Brower Student Center Audio Visual Systems Installation Project

TCNJ Advertised Bid # AB160009

PROJECT REQUIREMENTS

SCOPE OF WORK

DRAWINGS

September 2, 2015
Brower Student Center
Addition and Renovation

AUDIO VIDEO SYSTEMS
INSTALLATION PROJECT

The College of New Jersey
Ewing Township, NJ 08618

VOLUME 1 OF 1

KSS Architects LLP
337 Witherspoon Street
Princeton, NJ 08542
Tel.: 609.921.1131 Fax.: 609.921.9414
www.kssarchitects.com

AV/IT/Acoustics:
Marshall/KMK
5 Covey Place
Monroeville, NJ 08343
(215) 990-3187

TCNJ
THE COLLEGE OF
NEW JERSEY

Pamela Rew
NJ 21AI-01537000
# Table of Contents

**Volume 01 of 01**

**Division 0** – Bidding Requirements, Contract Forms, and Conditions of the Contract

**Division 1** - General Requirements

**Section**

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>011100</td>
<td>Summary</td>
</tr>
<tr>
<td>012500</td>
<td>Substitution Procedures</td>
</tr>
<tr>
<td>012900</td>
<td>Payment Procedures</td>
</tr>
<tr>
<td>013100</td>
<td>Project Management and Coordination</td>
</tr>
<tr>
<td>013200</td>
<td>Construction Progress Documentation</td>
</tr>
<tr>
<td>013233</td>
<td>Photographic Documentation</td>
</tr>
<tr>
<td>013300</td>
<td>Submittal Procedures</td>
</tr>
<tr>
<td>014000</td>
<td>Quality Requirements</td>
</tr>
<tr>
<td>014200</td>
<td>References</td>
</tr>
<tr>
<td>015000</td>
<td>Temporary Facilities and Controls</td>
</tr>
<tr>
<td>016000</td>
<td>Product Requirements</td>
</tr>
<tr>
<td>017329</td>
<td>Cutting and Patching</td>
</tr>
<tr>
<td>017419</td>
<td>Construction Waste Management and Disposal</td>
</tr>
<tr>
<td>017700</td>
<td>Closeout Procedures</td>
</tr>
<tr>
<td>017823</td>
<td>Operating and Maintenance Data</td>
</tr>
<tr>
<td>017836</td>
<td>Warranties</td>
</tr>
<tr>
<td>017839</td>
<td>Project Record Documents</td>
</tr>
<tr>
<td>017900</td>
<td>Demonstration and Training</td>
</tr>
</tbody>
</table>
DIVISION 11 - EQUIPMENT

SECTION
117000 Audio Video Systems

DIVISION 26 - ELECTRICAL

SECTION
267610 AV Systems Electrical & Rough-In Requirements*

(*For Reference Only – Issued with General Construction Set)
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 September 2, 2015. Contact person regarding placement of ad is Roselle Horodeski (609) 771-2495.

THE COLLEGE OF NEW JERSEY
ADVERTISEMENT FOR BIDS
BID #AB160009

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 Brower Student Center Audio Visual Systems Installation Project until 2:00 P.M. on the 2nd day of October 2, 2015 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.

No bidder may submit more than one bid.

Bid Documents may be obtained on/after September 2, 2015 via our website (www.tcnj.edu/~budfin/).

A strongly encouraged pre-bid conference/on-site inspection is scheduled on September 9, 2015 at 10:00 A.M. in Room 203 of the Administrative Services Building, located on The College’s Ewing Township, New Jersey campus on Route 31 (Pennington Road).


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 any or all bids or to waive any 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.
BSC Audio Visual Systems Installation Project
Milestone Schedule
Date: 09/02/15

Advertise for bidding  Sept 2, 2015
Pre-Bid/Site Visit (10:00 am)  Sept 9, 2015
Cut off for questions  Sept 16, 2015
Addendum issued  Sept 23, 2015
Bids Received  Oct 2, 2015
Notice of Intent to Award issued  Oct 14, 2015
End of Protest Period  Oct 23, 2015
Notice to proceed issued by  Oct 30, 2015
Submittals for Phase 1a  Nov 6, 2015
AV contractor on site for coordination and mobilization by  Nov 20, 2015

This project is a phased renovation. Start date for each phase will be coordinated with General Contractor during mobilization. Completion dates for each phase are shown below.

**Phase 1a (restaurant)** AV Installation Completed  Jan 25, 2016
**Phase 1b (renovation)** AV Installation Completed  May 6, 2016
**Phase 1c (addition)** AV Installation Completed  Jul 30, 2016
**Phase 2a (Kitchen/Servery)** AV Installation Completed  Aug.15, 2016
**Phase 2b (renovation)** AV Installation Completed  Dec. 30, 2016
**Phase 3 (renovation)** AV Installation Completed  July 15, 2017

Notes:
1. Commencement (no on site work)  May 19-20, 2016, May 18-19, 2017
2. Special Olympics (no on site work)  June 10-12, 2016, June 9-10, 2017
THE COLLEGE OF NEW JERSEY
Construction Bid Proposal Form

Office of Finance & Business Services       Bid Number: AB160009
Administrative Services Building, Rm. 201     Bid Due Date: October 2, 2015
2000 Pennington Road
Ewing, New Jersey 08628-0718

Project Name: Brower Student Center Audio Visual Systems Installation

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.
      (3) Pursuant to the requirements of N.J.S.A. 18A:64-76, bidder lists the names of the subcontractors on the Subcontractor Information page.

2. The scope of work includes providing and installing audio visual systems for the Brower Student Center which is now under construction.
   A. See Specifications and Drawings for Details (included in RFP package).
   B. 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.

CONTRACTORS MUST BRING THEIR OWN HARD HAT IN ORDER TO WALK ANY PARTS OF THE PROJECT WHICH ARE UNDER CONSTRUCTION DURING THE SITE VISIT.
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”.
   B. Prevailing wage rates apply (Mercer County).
   C. Bid is to remain good for sixty (60) days after the Bid Due Date.

2. BOND REQUIREMENTS AND SURETY STANDARDS
   A. Bidder must submit with its bid a Certified Check in the amount of ten percent (10%) of the base 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 of Notice of Intent to Award, except for the successful bidder(s) whose bid security shall be returned after execution of a formal contract, and delivery of the Performance Bond/Labor and Material Bond and Certificates of Insurance.
   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.

3. 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.
   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.
4. 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.

5. 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.

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.


7. Bidders are required to be registered with the New Jersey Department of Property Management and Construction (DPMC) and possess a DPMC C008 classification at the time of bid submission.
8. PREVAILING WAGE AND PUBLIC WORKS CONTRACTOR REGISTRATION ACTS

- 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.
- 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.
- The Contractor must 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, 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. 12:60-7.1 through 7.4.
- 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.

9. 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.

10. Vendors conducting business with any State agency including The College of New Jersey will be required to be registered with the New Jersey Division of Revenue. The vendor will be required to submit a Business Registration Certificate issued by the Department of Treasury, Division of Revenue, with the State of New Jersey prior to the award of a contract. N.J.S.A. 52:32-44. A completed copy of your Certificate is not required at time of bid; however, will be required from the bidder who receives the intent to award from the College.

11. 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.

12. 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 fax to 609-637-5140 or email to horodesk@tcnj.edu and must be received prior to 4:00 p.m., on September 16, 2015.
   B. Should any questions be received, an addendum or clarification will be available on or after September 23, 2015. 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.

13. 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., October 2, 2015, to The College of New Jersey, Attention: Roselle Horodeski 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.
14. 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 to allow the College to determine the lowest bid that will most economically serve the intentions of this Contract.

15. 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 its best interest.

16. Bids shall include all costs of any nature necessary to complete the project in the manner and within the time required by the contract.

17. The College reserves the right to require bidders to provide a schedule of values of their lump sum bid price upon request.

18. 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.

19. Before submitting his 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.

20. 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.

21. It is understood and agreed that all prices quoted are firm and not subject to any increase during the life of the contract.

22. 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.

23. 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.

24. ACCEPTANCE/REJECTION OF BIDS

A. THE COLLEGE OF NEW JERSEY reserves the right to accept or reject any or all items covered in the bid request, or any portion(s) thereof, re-advertise and/or
take such other steps decreed necessary and in the best interest of the College in accordance with law. Where two or more bidders are tied and all other relevant factors being equal, the College reserves the right to make the award to one of the bidders.

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.

25. 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.

26. 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.

27. APPLICABLE LAWS:
   A. 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) New Jersey Statutes and Regulations
          N.J.S.A. 10:5-31 et seq. and N.J.A.C. 17:27-1 et seq., Affirmative Action
28. 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.

29. 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.

30. 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.

31. 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.

32. 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.

33. DOCUMENTS/SUBMISSIONS THAT MUST BE PROVIDED BEFORE CONTRACT AWARD:

   • 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.

   • CERTIFICATE OF INSURANCE: The bidder is required to submit proof of liability insurance in accordance with The College’s contract.

   • P.L. 2005, Chapter 51 / Executive Order 117 - Contractor 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 Chapter 51 and Executive Order 117. Enclosed are the requirements of Ch. 51 and EO 117, the forms for Certification and Disclosure. The contract that will be generated based on this bid cannot be awarded without approval of the Certification and Disclosure forms by the State of New Jersey, Department of Treasury.

