or result from the Contractor's operations and completed operations under the Contract, whether such operations be by the Contractor or by a Subcontractor or anyone directly or indirectly employed by any of them, until at least 1 year after the Final Completion and acceptance of the Project. This insurance shall be written for not less than the limits set forth below or as required by law, whichever coverage is greater, and shall include contractual liability insurance applicable to the Contractor's obligations under Article 15 (Indemnification). The Contractor expressly agrees that any insurance protection required by the Contract Documents shall in no way limit the Contractor's obligations under the Contract, and shall not be construed to relieve the Contractor from liability in excess of such coverage. Nor shall it preclude the College from taking such actions as are available to it under any other provisions of the Contract for Construction, these General Conditions or the law.

#### **16.1.1 Types and Minimum Amounts of Insurance:**

- (a) **Commercial General Liability Insurance (CGL).** Commercial General Liability insurance ISO CG 00 01 12 07 or later occurrence form of insurance including contractual liability with limits of at least **one** million dollars (\$ **1,000,000** ) per occurrence, and at least **two** million dollars (\$ **2,000,000** ) in the aggregate. The general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit. The CGL policy shall also include products/completed operations with limits of at least **one** million (\$ **1,000,000** ) in the aggregate. This insurance shall be maintained for at least 1 year after the Final Completion of the Project.
- (b) **Automobile Liability Insurance.** Comprehensive Automobile Liability insurance covering owned, non-owned, and hired vehicles. The limits of liability shall not be less than **one** million dollars (\$ **1,000,000** ) combined single limit for bodily injury and property damage for each occurrence.

- (c) **Workers Compensation/ Employer's Liability.** Worker's Compensation Insurance applicable to the laws of the State of New Jersey and other State or Federal jurisdictions required to protect the employees of the Contractor and any Subcontractor, sub-subcontractor or supplier who will be engaged in the performance of the Contract. The certificate must so indicate that no proprietor, partner, executive officer or member is excluded. This insurance shall include Employers' Liability Insurance with a limit of liability not less than one million dollars (\$1,000,000) bodily injury, each occurrence, one million dollars (\$1,000,000) disease, each employee, and one million dollars (\$1,000,000) disease, aggregate limit.

All required insurance coverages must be written by insurance companies acceptable to the College. All insurance companies must have a minimum A.M. Best's financial strength rating of A- or better, or an equivalent rating from another respected rating agency, and an A.M. Best's size rating of VII or greater.

**16.1.2 Additional Insureds.** All insurance required herein, except Worker's Compensation, shall name The College of New Jersey, the State of New Jersey, the New Jersey Educational Facilities Authority, Trenton State College Corporation and any other persons or entities designated by the College as additional insureds.

**16.1.3 Cancellation.** The certificates of insurance shall provide for 30 days written notice to the College before any cancellation, expiration or non-renewal during the term the insurance is required by the Contract.

**16.1.4 Evidence of Insurance.** The Contractor shall when the Contract for Construction is signed and before beginning the Work required under the Contract, provide the College with valid certificates of insurance signed by an insurance provider or authorized agent or underwriter to evidence the Contractor's insurance coverage as required in this Article, and also copies of the policies themselves. The certificates of insurance shall specify that the insurance provided is of the types and in the amounts required in this Article, and that the policies cannot be canceled except after 30 days written notice to the College. The Contractor shall also be required to provide the College with valid certificates of renewal when policies expire. The Contractor shall also, when requested, provide the College with additional copies of each policy and all endorsements required under the Contract, which are certified by an agent or underwriter to be true copies of the policies and endorsements issued to the Contractor.

**16.1.5 Remedies for Lack of Insurance.** If the Contractor fails to renew any of its required insurance policies, or any policy is canceled, terminated or modified, the College may refuse to pay monies due under the Contract. The College, in its sole discretion and for its sole benefit, may use monies retained under this Article to attempt to renew the Contractor's insurance or obtain substitute coverage if possible for the College's sole benefit, and may invoke other applicable remedies under the Contract for Construction and these General Conditions including claims against the Contractor and its surety. During any period when the required insurance is not in effect, the College may also, in its sole discretion, either suspend the Work under the Contract or terminate the Contract.