- New Jersey Business Registration Certificate

- All applicable licenses, certificates, and requirements specified in the scope of work, contract documents and specifications.
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 insure that its bid proposal is complete.

a. _____ Bidder has completed the Bidder Information section and General Agreement section and filled out the receipt of addendum and clarifications.

b. _____ Bidder has completed the form of proposal and indicated base bid for either Separate Bid or Single Bid (Lump Sum all trades), prices for Alternate Proposals, and Unit Prices.

c. _____ Bidder for Single Bid (Lump Sum) has listed and has disclosed the subcontractors on the Subcontractor Information form.

d. _____ Bidder has enclosed a certified check or bid bond for ten percent (10%) of the amount of the bid.

e. _____ Bidder has completed and enclosed the Non-Collusion Affidavit.

f. _____ Bidder has completed and enclosed the Ownership Disclosure form.

g. _____ Bidder and each disclosed subcontractor has enclosed a copy of its registration certificate in accordance with the requirement of the Public Works Contractor Registration Act. (NJ Dept. of Labor and Workforce Development)

h. _____ Bidder has acknowledged the Affirmative Action Language in accordance with the requirements P.L. 1975 C.127. (NJAC 17:27).

i. _____ Bidder has enclosed its MWBE information.

j. _____ Bidder has enclosed its Electrical and Plumbing License and any other licenses, certifications, certifications, and qualifications.

k. _____ Bidder has enclosed its Vendor Qualification Statement

l. _____ Bidder has included a copy of its latest Experience Modification Rating (EMR Safety Rating). The College requires an average rating over the last 5 years of 1.25 or less.

m. _____ Bidder has included a copy of its DPMC Notice of Classification and Total Amount of Uncompleted Contracts.

n. _____ Bidder has enclosed a copy of its Chapter 51 & EO117 Certification form. A completed copy of your Certification form is not required at time of bid; however, will be required from the bidder who receives the intent to award from the College.

o. _____ Bidder has enclosed a copy of its New Jersey Business Registration Certificate in accordance with the requirements of the New Jersey Division of Revenue. A completed copy of your Certificate is not required at time of bid; however, will be required from the bidder who receives the intent to award from the College.
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 ______

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).

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. Upon conclusion of the 7 business day protest period, Bidder will execute the formal contract 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.

6. 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)
To: The College of New Jersey

for: Brower Student Center Audio Visual Systems Installation

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 / Deduct Alternate
   Check One: _____ Add _______ Deduct

   No Alternates are requested for this 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. UNIT PRICES: We, the Undersigned, agree, if awarded the Contract to perform additional work or delete work at the Unit Prices set forth below or at a negotiated unit price (Unit Prices are for work that is in addition to or is deleted from the base bid work):

   No Unit Prices are requested for this bid.

C. AGREEMENT: We, the Undersigned, agree, if awarded the Contract, to execute an agreement for the above stated work and compensation on the Standard Form of Agreement Between Owner and Contractor.

D. SURETY: We, the Undersigned, agree, if awarded the Contract, to execute and deliver to the Owner, prior to the signing of the Contract, the Performance and Payment Bonds as required.
   - Contractor shall provide a Maintenance Bond at job completion for a period of one year for 100% of the final contract price.

E. BID SECURITY: 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.

Certified Check $____________________________
Bid Bond $____________________________

F. STATEMENT:
1. 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, which offer shall be irrevocable for sixty (60) calendar days from the date of opening hereof and that the Owner may accept this offer at any time during said period by notifying the Undersigned of the acceptance of said offer.
2. We, the Undersigned, acknowledge receipt of the following Addenda/Clarifications:

Addenda Number Dated

The undersigned further agrees to comply with the requirements as to conditions of employment, wage rates, and hours of labor set forth in the Contract Documents.

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
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
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 as a:
      _____ small business_____ minority-owned business _____female-owned business

   B. My company is certified by the NJ Department of Transportation as a:
      _____ small business_____ minority-owned business _____female-owned business

   C. My company is a _____small business_____ minority-owned or _____ female-owned but is not certified by either NJ Department.

   C. _____ My company is not a small business, minority-owned or female-owned.

___________________________
Signed
___________________________
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

BY: __________________________
Witness

BY: __________________________
Witness as to Surety

ATTORNEY-IN-FACT

Countersigned

NOTE: General Power of Attorney and the current
this ______ day of _______________, 20____

BY:____________________________________

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)
MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE
N.J.A.C. 17:27

CONSTRUCTION CONTRACTS

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.

(7) 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).

IF AWARDED A CONTRACT YOUR COMPANY/FIRM WILL BE REQUIRED TO COMPLY WITH THE AFFIRMATIVE ACTION REQUIREMENTS LISTED ABOVE.

Firm Name: ________________________________________________________________

Signature: ________________________________________________________________

Title: ________________________________________________________________

Date: ________________________________________________________________
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 replace the mandatory contract language and good faith efforts requirements for construction contracts 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 [Reporting Agency] that its contracts should create a workforce that reflects the diversity of the State of New Jersey. Therefore, contractors engaged by the [Reporting Agency] 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 [Reporting Agency]’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 [Reporting Agency]’s contract with the contractor. Payment may be withheld from a contractor’s contract 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 [Reporting Agency] 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 [Reporting Agency] 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.

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.
NON-COLLUSION STATEMENT

Date:______________________________

The College of New Jersey
The Office of Budget and Finance, Department of Purchasing
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
STOCKHOLDER DISCLOSURE FORM

Firm Name: ____________________________________________

Address: ______________________________________________

City/State/ZIP: _________________________________________

List the names and addresses of all individuals, corporations, or any other owner having 10% or greater interest in the corporation or partnership named in item 1. If a listed owner is a corporation or partnership, then list the names and addresses of holders of 10% or more interest in that corporation or partnership. If additional space is necessary, list on an attached sheet. If there are no owners with 10% or more interest in your company, enter "None" below.

Complete affidavit at bottom of form.

<table>
<thead>
<tr>
<th>Firm Name</th>
<th>Street</th>
<th>City/Twp</th>
<th>County</th>
<th>State</th>
<th>Zip</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

President of the Firm (Type or print name) ____________________________ Telephone Number ____________________________

I certify that (check applicable blanks):

_____ A list of stockholders names and addresses has been submitted to the Secretary of State of New Jersey and it is current and correct to the best of my knowledge, with the exceptions as listed above.

_____ The list of stockholders above is current and correct to the best of my knowledge.

_____ There are no stockholders holding 10% or more interest in this corporation or firm to the best of my knowledge.

_____ Firm is a sole ownership and not subject to corporation or partnership disclosure requirement.

Signature of Authorized Representative

Name ____________________________ Title: ______________________

Witnessed by ______________________ Date: _____________________

THIS FORM MUST BE COMPLETED, SIGNED, AND WITNESSED
INFORMATION AND INSTRUCTIONS
For Completing The “Two- Year Vendor Certification and Disclosure of Political Contributions” Forms

Background Information

On September 22, 2004, then-Governor James E. McGreevey issued Executive Order 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, Executive Order 134 prohibited State departments, agencies and authorities from entering into contracts exceeding $17,500 with individuals or entities that made certain political contributions. Executive Order 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 Executive Order No. 117 (“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, the Certification and Disclosure of Political Contributions form (CH51.1R1/21/2009) is valid for a two (2) year period. Thus, if a vendor receives approval on Jan 1, 2009, the certification expiration date would be Dec 31, 2011. 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/EO117 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.

Prior to the awarding of a contract, the agency should first send an e-mail to CD134@treas.state.nj.us 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 Forms

NOTE: Please refer to the next section, “Useful Definitions for Purposes of Ch. 51 and E.O. 117,” for guidance when completing the forms.

Part 1: VENDOR INFORMATION

Business Name – Enter the full name of the Vendor, including trade name if applicable.

Business Type -- Select the vendor’s business organization from the list provided.

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.
INFORMATION AND INSTRUCTIONS
For Completing The “Two-Year Vendor Certification and Disclosure of Political Contributions” Forms


Read the following statements and verify that from the period beginning on or after October 15, 2004, no contributions as set forth at subsections 1(a)-(c) have been made by either the vendor or any individual whose contributions are attributable to the vendor pursuant to Executive Order 117 (2008).

NOTE: Contributions made prior to November 15, 2008 are applicable to Chapter 51 only.

Part 3: DISCLOSURE OF CONTRIBUTIONS MADE

Check the box at top of page 2 if no reportable contributions have been made by the vendor. If the vendor has no contributions to report, this box must be checked.

Name of Recipient Entity – Enter the full name of the recipient entity.

Address of Recipient Entity – Enter the recipient entity’s street address.

Date of Contribution – Indicate the date of the contribution.

Amount of Contribution – Enter the amount of the reportable contribution.

Type of Contribution – Select the type of contribution from the list provided.

Contributor Name – Enter the full name of the contributor.

Relationship of Contributor to the Vendor – Indicate relationship of the contributor to the vendor, e.g. officer or partner of the company, spouse of officer or partner, resident child of officer or partner, 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.

Part 4: CERTIFICATION

Check box A if the person completing the certification and disclosure is doing so on behalf of the vendor and all individuals and/or entities whose contributions are attributable to the vendor.

Check box B if the person completing the certification and disclosure is doing so on behalf of the vendor only.

Check box C if the person completing the certification and disclosure is doing so on behalf of an individual and/or entity whose contributions are attributable to the vendor.

Enter the full name of the person authorized to complete the certification and disclosure, the person’s title or position, date and telephone number.
INFORMATION AND INSTRUCTIONS
For Completing The “Two-Year Vendor Certification and Disclosure of Political Contributions” Forms

USEFUL DEFINITIONS FOR THE PURPOSES OF Ch. 51 and E.O. 117

- “Vendor” means the contracting entity.
- “Business Entity” means any natural or legal person, business corporation, professional services corporation, limited liability company, partnership, limited partnership, business trust, association or any other legal commercial entity organized under the laws of New Jersey or any other state or foreign jurisdiction. The definition also includes (i) if a business entity is a for-profit corporation, any officer of the corporation and any other person or business entity that owns or controls 10% or more of the stock of the corporation; (ii) if a business entity is a professional corporation, any shareholder or officer; (iii) if a business entity is a general partnership, limited partnership or limited liability partnership, any partner; (iv) if a business entity is a sole proprietorship, the proprietor; (v) if the business entity is any other form of entity organized under the laws of New Jersey or any other state or foreign jurisdiction, any principal, officer or partner thereof; (vi) any subsidiaries directly or indirectly controlled by the business entity; (vii) any political organization organized under 26 U.S.C.A. § 527 that is directly or indirectly controlled by the business entity, other than a candidate committee, election fund, or political party committee; and (viii) with respect to an individual who is included within the definition of “business entity,” that individual’s spouse or civil union partner and any child residing with that person.¹
- “Officer” means a 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. Please note that officers of non-profit entities are excluded from this definition.
- “Partner” means one of two or more natural persons or other entities, including a corporation, who or which are joint owners of and carry on a business for profit, and which business is organized under the laws of this State or any other state or foreign jurisdiction, as a general partnership, limited partnership, limited liability partnership, limited liability company, limited partnership association, or other such form of business organization.
- “Reportable Contributions” are those contributions, including in-kind contributions, in excess of $300.00 in the aggregate per election made to or received by a candidate committee, joint candidates committee, or political committee; or per calendar year made to or received by a political party committee, legislative leadership committee, or continuing political committee.
- “In-kind Contribution” means a contribution of goods or services received by a candidate committee, joint candidates committee, political committee, continuing political committee, political party committee, or legislative leadership committee, which contribution is paid for by a person or entity other than the recipient committee, but does not include services provided without compensation by an individual volunteering a part of or all of his or her time on behalf of a candidate or committee.
- “Continuing Political Committee” includes any group of two or more persons acting jointly, or any corporation, partnership, or any other incorporated or unincorporated association, including a political club, political action committee, civic association or other organization, which in any calendar year contributes or expects to contribute at least $4,300 to aid or promote the candidacy of an individual, or the candidacies of individuals, for elective public office, or the passage or defeat of a public questions, and which may be expected to make contributions toward such aid or promotion or passage or defeat during a subsequent election, provided that the group, corporation, partnership, association or other organization has been determined by the Commission to be a continuing political committee in accordance with N.J.S.A. 19:44A-8(b).

¹ Contributions made by a spouse, civil union partner or resident child to a candidate for whom the contributor is eligible to vote or to a political party committee within whose jurisdiction the contributor resides are permitted.
INFORMATION AND INSTRUCTIONS
For Completing The “Two-Year Vendor Certification and Disclosure of Political Contributions” Forms

- “Candidate Committee” means a committee established by a candidate pursuant to N.J.S.A. 19:44A-9(a), for the purpose of receiving contributions and making expenditures.

- “State Political Party Committee” means a committee organized pursuant to N.J.S.A. 19:5-4.

- “County Political Party Committee” means a committee organized pursuant to N.J.S.A. 19:5-3.

- “Municipal Political Party Committee” means a committee organized pursuant to N.J.S.A. 19:5-2.

- “Legislative Leadership Committee” means a committee established, authorized to be established, or designated by the President of the Senate, the Minority Leader of the Senate, the Speaker of the General Assembly, or the Minority Leader of the General Assembly pursuant to N.J.S.A. 19:44A-10.1 for the purpose of receiving contributions and making expenditures.

- “Political Party Committee” means:
  1. The State committee of a political party, as organized pursuant to N.J.S.A. 19:5-4;
  2. Any county committee of a political party, as organized pursuant to N.J.S.A. 19:5-3; or
  3. Any municipal committee of a political party, as organized pursuant to N.J.S.A. 19:5-2.

Agency Submission of Forms
The agency should submit the completed and signed Two-Year Vendor Certification and Disclosure forms, together with a completed Ownership Disclosure form, either electronically to cd134@treas.state.nj.us or regular mail at Chapter 51 Review Unit, P.O. Box 039, 33 West State Street, 9th Floor, Trenton, NJ 08625. Original forms should remain with the Agency and copies should be sent to the Chapter 51 Review Unit.

Questions & Answers
Questions regarding the interpretation or application of Public Law 2005, Chapter 51 (N.J.S.A. 19:44A-20.13) or Executive Order 117 (2008) may be submitted electronically through the Division of Purchase and Property website at http://www.state.nj.us/treasury/purchase/execorder134.htm. Responses to previous questions are posted on the website, as well as additional reference materials and forms.

NOTE: The Chapter 51 Q&A on the website DOES NOT address the expanded pay-to-play requirements imposed by Executive Order 117. The Chapter 51 Q&A are only applicable to contributions made prior to November 15, 2008. There is a separate, combined Chapter 51/E.O. 117 Q&A section dealing specifically with issues pertaining to contributions made after November 15, 2008, available at http://www.state.nj.us/treasury/purchase/execorder134.htm#state.
Part 1: Vendor Information

Full Legal Business Name

(Business Type)  
- Corporation  
- Limited Partnership  
- Professional Corporation  
- General Partnership
- Limited Liability Company  
- Sole Proprietorship  
- Limited Liability Partnership

Address 1
Address 2

City  
State  
Zip  
Phone  

Vendor Email
Vendor FEIN


I hereby certify as follows:

1. On or after October 15, 2004, neither the below-named entity nor any individual whose contributions are attributable to the entity pursuant to Executive Order 117 (2008) has solicited or made any contribution of money, pledge of contribution, including in-kind contributions, company or organization contributions, as set forth below that would bar the award of a contract to the vendor, pursuant to the terms of Executive Order 117 (2008).

   a) Within the preceding 18 months, the below-named person or organization has not made a contribution to:
      (i) Any candidate committee and/or election fund of any candidate for or holder of the public office of Governor or Lieutenant Governor;
      (ii) Any State, county, municipal political party committee; OR
      (iii) Any legislative leadership committee.

b) During the term of office of the current Governor(s), the below-named person or organization has not made a contribution to:
   (i) Any candidate, committee and/or election fund of the Governor or Lieutenant Governor; OR
   (ii) Any State, county or municipal political party committee nominating such Governor in the election preceding the commencement of said Governor’s term.

c) Within the 18 months immediately prior to the first day of the term of office of the Governor(s), the below-named person or organization has not made a contribution to:
   (i) Any candidate, committee and/or election fund of the Governor or Lieutenant Governor; OR
   Any State, county, municipal/political party committee of the political party nominating the successful gubernatorial candidate(s) in the last gubernatorial election.

PLEASE NOTE: Prior to November 15, 2008, the only disqualifying contributions include those made by the vendor or a principal owning or controlling more than 10 percent of the profits or assets of a business entity (or 10 percent of the stock in the case of a business entity that is a corporation for profit) to any candidate committee and/or election fund of the Governor or to any state or county political party within the preceding 18 months, during the term of office of the current Governor or within the 18 months immediately prior to the first day of the term of Office of Governor.
Part 3: Disclosure of Contributions Made

☐ Check this box if no reportable contributions have been made by the above-named business entity or individual.

<table>
<thead>
<tr>
<th>Name of Recipient</th>
<th>Address of Recipient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date of Contribution</th>
<th>Amount of Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Contribution (i.e. currency, check, loan, in-kind)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contributor Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relationship of Contributor to the Vendor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contributor Address</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>City</th>
<th>State</th>
<th>Zip</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If this form is not being completed electronically, please attach pages for additional contributions as necessary. Otherwise click "Add a Contribution" to enter additional contributions.
Part 4: Certification

I have read the instructions accompanying this form prior to completing this certification on behalf of the above-named business entity. I certify that, to the best of my knowledge and belief, the foregoing statements by me are true. I am aware that if any of the statements are willfully false, I am subject to punishment.

I understand that this certification will be in effect for two (2) years from the date of approval, provided the ownership status does not change and/or additional contributions are not made. If there are any changes in the ownership of the entity or additional contributions are made, a new full set of documents are required to be completed and submitted. By submitting this Certification and Disclosure, the person or entity named herein acknowledges this continuing reporting responsibility and certifies that it will adhere to it.

(CHECK ONE BOX A, B or C)

☐ I am certifying on behalf of the above-named business entity and all individuals and/or entities whose contributions are attributable to the entity pursuant to Executive Order 117 (2008).

☐ I am certifying on behalf of the above-named business entity only.

☐ I am certifying on behalf of an individual and/or entity whose contributions are attributable to the vendor.

Signed Name ____________________________  Print Name ____________________________
Phone Number ____________________________  Date ____________________________
Title/Position _________________________________________________________________

Agency Submission of Forms

The agency should submit the completed and signed Two-Year Vendor Certification and Disclosure forms, together with a completed Ownership Disclosure form, either electronically to cd134@treas.state.nj.us, or regular mail at Chapter 51 Review Unit, P.O. Box 039, 33 West State Street, gth Floor, Trenton, NJ 08625. The agency should save the forms locally and keep the original forms on file, and submit copies to the Chapter 51 Review Unit.
Pursuant to Public Law 2012, c. 25, any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must complete the certification below to attest, under penalty of perjury, that the person or entity, or one of the person or entity's parents, subsidiaries, or affiliates, is not identified on a list created and maintained by the Department of the Treasury as a person or entity engaging in investment activities in Iran. If the Director finds a person or entity to be in violation of the principles which are the subject of this law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the person or entity.