## **16.2 The Subcontractor's Insurance.**

The Contractor shall ensure that its Subcontractors purchase and maintain insurance on the same terms and with coverages customary for each trade as required by the Contractor under the Contract. The Contractor shall contractually obligate its Subcontractors to indemnify, defend, and hold harmless the College upon the same terms and conditions that the Contractor is required to do so as provided in Article 15 of these General Conditions (Indemnification).

## **16.3 Payment And Performance Bond.**

The Contractor is required to furnish the College with a payment bond and a performance bond from an approved surety as described in this Article and in the bid documents. The bonds shall conform to N.J.S.A. 2A:44-147. The Contract will not become effective until these bonds are provided to and approved in writing by the College. The bonds must also be accompanied by the surety disclosure statement and certification required by N.J.S.A. 18A:64-68.

# **ARTICLE 17** **DISPUTE RESOLUTION.**

## **17.1 Mediation.**

If a dispute or claim arises out of or relates to the Contract, or the breach thereof, and if the dispute cannot be settled through negotiation, the dispute or claim may, at the College's sole option, be subject to mediation administered by the American Arbitration Association under its Construction Industry Mediation Rules as a condition precedent to binding dispute resolution. The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in Mercer County, New Jersey, at the offices of the College's attorneys, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable in any court having jurisdiction thereof.

## **17.2 Method Of Binding Dispute Resolution.**

For any dispute or claim, not resolved by mediation pursuant to this Article, the method of binding dispute resolution shall be litigation in the state or district courts of the State of New Jersey, unless the College, in its sole discretion, decides to submit the dispute or claim to arbitration pursuant to this Article.

## **17.3 Arbitration (If The College Elects To Arbitrate).**

If the College decides, in its sole discretion, to submit a dispute or claim to arbitration rather than litigation as provided above, the arbitration shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Contract unless the parties mutually agree otherwise. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The arbitrator shall be a New Jersey licensed attorney with at least twenty (20) years' experience practicing in construction law. In the event that the parties mutually agree to use a panel of three arbitrators, then the construction attorney will be the

presiding arbitrator, one of the arbitrators will be a registered architect and the other will be a contractor, all of whom shall be neutral and independent. This Article shall not preclude the College or Contractor from instituting legal action to discharge an invalid construction lien. The arbitration hearing shall be held in Mercer County, New Jersey, at the offices of the College's attorneys, unless another location is mutually agreed upon.

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

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

The award rendered by the arbitrator(s) shall be a reasoned award and shall include a statement of findings of fact and conclusions of law and shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

#### **17.4 Consolidation Or Joinder.**

The College, in its sole discretion, may consolidate an arbitration conducted under the Contract with any other arbitration to which it is a party provided that (i) the arbitration agreement governing the other arbitration permits consolidation, (ii) the arbitrations to be consolidated substantially involve common questions of law or fact, and (iii) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

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

The College, in its sole discretion, may grant to any person or entity made a party to an arbitration conducted under this Article, whether by joinder or consolidation, the same rights of joinder and consolidation as the College under the Contract.

#### **17.5 Work During Pendency Of Dispute.**

Unless otherwise instructed by the College, the Contractor shall carry on its Work during the pendency of any dispute hereunder, and the College shall continue making payments to the Contractor of undisputed amounts.



### **17.6 Prompt Payment Claims.**

Notwithstanding the foregoing, disputes regarding only whether a party has failed to make payments required pursuant to New Jersey's Prompt Payment Act may be submitted to alternative dispute resolution as provided in N.J.S.A. 2A:30a-2(f). In such event, the College and the Contractor shall share equally the fees and expenses of the selected mediator. Provided, however, that nothing herein shall be construed, in whole or in part, as a waiver, release or modification of the provisions of the New Jersey Contractual Liability Act, N.J.S.A. 59:13-1, et seq., as it governs claims against the College.

### **17.7 The Contractor's Claims: Procedures And Limitations.**

Claims by the Contractor against the College shall be subject to the New Jersey Contractual Liability Act, N.J.S.A. 59:13-1, et seq., including the notice and time for suit provisions. For the purpose of determining the time within which the Contractor must file suit under the New Jersey Contractual Liability Act, "completion of the contract" shall be deemed to have occurred upon achievement of Substantial Completion as defined in these General Conditions.