I certify, pursuant to Public Law 2012, c. 25, that the person or entity listed above for which I am authorized to bid/renew:

- is not providing goods or services of $20,000,000 or more in the energy sector of Iran, including a person or entity that provides oil or liquefied natural gas tankers, or products used to construct or maintain pipelines used to transport oil or liquefied natural gas, for the energy sector of Iran, AND

- is not a financial institution that extends $20,000,000 or more in credit to another person or entity, for 45 days or more, if that person or entity will use the credit to provide goods or services in the energy sector in Iran.

In the event that a person or entity is unable to make the above certification because it or one of its parents, subsidiaries, or affiliates has engaged in the above-referenced activities, a detailed, accurate and precise description of the activities must be provided in part 2 below to the Division of Purchase and Property under penalty of perjury. Failure to provide such will result in the proposal being rendered as non-responsive and appropriate penalties, fines and/or sanctions will be assessed as provided by law.

### PART 2: PLEASE PROVIDE FURTHER INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN

You must provide a detailed, accurate and precise description of the activities of the bidding person/entity, or one of its parents, subsidiaries or affiliates, engaging in the investment activities in Iran outlined above by completing the boxes below. EACH BOX WILL PROMPT YOU TO PROVIDE INFORMATION RELATIVE TO THE ABOVE QUESTIONS. PLEASE PROVIDE THOROUGH ANSWERS TO EACH QUESTION. IF YOU NEED TO MAKE ADDITIONAL ENTRIES, PLEASE ADD AN ADDITIONAL SHEET.

<table>
<thead>
<tr>
<th>Name</th>
<th>Relationship to Bidder/Offeror</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description of Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration of Engagement</th>
<th>Anticipated Cessation Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bidder/Offeror Contact Name</th>
<th>Contact Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Certification: I, being duly sworn upon my oath, hereby represent and state that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I attest that I am authorized to execute this certification on behalf of the above-referenced person or entity. I acknowledge that the State of New Jersey is relying on the information contained herein and thereby acknowledge that I am under a continuing obligation from the date of this certification through the completion of any contracts with the State to notify the State in writing of any changes to the answers of information contained herein. I acknowledge that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I recognize that I am subject to criminal prosecution under the law and that it will also constitute a material breach of my agreement(s) with the State of New Jersey and that the State at its option may declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print): __________________________ Signature: __________________________

Title: __________________________ Date: __________________________
MACBRIDE PRINCIPLES FORM

BIDDER'S REQUIREMENT: TO PROVIDE A CERTIFICATION IN COMPLIANCE WITH MACBRIDE PRINCIPLES AND NORTHERN IRELAND ACT OF 1989

Pursuant to Public Law 1995, c. 134, a responsible bidder selected, after public bidding, by the Director of the Division of Purchase and Property, pursuant to N.J.S.A. 52:34-12, or the Director of the Division of Building and Construction, pursuant to N.J.S.A. 52:32-2, must complete the certification below by checking one of the two representations listed and signing where indicated. If a bidder who would otherwise be awarded a purchase, contract or agreement does not complete the certification, then the Directors may determine, in accordance with applicable law and rules, that it is in the best interest of the State to award the purchase, contract or agreement to another bidder who has completed the certification and has submitted a bid within five (5) percent of the most advantageous bid. If the Directors find contractors to be in violation of the principles which are the subject of this law, they shall take such action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party.

I certify, pursuant to N.J.S.A. 52:34-12.2 that the entity for which I am authorized to bid:

☐ has no ongoing business activities in Northern Ireland and does not maintain a physical presence therein through the operation of offices, plants, factories, or similar facilities, either directly or indirectly, through intermediaries, subsidiaries or affiliated companies over which it maintains effective control; or

☐ will take lawful steps in good faith to conduct any business operations it has in Northern Ireland in accordance with the MacBride principles of nondiscrimination in employment as set forth in N.J.S.A. 52:18A-89.8 and in conformance with the United Kingdom's Fair Employment (Northern Ireland) Act of 1989, and permit independent monitoring of their compliance with those principles.

I certify that the foregoing statements made by me are true. I am aware that if any of the foregoing statements made by me are willfully false, I am subject to punishment.

Signature: ____________________________________________

Print Name: ____________________________________________

Title: ____________________________________________

Firm Name: ____________________________________________

Date: ____________________
VENDOR QUALIFICATION SHEETS

Vendors are requested 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.

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.

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 that will be responsible for managing contract/service:
   Name: ____________________________
   Telephone: ____________________  Fax: ____________________________
   Email Address: ____________________________
   Street Address: ____________________________
   City/State/Zip: ____________________________
   Federal Identification Number: ____________________________

4. Address where all purchase orders and payment are to be mailed by users of any contract(s) resulting from this proposal (if different from above).

   Purchase Orders:
   Firm Name: ____________________________
   Street Address: ____________________________
   City/State/Zip: ____________________________

   Remittances:
   Firm Name: ____________________________
   Street Address: ____________________________
   City/State/Zip: ____________________________
VENDOR QUALIFICATIONS- continued

5. Name of insurance company:
   Street Address: __________________________________________
   City/State/Zip: __________________________________________
   Types of Insurance: ________________________________________

6. Name of individual to contact for sales/services information:
   Name: __________________________________________________
   Telephone: ________________________________________________
   Email Address: ____________________________________________
   Street Address: __________________________________________
   City/State/Zip: __________________________________________

7. List the names and titles of personnel who will service this contract:
   _________________________________________________________
   _________________________________________________________
   _________________________________________________________

8. Is your firm registered with the Secretary of State of New Jersey?  Yes____ No____

9. Is your firm incorporated?  Yes____ No____
   A) In What State? ________________________________

10. Is your firm considered a small business in the State of New Jersey? If yes, please attach a certificate or certification statement from the New Jersey Commerce and Economic Growth Commission. If no and you would like to register, please contact the New Jersey Commerce and Economic Growth Commission at 609-777-0885.

    Small Business:  Yes____ No____
    A) What category does your firm fall under?
       Gross Revenues do not exceed $500,000 ________
       Gross Revenues do not exceed $5 million ________
       Gross Revenues do not exceed $12 million ________
Under Executive Order 34, TCNJ is responsible for soliciting demographic information from its vendors. 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? (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

TCNJ is required to solicit the foregoing information. 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.

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 New Jersey owned 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 we do business.

VENDOR QUALIFICATIONS

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:

   Fax Number:

   Email Address:

   B. Client Name:

   Contact Name:
Telephone Number:

Fax Number:

Email Address:

C. Client Name:

Contact Name:

Telephone Number:

Fax Number:

Email Address:

D. Client Name:

Contact Name:

Telephone Number:

Fax Number:

Email Address:
VENDOR QUALIFICATIONS- continued

12. Please answer the following questions related to your prior experience:

   a. Has the bidder been found, though 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? If yes, attach summary of details on a separate sheet.

   Yes________ No__________

   b. Has the bidder 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? If yes, attach summary of details on a separate sheet.

   Yes________ No__________

   c. Has the bidder defaulted on a contract, thereby requiring the local unit to look to the bidder’s surety for completion of the contract or tender of the costs of completion? If yes, attach summary of details on a separate sheet.

   Yes________ No__________

   d. Has the bidder 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. If yes, attach summary of details on a separate sheet.

   Yes________ No__________

Firm Name:_________________________________________________________________________

Signature:________________________________________________________________________

Title:_____________________________________________________________________________

Date:_____________________________________________________________________________
CONTRACT FOR CONSTRUCTION

Agreement made on , 2015 between The College of New Jersey as the project owner, and, as the Construction Contractor

Contractor:
Address:

Project: Brower Student Center Audio Visual Systems Installation

1. EMPLOYMENT OF CONTRACTOR/PROJECT DESCRIPTION. The College employs the Contractor and the Contractor agrees to perform the construction for the project identified above. The project is described in the College's plans and specifications prepared by the project architect.

2. CONTRACT DOCUMENTS. This contract includes the plans and specifications, and also the following documents:

   1. Request for Bids
   2. Contractor's Bid
   3. General Conditions of the Contract for Construction
   4. Addenda and clarifications issued before the bid due date
   5. Project Bidding Schedule

3. PROJECT ARCHITECT. The project architect is responsible for the design of the project, acting as the College's representative on the project, and performing the duties of the project architect during the construction and completion of the project. The project architect is:

   AE Firm:
   Address:

4. SCOPE OF WORK. The Contractor shall perform the construction work specified in this contract including the contract documents. The Contractor shall assume full responsibility for constructing and completing the project and all the work in this contract and the contract documents, including providing all labor, subcontractors, materials and equipment required, and providing all supervision, management, and scheduling required in the general conditions and as noted throughout the contract documents.

5. CONTRACT TIMES. All dates and durations specified for the start of construction, the milestones dates specified in this contract and the substantial completion and final completion of the project are agreed to be of the essence.

   a. CONSTRUCTION START. The construction work shall start no later than 10 calendar days after the College issues a Notice to Proceed to the Contractor.

   b. MILESTONES. The construction tasks or activities shall be completed within the following number of calendar days after the construction start date (the actual dates will be set forth in the Notice to Proceed):
c. **SUBSTANTIAL COMPLETION.** The construction work and the project shall be substantially completed, meaning capable of being reasonably utilized for the purpose intended, within ______________ calendar days after the construction start date (the actual date will be set forth in the Notice to Proceed). Substantial Completion pertains to all milestone dates of the project schedule.

d. **FINAL COMPLETION.** The construction work, the project and the contract shall be finally completed within ______________ calendar days after the construction start date (the actual date will be set forth in the Notice to Proceed). The requirements for final completion are defined in the general conditions of the contract for construction as well as the technical specifications of the project.

e. **DELAYS AND EXTENSIONS OF CONTRACT DATES.**

1. **Delays Warranting Extensions.** If the Contractor is unavoidably prevented from completing any part of the work within the milestone, substantial completion or final completion dates in this contract by causes beyond the control and without the fault of the Contractor or its subcontractors, those contract dates will be extended by amounts equal to the time lost due to such delays, provided the Contractor requests extensions in accordance with the general conditions. The Contractor's right to extensions, the terms and conditions of extensions, and the right to extra compensation for certain extensions shall be governed by the general conditions.

2. **Requests for Extensions.** 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, or it will not be entitled to an extension. Written notices and requests must comply with the general conditions, and the failure to submit them will preclude the Contractor from making any claim for an extension under the contract.

f. **EXTENSION TERMS.** The contract dates will be extended for the delays specified in the general conditions to the extent the delays prevent completion of the work required by the contract dates and shall be calculated in accordance with the general conditions. When there is a delay warranting an extension of the contract dates, the College is not required to authorize extra compensation to fund efforts to reduce or eliminate the effect of the delay, but if the College elects to do so, and requires such efforts as a change to the contract, the Contractor shall perform the extra work and be entitled to extra compensation for it under the change order provisions in the contract and the general conditions. The possibility of additional compensation to accelerate because of delays shall not apply to delays for which the Contractor is responsible under the contract and general conditions.

6. **LIQUIDATED DAMAGES FOR DELAY.** If the Contractor fails to substantially complete the project by the substantial completion date specified, the Contractor shall pay the following amounts as liquidated damages for delay for each calendar day that the project is not substantially complete beyond the substantial completion date. Liquidated damages shall be established at 1/20th of 1% of the base contract amount 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 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 reasonable and are not penalties and are not intended to be penalties. The College and the Contractor agree that the amount of liquidated damages per calendar day for delays in the substantial completion of the project is a reasonable estimate of the damage to the College for not being able to use the project in a substantially completed state. The College may deduct liquidated damages from payments due under this contract, but its failure to
withhold liquidated damages to assert claims for liquidated damages shall not be deemed a waiver of the College’s right to withhold or to assert claims for damages for any delays which occur at any time on the project.

7. **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 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 by the College in accordance with the change order provision in the general conditions.

8. **PAYMENTS TO CONTRACTOR.** The Contractor will be paid by the College in accordance with this paragraph and the general conditions in the contract.

   a. **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 general conditions as well as the 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.

   b. **RETAINAGE.** The College will retain 2% of the amount due on each partial payment pending completion of the contract.

      Upon acceptance of the work performed pursuant to the contract, all amounts being withheld by the 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, provided that the contract has been completed as indicated. The holding and release of retainage shall be governed by the general conditions.

   c. **CHANGE ORDERS.** The Contractor shall invoice for change order work in the monthly contract 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.

   d. **FINAL PAYMENT.** Upon final completion of all work included in the contract including all change orders, upon acceptance of the work by the architect and the College, upon the satisfactory completion of all of the requirements in the general conditions for completion, and upon the issuance of the certificate of final completion, the Contractor will be paid the fully adjusted contract balance including any retainage withheld. The invoice for final payment and final payment shall also be subject to the general conditions and the special requirements of this contract.

   e. **PAYMENT TERMS.** All invoices and payments shall also be subject to the general conditions, including the provisions regarding payments, and to the right of the College to withhold payments or to make deductions from payments. See also the Prevailing Wage Act requirements in paragraph 22. The College will pay proper final invoices within 30 days of their submission to the College with the approval of the architect.
f. **SUBMISSION OF INVOICES:** Prior to the submission of the invoice, the contractor will submit to the owner and architect, in draft form, a “pencil copy” of the monthly invoice for review and approval setting forth each line item 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 owner and architect shall observe the work and in place and, on the basis of such observations, will either approve the amounts requested or modify the contractor’s request, based on the owner’s independent assessment of the work in place. The owner 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 owner for payment. No invoice shall be submitted for payment until all amounts and completion percentages have been determined in this manner.

g. For the purposes of the State’s Prompt Payment of Contractors and Subcontractors Act (N.J.S.A. 2A:30A-1, et seq.)

   (1) An invoice will be deemed to have been received when it is received by the owner at the address designated in the pre-construction conference for receipt of the invoices.

   (2) 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.

   (3) 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.

   (4) Payment shall be considered to have been made on the date on which a check for such payment is dated.

   (5) Payment terms (e.g. “net 20”) offered by the contractor shall not govern the owner’s obligation to make payment.

   (6) The following periods of time will not be included in the calculation of the due date of any contractor invoice:

      - Anytime elapsed between receipt of an improper invoice and its return to the contractor, not to exceed 20 calendar days; or

      - Any time elapsed between the owner’s return of an improper invoice to the contractor and the owner’s receipt of a corrected invoice.

h. **LIMITATIONS ON APPLICABILITY:** The provisions of this Article shall not govern the owner’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. Nor shall this Article govern the owner’s payment obligations nor supersede or modify any other contractual provision governing contractor claims for additional compensation beyond the base contract price and approved change orders.

i. **INTEREST:** Interest shall be payable on amounts due the contractor if not paid within thirty (30) calendar days after the billing date specified in the above subparagraph, as provided under the State’s Prompt Payment of Contractors and Subcontractors Act. 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 owner for any reason permitted under the contract or applicable law, or on any claim for additional compensation, over and above sums due under the base contract or approved change orders.
j. **SUSPENSION OF PERFORMANCE:** A contractor not paid sums due under an approved invoice within thirty (30) days of the billing date may suspend performance without penalty for breach of contract, but only after providing the owner with seven (7) days written notice of non-payment, and only in the event that the owner fails to furnish the contractor, within that seven 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 owner’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 owner.

k. **Alternative Dispute Resolution:** Disputes regarding nonpayment of a contractor’s invoice under this Article may be submitted to a mediator upon agreement of the College. 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.

9. **CHANGES, CHANGE ORDERS AND CHANGE ORDER DELAYS.** The College may at any time authorize and direct written changes in the work which change the scope of the work and which increase or decrease the contract price. All changes including adjustments of the contract price shall be governed by this paragraph and the change order provision in the general conditions. If a change issued by the College delays the completion of any activity in the project CPM 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, then 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 CPM schedule critical path, including the substantial and final project completion dates. The Contractor shall also make alternate proposals for change order work which 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 activities in the schedule, including an identification of the activities and the amount of delay in each. If no delay or extension is specified 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.

10. **CONTRACTOR'S REPRESENTATIONS.** The Contractor represents to the College that it has:

   a. **EXAMINATION OF 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 contract 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 contract 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 contract work.

   d. **FAMILIARITY WITH OTHER INFORMATION AND OTHER DOCUMENTS.** Carefully studied all reports of investigations and tests of 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.

11. ASSIGNMENT OF CONTRACT. The Contractor may not assign this contract or any rights under or interests in the contract including its right to payments under the contract.

12. CONTRACTOR PERSONNEL ASSIGNED. 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 reason.

13. DOMESTIC MATERIALS - N.J.S.A. 52:33-2. 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 section 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.

14. NOTIFICATIONS/AUTHORIZED REPRESENTATIVE:

a. Notice to the Contractor. Written notices to the Contractor should be addressed to:

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

b. Notice to the College/Authorized Representative: Written notices from the Contractor to the College should be addressed to:

The College of New Jersey
PO Box 7718,
Ewing, New Jersey 08628

The College’s contracting officer hereby authorizes the Owner’s project representative to receive all contract related correspondence.

15. CLAIMS BY THE CONTRACTOR.

a. GENERAL PROVISIONS APPLICABLE TO ALL CLAIMS. 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 section 12A of 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 this contract by reason of the acts or omissions of any third parties, including but not limited to the project architect and any other contractor on this project. The Contractor also agrees that it may not assert claims for extra costs for home office 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 the terms of this contract including the general conditions, and the Contractor may not assert any claims for extra costs unless it maintains all the records of its estimated and actual costs as required by paragraph 16 and the general conditions. The Contractor also agrees that suits against the College must be pursued in the county where the project is located.

1. Notice of litigation shall be filed in writing with the other party to the Owner-Contractor Agreement and with the court having competent jurisdiction and a copy shall be filed with the Architect and the Construction Manager. The litigation shall be made within the time limits specified herewith where applicable, and in all other cases within a reasonable time after the claim, dispute and other matter in question has arisen, and in no event shall it be made after the date when institution of legal or equitable proceedings based on such claim, dispute or other matter in question would be barred by the applicable statute of limitations.