The Contractor also agrees that it shall not be entitled to assert claims against the College for any compensation beyond that provided for in the Contract by reason of the acts or omissions of any third parties, including but not limited to the Architect and any other contractor on the Project. The Contractor may not assert claims for extra costs for home offices expenses, home office overhead, lost profits or revenue, or consequential damages as that term is defined in law. All claims shall also be subject to all other pertinent provisions of the Contract for Construction and the Contract Documents including these General Conditions. The Contractor also agrees that it may not assert any claims for extra costs or damages unless it maintains all the records of its estimated and actual costs as required by the Contract for Construction and these General Conditions.

### **17.8 Dispute Resolution Process In The Contractor's Subcontracts.**

The Contractor shall include this dispute resolution process in all of its contracts with any Subcontractors or suppliers on this Project.

## **ARTICLE 18** **MISCELLANEOUS.**

### **18.1 Prevailing Wage.**

The Contractor and its Subcontractors shall comply with the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56.25 through 56.57. Workers employed by the Contractor or any Subcontractor or sub-subcontractor in the performance of services directly on the Project must be paid prevailing wages. As required by N.J.S.A. 34:11-56.27 and 56.28, the Contract cannot become effective until the College obtains from the New Jersey Department of Labor a determination of the prevailing wage rates applicable to the Project as of the Contract award date and attaches a copy to the Contract. As required by N.J.S.A. 34:11-56.27, the Contractor or any

Subcontractor may be terminated if any covered worker is not paid prevailing wages on the Project, and the Contractor and its surety shall be liable for any additional costs which result. The Contractor and its Subcontractors must be registered with the New Jersey Department of Labor (N.J.S.A. 34:11-56.51 et seq.), and the prevailing wage rates must be posted at the job site (N.J.S.A. 34:11-56.32). The Contractor and its Subcontractors must prepare accurate certified records of wages paid for each worker on the Project (N.J.S.A. 34:11-56.29), and copies for the period covered by each invoice must be attached to the invoice submitted under the Contract. In accordance with N.J.S.A. 34:11-56.33, the Contractor's final invoice must include a statement of all amounts still then due to workers on the Project. The Contractor is also cautioned that it must use job titles and worker classifications consistent with those approved by the Department of Labor, and that, if it intends to pay apprentice rates, it must comply with the Department of Labor's regulations at N.J.A.C. 12:60-7.1 through 7.4.

If the State's Prevailing Wage Act is amended, or the language stated herein is inconsistent with the language contained in the State's Prevailing Wage Act, the language of the State's Prevailing Wage Act shall control.

## **18.2 Employment Discrimination.**

The Contractor and any Subcontractors employed by it shall comply with N.J.S.A. 10:2-1 through 10:2-4 and N.J.S.A. 10:5-1 et seq., including N.J.S.A. 10:5-31 through 10:5-35, which prohibit discrimination in employment in public contracts. The statute and the rules and regulations promulgated thereunder shall be considered to be part of the Contract and binding upon the Contractor and its Subcontractors. If the College is notified of any violation of the public contract awarding regulations in accordance with N.J.A.C. 17:27-7.4 concerning the financing of minority and women outreach and training programs, the College reserves the right to deduct the outreach and training allocation from the Contract. During the performance of the Contract, the Contractor agrees that:

- (a) In the hiring of persons for the performance of Work under the Contract or any subcontract hereunder, or for the procurement, manufacture, assembling or furnishing of any such materials, equipment, supplies or services to be acquired under the Contract, neither the Contractor, its Subcontractors nor any person acting on behalf of the Contractor or any of its Subcontractors, shall, by reason of race, creed, religion, color, national origin, nationality, ancestry, age, sex (including pregnancy), familial status, marital status, domestic partnership or civil union status, affectional or sexual orientation, gender identity or expression, atypical hereditary cellular or blood trait, genetic information, liability for military service, and mental or physical disability, perceived disability, and AIDS and HIV status, discriminate against any person who is qualified and available to perform the Work to which the employment relates;
- (b) Neither the Contractor, its Subcontractors, nor any person acting on behalf of the Contractor or any of its Subcontractors shall, in any manner, discriminate against or intimidate any employee engaged in the performance of Work under the Contract or any subcontract hereunder, or engaged in the procurement, manufacture, assembling or furnishing of any