2. Unless otherwise agreed in writing, the Contractor shall carry on the Work and maintain its progress during any proceedings, and the Owner shall continue to make payments to the Contractor in accordance with the Contract Documents.

b. **DELAY CLAIMS.** The Contractor agrees that it may not assert claims 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 paragraph 5, including but not limited to delays caused by third parties such as the project 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 tortuous 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 it is not responsible. Finally, the Contractor also agrees that it can only assert claims for extra costs due to delays 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 damages as that term is defined in law.

c. **CLAIMS BASED ON CONTRACT DOCUMENTS AND INFORMATION PRIOR TO BIDDING.** The Contractor agrees that it can assert no claims for extra compensation beyond the bid and contract price for constructing the completed project by reason of any errors, omissions or deficiencies in the contract documents to the extent that a reasonably competent contractor should discovery the error, omission or deficiency in connection with the preparation of a bid because of its obligation to review and study the bid documents before submitting its bid, and because of its representation in paragraph 10 that it did so. In addition, the Contractor agrees that it can assert no claims for extra compensation beyond the bid and contract price for constructing the completed project by reason 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 permitted by Article 1 of the 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.

d. **MEDIATION.** 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 parties agree first to try in good faith to settle the dispute by mediation administrated by the American Arbitration Association under its Construction Industry Mediation Rules before resorting to arbitration or litigation. The Owner reserves the right to request a mediation if it deems it necessary.

16. **COST RECORDS FOR EXTRAS, AUDITS, CLAIMS:** Pursuant to N.J.A.C. 17:44-2.2, the Contractor 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.

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 which 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. 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. Any failure to maintain or produce such records shall preclude the Contractor from being paid or retaining any payments which are based on costs or which should be, and expenses of it or its subcontractors including extra costs which are reflected in the records. This includes the basic contract compensation as well as extra compensation for change orders and claims of any kind.

17. **INDEMNITY/LIABILITY TO THIRD PARTIES:** The Contractor agrees to defend, indemnify and save harmless the College and its officers, agents, servants and employees from and against any and all suits, demands, claims, losses and damages of any kind arising out of, or claimed to have arisen out of any negligent act, error, omission or breach by the Contractor, its officers, agents, servants, employees, consultants, subcontractors or suppliers, in the performance of this contract. The Contractor shall, at its own expense, defend, and pay all charges for attorneys and all costs and other expenses arising from such suits or claims. If any judgment is rendered against the College or any of its officers, agents, servants or employees for which indemnification is required under this paragraph, the Contractor shall satisfy and discharge it. The College shall give prompt written notice to the Contractor of claims and suits for which indemnity is required in this paragraph.

18. **INSURANCE BY THE CONTRACTOR:** The Contractor shall procure and maintain at its own expense, insurance for damages imposed by law and assumed under this contract until at least 1 year after the completion and acceptance of the project. The insurance shall be of the kinds and in the amounts required in this paragraph, and shall be issued by insurance companies approved to do business in New Jersey. The College of New Jersey, the State of New Jersey, and the NJ Educational Facilities Authority shall be named as an additional insured on the Commercial General Liability Insurance policy. The Contractor expressly agrees that any insurance protection required by this
contract shall in no way limit the Contractor’s obligations under this 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 this contract or law.

a. TYPES AND MINIMUM AMOUNTS OF INSURANCE REQUIRED:

(1) Commercial General Liability Insurance (CGL). Commercial General Liability insurance ISO 1088 or later occurrence form of insurance including contractual liability with limits of at least $2,000,000 combined single limit for bodily injury and property damage liability for each occurrence. The CGL policy shall also include products/completed operations with limits of at least $2,000,000 per occurrence. This insurance shall be maintained for at least 1 year after the completion of the project.

(2) Automobile Liability Insurance. The Automobile Liability Insurance policy shall cover owned, non-owned and hired vehicles and have limits of at least $1,000,000 combined single limit for bodily injury and property damage for each occurrence.

(3) Workers Compensation/ Employer Liability. Workers Compensation Insurance shall be maintained by the Contractor and all subcontractors in accordance with the requirements of the law of New Jersey. They shall also maintain Employer's Liability insurance with limits of at least $500,000 for each occurrence.

b. EVIDENCE OF INSURANCE. The Contractor shall when this contract is signed and before beginning the work required under this 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 paragraph, 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 paragraph, and that the policies cannot be canceled except after 30 days written notice to the College.

c. 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 this contract. 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 required under this contract, which are certified by an agent or underwriter to be true copies of the policies issued to the Contractor.

d. 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 this contract. The College, in its sole discretion and for its sole benefit, may use monies retained under this paragraph 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 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.

19. **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 the general conditions and bid documents. They shall conform to N.J.S.A. 2A:44-147. This contract will not become effective until these bonds are provided to and approved 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.

20. **ABANDONMENT, POSTPONEMENT, TERMINATION OF PROJECT:** The College reserves the right to terminate this contract for convenience at any time by written notice to the Contractor. Unless otherwise directed, the Contractor shall immediately stop all work upon receipt of such a notice. The College also reserves the right to suspend performance and to terminate for default or improper performance by the Contractor. The rights and duties of the Contractor and the College in the event of a termination or a suspension shall be governed by the general conditions.

21. **CONTRACT TERMS, CHANGES, AND LAW:** This contract (including the completed checklist which is attached) constitutes the entire agreement between the College and the Contractor, and it shall be governed by the law 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.

22. **PREVAILING WAGE STATUTE.** The Contractor must 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, this 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.

23. **DISCRIMINATION IN EMPLOYMENT.** 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 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 this 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 rights to deduct the outreach and training allocation from the contract. During the performance of this contract, the Contractor agrees that:
a. In the hiring of persons for the performance of work under this 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 this contract, no contractor, nor any person acting on behalf of such contractor or subcontractor, shall, by reason of race, creed, color, national origin, ancestry, marital status, gender identity or expression, affectional or sexual orientation or sex, discriminate against any person who is qualified and available to perform the work to which the employment relates;

b. No contractor, subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee engaged in the performance of work under this 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, color, national origin, ancestry, marital status, gender identity or expression, affectional or sexual orientation or sex;

c. There may be deducted from the amount payable to the contractor by the contracting public agency, under this 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. This contract may be canceled or terminated by the contracting public agency, and all money due or to become due hereunder may be forfeited, for any violation of this section of the contract occurring after notice to the contractor from the contracting public agency of any prior violation of this section of the contract.

24. COMPLIANCE WITH PROCUREMENT STATUTES: The Contractor warrants and represents that this 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 this contract by any conduct, including the paying of any gratuity of any kind, directly or indirectly, to any College employee or officer. Any violation of this provision shall be cause for the College to terminate this 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 officer, employee or consultant of the College has in, or association with, any contractor, subcontractor, material supplier, consultant, or manufacturer, or other party which has any interest in this project.

25. CONFLICT OF INTEREST: a. No vendor shall 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 such vendor 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.

b. 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 vendor to the Attorney General and the Executive Commission on Ethical Standards.

c. No vendor may, 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 such vendor 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 provision 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.

d. No vendor shall 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.

e. No vendor shall 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 vendor or any other person.

f. The provisions cited above in paragraph 3a. through 3e. shall not be construed to prohibit a State officer or employee or special State officer or employee from receiving gifts from or contracting with vendors 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 under paragraph 3c.

26. **SET-OFF FOR STATE TAX NOTICE:** Pursuant to N.J.S.A. 54:49-19, and notwithstanding any other provision of law to the contrary, Whenever any taxpayer under contract to provide goods or services to the State of New Jersey or its agencies or instrumentalities, and including the legislative and judicial branches of State government, or under contract for construction projects of the State of New Jersey or its agencies or instrumentalities, and including the legislative and judicial branches of State government, is entitled to payment for the goods or services or on that construction project and at the same time the taxpayer is indebted for any State tax, the Director of the Division of Taxation shall seek to set off so much of that payment as shall be necessary to satisfy the indebtedness. The director, in consultation with the Director of the Division of Budget and Accounting in the Department of the Treasury, shall establish procedures and methods to effect a set-off. The director shall give notice of the set-off to the taxpayer, the provider of goods or services or the contractor or subcontractor of construction projects and provide an opportunity for a hearing within 30 days of such notice under the procedures for protests established under R.S.54:49-18, but no request for conference, protest, or subsequent appeal to the Tax Court from any protest under this section shall stay the collection of the indebtedness. The director shall give notice of the set-off to the taxpayer, the provider of goods or services or the contractor or subcontractor of construction projects and provide an opportunity for a hearing within 30 days of such notice under the procedures for protests established under R.S.54:49-18, but no request for conference, protest, or subsequent appeal to the Tax Court from any protest under this section shall stay the collection of the indebtedness. No payment shall be made to the taxpayer, the provider of goods or services or the contractor or subcontractor of construction projects pending resolution of the indebtedness. Interest that may be payable by the State pursuant to P.L.1987, c.184 (C.52:32-32 et seq.), to the taxpayer, the provider of goods and services or the contractor or subcontractor of construction projects shall be stayed.
THE COLLEGE OF NEW JERSEY

By____________________________________
Jon Bannan, Assistant Supervisor, User
Support Services

Date______________________________

By____________________________________
Lloyd Ricketts, Treasurer

Date______________________________

By__________________________________
Curt Heuring, Vice President of Administration

CONTRACTOR:

By______________________________

Title______________________________

Date______________________________
THE COLLEGE OF NEW JERSEY

December 2007

GENERAL CONDITIONS
OF THE
CONTRACT FOR CONSTRUCTION
TABLE OF CONTENTS

ARTICLE 1. CONTRACT DOCUMENTS, INTERPRETATION, INFORMATION FOR BIDDERS, CLAIMS BASED ON BID AND CONTRACT DOCUMENTS ........................................1

A. Definitions........................................................................................................................................1
B. Intent of Contract Documents .........................................................................................................2
C. Interpretation of Contract Documents ............................................................................................2
D. Law and Referenced Standards ........................................................................................................2
E. Plans and Specifications .....................................................................................................................3
F. Order of Precedence of Contract Documents ................................................................................3
G. Organization of Plans and Specifications ........................................................................................3
H. Required Approvals ..........................................................................................................................3
I. Conformity of Work to Contract Documents ..................................................................................3
J. Work Involving Existing Structures .................................................................................................4
K. Verification of Dimensions ...............................................................................................................4
L. Manufacturer Literature ...................................................................................................................4
M. Quality -- General Requirement ......................................................................................................4
N. Examination of Contract Documents Before Bidding/Errors, etc. ................................................4
O. Site Information ...............................................................................................................................4
P. Sufficiency of Documents Provided for Bidding .............................................................................5
Q. Examination of Site Before Bidding ...............................................................................................5
R. Hazardous Materials On Site ...........................................................................................................5
S. Limitation on Claims Based on Contract Documents and Information Provided for Bidding........5

ARTICLE 2. THE COLLEGE ................................................................................................................5

A. General Rights and Responsibilities of the College ........................................................................5
B. College Representative, Authority to Decide Contract Questions ..................................................6
C. Required Approvals ..........................................................................................................................6
D. Information Required from College ..................................................................................................6
E. Permits, Responsibility for ...............................................................................................................6
F. College Inspection of the Project .......................................................................................................6
G. College Inspectors, Duties and Limitations ......................................................................................7
H. College Rejection of Defective Work ...............................................................................................7

ARTICLE 3. ARCHITECT ...................................................................................................................8

A. Architect's General Role ...................................................................................................................8
B. Architect's Access and Facilities ........................................................................................................8
C. Limitation of Architect's Responsibilities .........................................................................................8
D. Architect Rejection of Work .............................................................................................................8
E. Architect Review of Contractor Submittals ........................................................................................8
F. Architect Review of Contractor As-Built Plans ...............................................................................8
G. Architect Determination of Satisfactory Completion ......................................................................9

ARTICLE 4. CONTRACTOR ................................................................................................................9

A. Contractor Responsibility for Performance of the Contract and Work ............................................9
B. Contractor Key Personnel ...............................................................................................................9
C. Contractor Supervision of Contract Work/Superintendent ..............................................................9
D. Cooperation with College and Other Contractors ...........................................................................9
E. Performance of College Directives ..................................................................................................10
ARTICLE 5. PERFORMANCE OF WORK........................................................................................................ 10
A. Protection of Work/Materials, etc. ............................................................................................................. 10
B. Safety and Safety Programs.................................................................................................................. 11
C. Working Hours ...................................................................................................................................... 11
D. Site Security ......................................................................................................................................... 11
E. Site Use ............................................................................................................................................... 11
F. Submittals (Shop Drawings, Product Data, Samples) .......................................................................... 11
G. Layout and Dimensional Control ..................................................................................................... 11
H. Construction Access, Roads, Walks, and Parking ............................................................................. 12
I. Construction Site Condition, Storage, Dust Control ........................................................................... 12
J. Photographs ......................................................................................................................................... 12
K. Project Sign ......................................................................................................................................... 13
L. Soil Conservation ............................................................................................................................... 13
M. Temporary Facilities, Services, Electric, Heat and Enclosures ......................................................... 13
N. Substitutions (To Be Included in Bid) ................................................................................................. 13
O. License Fees ...................................................................................................................................... 14

ARTICLE 6. SUBCONTRACTORS ............................................................................................................. 14
A. Contractor Responsibility for Subcontracted Work ............................................................................ 14
B. Subcontractor Identification and Approval ....................................................................................... 14
C. Subcontractor Qualifications ............................................................................................................ 15
D. Subcontractor Compliance with Contract/Subcontractor Supervisors ............................................... 15
E. No Contract Relationship Between College and Subcontractors .................................................... 15

ARTICLE 7. TIME, LIQUIDATED DAMAGES, DELAY CLAIMS AGAINST COLLEGE......................... 15
A. Contract Times .................................................................................................................................... 15
B. Liquidated Damages For Delay ......................................................................................................... 15
C. Delay Claims Against The College .................................................................................................. 16
D. Mediation ......................................................................................................................................... 16

ARTICLE 8. PROJECT SCHEDULE ....................................................................................................... 16
A. General Schedule Requirements ....................................................................................................... 16
B. Form and Content of Schedule ....................................................................................................... 16
C. Computerization of Schedule .......................................................................................................... 17
D. Weather Inclusion in Schedule ........................................................................................................ 18
E. Schedule Updates ............................................................................................................................ 18
F. Meetings/Eight Week Bar Charts ..................................................................................................... 18
G. Schedule Documentation for Contract Payments ........................................................................... 19
H. Progress, and Recovery Schedules .................................................................................................. 19
I. Contractor Failure to Provide Schedule Updates ............................................................................... 19
J. Scheduler Qualifications ................................................................................................................... 19

ARTICLE 9. EXTENSIONS, COMPENSATION FOR CERTAIN EXTENSIONS.......................................... 19
A. Delays Warranting Extensions of Contract Dates ............................................................................... 19
B. Weather Delays ................................................................................................................................ 20
C. Float Time Use .................................................................................................................................. 20
D. Calculation of Extensions .................................................................................................................. 20
E. Elimination of Delays and Extensions (Acceleration) ...................................................................... 20
ARTICLE 10. PAYMENTS TO CONTRACTOR ................................................................. 21

A. Monthly Progress Payments ................................................................................... 21
B. Unit Schedule Breakdown/CPM Activity Price Breakdown ........................................... 22
C. Invoices for Monthly Progress Payments: Form and Content ..................................... 22
D. Payment for Materials and Equipment Procured But Not Installed .............................. 23
E. Retainage .................................................................................................................. 23
F. Payment For Change Order Work ............................................................................. 24
G. Final Payment ........................................................................................................... 24
H. Payment Terms ......................................................................................................... 24
I. Payment Based on Partial Acceptance (Limitation) ....................................................... 24
J. Failure to Pay Amounts in Dispute Not to Affect Performance ..................................... 24
K. Waiver of Certain Claims by College Against Contractor in Connection with Final Payment ................................................................................................................. 24

ARTICLE 11. CHANGES ................................................................................................. 24

A. Changes Authorized .................................................................................................. 24
B. Change Request or Directive .................................................................................... 25
C. Change Orders Which Are Protested ........................................................................ 25
D. Changes Affecting Contract Times ........................................................................... 25
E. Contractor Initiated Change Order Requests ........................................................... 25
F. Change Order Amounts ............................................................................................. 26
G. Right to Audit Extra Costs (Before and After Payment) ............................................. 26
H. Change Orders with Both Price Increases and Decreases .......................................... 26
I. Waiver of Rights In Connection with Change Orders Issued Without Protest ............. 27

ARTICLE 12. COMPLETION ......................................................................................... 27

A. Substantial Completion ............................................................................................. 27
B. Final Completion ....................................................................................................... 28

ARTICLE 13. SUSPENSION AND TERMINATION OF CONTRACT ................................. 28

A. Suspension ................................................................................................................. 28
B. Termination for Convenience ................................................................................... 29
C. Termination for Cause ............................................................................................... 29
D. Surety Takeover Following Termination for Cause .................................................... 30

ARTICLE 14. WARRANTY/DEFECTIVE WORK AND MATERIALS ................................. 30

A. General One Year Warranty; HVAC Two Year Warranty .......................................... 30
B. Defective Work, Materials and Equipment ................................................................ 31

ARTICLE 15. MISCELLANEOUS ................................................................................. 31

A. Insurance, Bonds, Indemnification ........................................................................... 31
B. Prevailing Wage ........................................................................................................ 31
C. Employment Discrimination .................................................................................... 32
D. Patents ................................................................................................................................. 32
E. Emergencies Affecting Safety. ............................................................................................ 32
F. Contractor Compliance with Law. ....................................................................................... 32
G. Environmental Protection - Contractor Duty to Comply with Law. .............................. 32
H. No Personal Liability of College Officials ....................................................................... 33
I. Recovery of Monies by College from other Contracts with the Contractor. .................. 33
J. Buy American Requirement. ............................................................................................. 33
K. Modification of Contract (Form). .................................................................................... 33
L. State Sales Tax Exemption. ............................................................................................... 33
M. Assignment of Contract Funds and Claims Prohibited. .................................................. 34
N. Independent Contractor Status. ........................................................................................ 34
O. Third Party Beneficiary Rights Not Intended................................................................... 34
P. Gifts to College Employees and Agents Prohibited. ......................................................... 34
Q. Contractor Claims: Procedures and Limitations. ................................................................. 34
R. Cost Records a Condition of Receiving or Retaining Extra Compensation on
   Extras, Changes and Claims. ................................................................................................. 35
ARTICLE 1. CONTRACT DOCUMENTS, INTERPRETATION, INFORMATION FOR BIDDERS, CLAIMS BASED ON BID AND CONTRACT DOCUMENTS.

A. Definitions.

Definitions for the purpose of the contract 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 construction 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 document which 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 provision in the contract, general conditions and other sections of the bidding documents).