such materials, equipment, supplies or services to be acquired under such contract, on account of race, creed, religion, color, national origin, nationality, ancestry, age, sex (including pregnancy), familial status, marital status, domestic partnership or civil union status, affectional or sexual orientation, gender identity or expression, atypical hereditary cellular or blood trait, genetic information, liability for military service, and mental or physical disability, perceived disability, and AIDS and HIV status;

- (c) There may be deducted from the amount payable to the Contractor by the College, under the Contract, a penalty of \$50.00 for each person for each calendar day during which such person is discriminated against or intimidated in violation of the provisions of the Contract; and
- (d) The Contract may be canceled or terminated by the College, and all money due or to become due hereunder may be forfeited, for any violation of this Article of the Contract occurring after notice to the Contractor from the College of any prior violation of this Article of the Contract. The Contractor and its Subcontractors shall comply with all laws prohibiting discrimination against employees, and shall comply with the provision in the Contract regarding employment discrimination.

If the State's Law Against Discrimination is amended, or the language stated herein is inconsistent with the language contained in the State's Law Against Discrimination, the language of the State's Law Against Discrimination shall control.

### **18.3 Patents.**

If any design, device, material or process covered by patents or copyright is used in the Work, the Contractor shall provide for such use by a suitable agreement with the patent or copyright owner. The Contractor shall bear all costs arising from the use of patented materials, equipment, or processes and all copyrighted materials used on or incorporated in the Work. The Contractor shall defend, indemnify and hold harmless the College and its representatives from any and all claims for infringement by reason of the use of any such patented or copyrighted items.

### **18.4 The Contractor's Compliance With Law.**

The Contractor shall keep fully informed of all federal, state and local laws, ordinances, regulations and orders of agencies that have jurisdiction or authority that in any manner affect those employed on the Project or the Project. The Contractor shall at all times observe and comply with, and cause its agents and employees to observe and comply with, all such laws, ordinances, regulations, and/or orders. The Contractor shall also protect and indemnify, defend and hold harmless the College and its representatives against any claim or liability arising from the violation of any laws, ordinances, regulations, or orders, whether by the Contractor or its employees, agents, Subcontractors at any tier, suppliers or materialmen.

**18.5 Environmental Protection – The Contractor’s Duty To Comply With Applicable Law.**

The Contractor shall comply with all applicable federal, state and local laws and regulations and all conditions of permits pertaining to the protection of the environment. Necessary precautions shall be taken to prevent pollution of streams, lakes, ponds, rivers, wetlands, groundwater, reservoirs, and property by chemicals, fuels, oils, bitumens, or other harmful or hazardous materials as defined by law. The Contractor also shall not pollute the atmosphere from particulate or gaseous matter in violation of applicable law.

**18.6 No Personal Liability Of College Officials.**

In carrying out any of the provisions of the Contract, or in exercising any right or authority granted to them by or in connection with the Contract, there shall be no liability upon any trustee, officer or employee of the College, either personally or as officials of the College, it being agreed that in all such functions they act only as agents and representatives of the College.

**18.7 Recovery Of Monies By The College From Other Contracts With The Contractor.**

When the Contract Documents authorize the College to withhold or deduct money from any monies due to the Contractor, or require the Contractor to pay or return monies for any reason, the College may in its discretion withhold any monies due the Contractor under any other contracts between the Contractor and the College. This right shall not affect the rights of the College against the Contractor or its surety under the Contract, and the College shall not be obliged to exercise this right as to any other contract as a condition of exercising its rights against the Contractor or surety under the Contract.

**18.8 Buy American Requirement.**

The Contractor shall comply with N.J.S.A. 52:32-1 and N.J.S.A. 52:33-1 et seq., which prohibit the use by the Contractor or Subcontractors of materials or farm products produced and manufactured outside of the United States on any public Work. Notwithstanding any inconsistent provision of any law, and unless the head of the department, or other public officer charged with the duty by law, shall determine it to be inconsistent with the public interest, or the cost to be unreasonable, only domestic materials shall be acquired or used for any public work. This Article shall not apply with respect to domestic materials to be used for any public work, if domestic materials of the class or kind to be used are not mined, produced or manufactured, as the case may be, in the United States in commercial quantities and of a satisfactory quality. If the State’s “Buy American” laws are amended, or the language stated herein is inconsistent with the language contained in the State’s “Buy American” laws, the language of the State’s “Buy American” laws shall control.

**18.9 Compliance With Grant Requirements.** The Contractor acknowledges and agrees that if the College receives any grant monies in connection with the Project, the Contractor and its Subcontractors shall comply with all requirements associated with such grant or set forth in such grant agreement.

**18.10 Modification Of Contract.**

No modification or amendment of the Contract shall be effective unless it is in writing and signed by both the College and the Contractor.

**18.11 State Sales Tax Exemption.**

Materials, supplies or services for exclusive use in constructing the Project are exempt from the State Sales Tax Act. Rentals of equipment are not exempt from any tax under the State Sales Tax Act.

**18.12 Successors and Assigns.**

The College and the Contractor respectively bind themselves, their successors and assigns, to the other party hereto and to the successors and assigns of such other party in respect to covenants, agreements and obligations contained in the Contract Documents.

The Contractor shall not assign the Contract, nor shall the Contractor transfer or assign any Contract funds, due or to become due, or claims of any nature it has against the College without the prior written approval of the College. The College in its sole discretion and considering primarily the interests of the College may elect either to grant or to deny such approval. If the Contractor attempts to make such an assignment without the College's prior written approval, the Contractor shall nevertheless remain legally responsible for all obligations under the Contract.

The College shall be entitled to assign its rights hereunder to one or more lenders as collateral for loans which the College may obtain to finance construction of the Project and to a party who presently has or later acquires a legal interest in the premises. The Contractor agrees to execute such certificates, documents and instruments as are reasonably requested by the College, including, without limitation, certificates, documents and instruments that evidence the Contractor's consent to an assignment of the Contract or confirm the absence or existence of a default on the part of the College hereunder.

**18.13 Construction Liens.**

If any Subcontractor or other person working under the Contractor files a construction lien or claim or notice of intention or right to file a lien for or on account of Work, labor, services, materials, equipment or other items furnished under or in connection with the Contract for which the College has paid the Contractor, the Contractor agrees to discharge or remove such lien, claim or notice at its own expense by bond, payment or otherwise within twenty (20) calendar days from the date of the filing thereof, and upon its failure to do so, the College shall have the right to cause any such lien or claim, notice of intention or stop notice to be removed or discharged by whatever means the College chooses, at the sole cost and expense of the

Contractor (such costs and expenses to include legal fees and disbursements). The Contractor agrees to indemnify, defend and hold harmless the College and its representatives from and against any and all such liens, claims or other filings, and actions brought or judgments rendered thereon, and from and against any and all losses, damages, liabilities, costs and expenses, including legal fees and disbursements, which the College may sustain in connection therewith. Further, if any Subcontractor or other person working under the Contractor files a construction lien or claim or notice of intention or right to file a lien for or on account of Work, labor, services, materials, equipment or other items furnished under or in connection with the Contract for which the College has paid the Contractor, the College may, in the College's sole discretion, pay all wages, damages, recoveries, costs and expenses and reasonable counsel fees arising therefrom and deduct the same from any monies due or to become due to the Contractor.

#### **18.14 Independent Contractor Status.**

The relationship of the Contractor to the College is that of an independent contractor. The Contractor agrees that it shall conduct itself consistent with such status, and shall not hold itself out as or claim to be a trustee, officer, employee or agent of the College. The Contractor shall not make any claim or demand for any right or privilege applicable to officers or employees of the College, including but not limited to, workers compensation, unemployment insurance benefits, social security coverage, or retirement benefits.

#### **18.15 Third Party Beneficiary Rights Not Intended.**

It is specifically agreed between the College and the Contractor that no provisions of the Contract Documents are intended to make the public or any member thereof a third party beneficiary of the Contract, or to authorize anyone not a party to the Contract to maintain a suit for personal injuries, property damage or other claims under the Contract. It is also the intent of the College and the Contractor that no individual or firm that supplies materials, labor, services, or equipment to the Contractor for the performance of the Work shall be a third party beneficiary of the Contract.

#### **18.16 Gifts To College Employees And Agents Prohibited.**

The Contractor shall not give any gifts of any nature, nor any gratuity in any form, nor loan any money or anything of value to any College employee or relative thereof, or any agent of the College. The Contractor shall not rent or purchase any equipment or supplies of any kind from any College employee or relative thereof or any agent of the College.

#### **18.17 Compliance With Procurement Statutes.**

The Contractor warrants and represents that the Contract has not been solicited or secured, directly or indirectly, in a manner contrary to the law of New Jersey, and in particular the provisions of N.J.S.A. 18A:64-6.1, 6.2 and 6.3, and that the Contractor has not and shall not violate the law of New Jersey relating to the procurement of or the performance of the Contract by any conduct, including the paying of any gratuity of any kind, directly or indirectly, to any College trustee, employee or officer. Any violation of this Article shall be cause for the College to terminate the Contract, to retain all unpaid and/or unearned monies, and to recover all monies paid. The Contractor shall notify the College in writing of any interest which any trustee, officer,

employee or consultant of the College has in, or association with the Contractor, any other contractor, any Subcontractor, material supplier, consultant, or manufacturer, or other party which has any interest in the Project.

### **18.18 Conflict Of Interest.**

The Contractor shall not pay, offer to pay, or agree to pay, either directly or indirectly, any fee, commission, compensation, gift, gratuity, or other thing of value of any kind to any State officer or employee or special State officer or employee, as defined by N.J.S.A. 52:13D-13b. and e., in the Department of the Treasury or any other agency with which the Contractor transacts or offers or proposes to transact business, or to any member of the immediate family, as defined by N.J.S.A. 52:13D-13i., of any such officer or employee, or any partnership, firm, or corporation with which they are employed or associated, or in which such officer or employee has an interest within the meaning of N.J.S.A. 52:13D-13g.

The solicitation of any fee, commission, compensation, gift, gratuity or other thing of value by any State officer or employee or special State officer or employee from any State vendor shall be reported in writing forthwith by the Contractor to the Attorney General and the Executive Commission on Ethical Standards.

The Contractor may not, directly or indirectly, undertake any private business, commercial or entrepreneurial relationship with, whether or not pursuant to employment, contract or other agreement, express or implied, or sell any interest in the Contractor to, any State officer or employee or special State officer or employee having any duties or responsibilities in connection with the purchase, acquisition or sale of any property or services by or to any State agency or any instrumentality thereof, or with any person, firm or entity with which he is employed or associated or in which he has an interest within the meaning of N.J.S.A. 52:13D-13g. Any relationships subject to this Article shall be reported in writing forthwith to the Executive Commission on Ethical Standards, which may grant a waiver of this restriction upon application of the State officer or employee or special State officer or employee upon a finding that the present or proposed relationship does not present the potential, actuality or appearance of a conflict of interest.

The Contractor shall not influence, or attempt to influence or cause to be influenced, any State officer or employee or special State officer or employee in his official capacity in any manner which might tend to impair the objectivity or independence of judgment of said officer or employee.

The Contractor shall not cause or influence, or attempt to cause or influence, any State officer or employee or special State officer or employee to use, or attempt to use, his official position to secure unwarranted privileges or advantages for the Contractor or any other person.

The provisions cited above shall not be construed to prohibit a State officer or employee or special State officer or employee from receiving gifts from or contracting with the Contractor under the same terms and conditions as are offered or made available to members of the general public subject to any guidelines the Executive Commission on Ethical Standards may promulgate.

The Contractor shall require its Subcontractors and suppliers to comply with the requirements of this Article.

**18.19 Confidential Information.**

The Contractor shall maintain the confidentiality of information specifically designated as confidential by the College, unless withholding such information would violate applicable law. The Contractor shall require its Subcontractors to maintain the confidentiality of information specifically designated as confidential by the College.

**18.20 Publicity.**

Publicity and/or public announcements pertaining to the Project must be approved in writing by the College prior to release.