**Change Order Proposal or Request:** A written proposal or request submitted by the contractor in accordance with the change order provision of the contract, 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 Facilities Management, Construction and Campus Safety and 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.

**Contract Amendment:** The contract can only be amended by (1) a written amendment identified as such which 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 which 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 or revision in the work, or a response to an emergency. A contract change directive does not by itself change the contract, but it should result in a change order which does change the contract price or times if warranted. A CCD should specify the terms of the change order 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 include the signed contract, the bid solicitation documents, the Contractor's bid proposal, and the contract documents listed in the contract. They include but are not limited to the general conditions, any supplemental general conditions, any addenda, plans and specifications, and change orders which are issued and approved by the College after the contract is awarded.

**Contract Limit Lines:** The lines shown on the contract plans which 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 which do not result in a change in the contract price or the contract time. If the Contractor believes that a field order warrants the issuance of a change order which changes the contract times or 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 which it believes are warranted, including specific time and price change requests.

Owner’s Representative: The Owner’s representative is a person or persons designated by the Owner to act on its behalf in administering the construction contract for the College. The Owner’s representative may include the Director of Campus Construction, the Project Manager or an independent construction manager working for the Office of Campus Construction.

Site Superintendent: The site superintendent is a person or persons designated by the Owner 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 work of the contract for construction.

Supplemental General Conditions: The part of the contract documents which amends or supplements the general conditions for the project.

B. 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 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 contract work to be considered to include less than the entire project.

C. 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 Owner) 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.

D. Law and Referenced Standards.

The Contractor is required to comply with all federal, state and local laws and regulations which 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 change or affect the duties and responsibilities of the College, the Architect or the Contractor. Nor shall they create an obligation on the part of the College or the Architect to supervise or direct the Contractor's work.
E. 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 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.

F. 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. If there is any conflict among the contract documents, the signed contract and all approved change orders shall control. As to the other contract documents, the order of the precedence shall be as follows:

(a) Contract
(b) Addenda
(c) Supplemental General Conditions
(d) General Conditions
(e) Specifications
(f) Plans
   i. Notes
   ii. Large Scale Details
   iii. Sections
   iv. Elevations
   v. Plans
(g) Scope of Work Description

G. 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 Owner is not liable for the Contractor dividing and separating the contract documents into individual packages to sub-contractors and therefore contract items not being figured for by the contractor accordingly. The contract documents work together as a whole, and therefore the contractor is required to coordinate the entire package with all its sub contractors.

H. 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.

I. 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 which 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.
J. **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 which may affect the quantity, size and/or quality of materials required for a satisfactorily completed contract and project, including information which is not identified or included in the plans and specifications. The Contractor shall provide all material and labor required to complete the work and contract based on conditions which can be reasonably observed by a competent and diligent contractor before bidding.

K. **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.

L. **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.

M. **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.

N. **Examination of Contract Documents Before Bidding/Errors, etc.**

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 contract 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, 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 before proceeding with the work affected.

O. **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.

P. 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 to 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 contract 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.

Q. 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 Owner for conditions that existed and were reasonably observable or described at the time of bidding.

R. Hazardous Materials On Site.

The Contractor will not be responsible for hazardous environmental conditions uncovered or discovered on the site which were not disclosed in the contract documents. 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 and the 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 and the general conditions.

S. 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 which are discoverable by a diligent and competent contractor, because of its obligation to review and study the bid documents before submitting its bid, and because of its obligation to notify the College in writing before submitting its bid of errors, omissions, inconsistencies, and defects in the documents. This limitation on claims may be modified and further restricted in the signed contract when the contract requires 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 contract and general conditions if information regarding the site which is identified in the bid or contract documents is factually inaccurate, and the inaccuracy is one which 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.

A. 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 contract 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 which could affect the Contractor's performance of the contract, to obtain approvals relating to the
site which 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 which 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 or any laws or
regulations.

B. College Representative, Authority to Decide Contract Questions.

The Contracting Officer delegates its authority to the Owner’s representative who is authorized to act and make
decisions on behalf of the College regarding matters specified in the contract documents. However, the Owner’s
representative is not authorized to make or agree to changes to the contract involving time, contract price or material
changes.

All changes to the contract including change orders that modify contract price, contract time or other material
change to the contract must be reviewed and approved by the Contracting Officer or his/her designee. The contracting
officer designates that the Vice President for Facilities Management, Construction and Campus Safety is authorized to
approve change orders.

The Owner’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, all questions regarding the acceptability of the performance of the contract by
the Contractor, and all questions regarding the compensation due to the Contractor. Where the Owner’s representative is
authorized to render decisions under the contract 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.

C. 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.

D. Information Required from College.

Information which the contract documents specify the College will provide shall be provided with reasonable
promptness.

E. Permits, Responsibility for.

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 Owner’s representative or
the site superintendent.
F. College Inspection of the Project.

The College shall have the right to be represented at the site by the Owner’s representative(s), the site superintendent and other College employees designated by the College, the project architect, and other consultants designated by the College or the architect. They shall have the right to visit the site, inspect work and materials, inspect project documentation, conduct tests, attend meetings, meet with Contractor and subcontractor representatives, investigate problems, conduct studies, and make reports. They 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 Owner’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 a reasonable notice and 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 does so, 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.

G. College 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. College inspectors will have the authority to reject unsuitable work or materials, subject to written confirmation by the Owner’s representative. If the Contractor believes that any action of a College inspector is contrary to the contract documents, it shall notify the Owner’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 Owner’s Representative with a copy to the Architect.

H. College 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 Owner’s representative, upon consultation with the Architect may elect to accept work or materials which do not conform to the contract and to credit or reduce the
contract price, but the College shall have no contractual obligation to elect this remedy. Changes to the contract in these circumstances must be recorded via regular change order process.

ARTICLE 3. ARCHITECT

A. Architect’s General Role.

The project architect is by contract with the College responsible for the design of the project. During construction, the architect is responsible for reviewing Contractor 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 conform to the contract documents and good industry practice, and to review Contractor 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 completion. The Contractor shall cooperate with and render assistance to the architect in the performance of these duties.

B. 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 project architect if the specifications require it to do so.

C. Limitation of 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.

D. Architect Rejection of Work.

The architect may recommend rejection of work or materials which it believes do 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.

E. Architect Review of Contractor Submittals.

The architect will review, approve or take other appropriate action regarding Contractor 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 normally be deemed to constitute approval of an assembly of which the item is a component.

F. Architect Review of Contractor As-Built Plans.

The architect will periodically review the Contractors’ 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.
G. Architect Determination of Satisfactory 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 which the Contractor is required to provide at the time of the project completion. The architect will make a recommendation to the College regarding final project and final contract acceptance.

ARTICLE 4. CONTRACTOR.

A. Contractor Responsibility for Performance of the Contract and Work.

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, 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 contract in compliance with the contract documents and by milestone, substantial completion and final completion dates in the contract or any authorized extensions thereof. The Contractor shall maintain good order and discipline at the site at all times.

B. Contractor 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 or as required to carry out the requirements of the project. The College has the authority to reject and have replaced any staff member of the contractor or subcontractors for any reason.

C. Contractor Supervision of Contract Work/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 which must be approved 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 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, and such suspensions shall not be the basis of a claim against the College.

The superintendent shall attend all meetings at the project site including job meetings, scheduling meetings, and meetings with the College and/or the architects. The superintendent shall have a written plan which must be approved 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.

D. Cooperation with 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 CPM construction 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 the 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 which 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 Owner reserves the right to occupy any portion of the Project which is ready for occupancy prior to 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 Owner'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 Owner, 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 Owner 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.

E. Performance of College Directives.

When the College issues a written directive to the Contractor under the authority of any provision in the contract or 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 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

A. Protection of Work/Materials, etc.

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 contract obligations. 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.
B. 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.

C. 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, or legal holidays without the prior written consent of the College which will not be unreasonably withheld.

D. 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.

E. 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.

F. Submittals (Shop Drawings, Product Data, Samples).

The Contractor shall submit to the architect with reasonable promptness a schedule for all submittals, including shop drawings, product data and samples required by the contract documents. Submittals shall be complete as to quantities, details, dimensions and design criteria. The architect and the College will approve 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 specifically and expressly approve the deviation. 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.

G. 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 College-furnished topographical and utility survey data, and all points, lines, elevations, grades and benchmarks provided.

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.


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, by 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 acceptance and completion, it 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 without the written approval of the College.

Any existing walkways, driveways, aprons, or curbs damaged by the work of this contract shall be replaced in kind immediately upon project completion, or as required to maintain campus safety and campus aesthetics.

I. Construction Site Condition, Storage, Dust Control.

The Contractor shall provide reasonable, safe and orderly storage for its equipment, tools and materials, and 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.

J. 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 month which should be selected by the architect.
K. 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 locations. The sign shall be painted by a professional sign painter. No other sign will be permitted at the site. The Contractor shall remove the signs when the project is finally accepted unless the College requests that it be removed earlier.

L. 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.

Contractor shall coordinate and schedule all Soil Conservation inspections and provide the College with all site inspection notes, approvals or notices.


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 which are necessary to perform the work or which 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 which are necessary to perform the work, or which may be required by the project specifications. The Contractor shall also supply such temporary enclosures and heat which are necessary to perform the work or which 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.

Any natural gas, or 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.

N. Substitutions

The Contractor may include in their bid substitute materials or equipment or construction methods in lieu of those specified in the contract documents, but they do so at their 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 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.

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 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 time or price of the contract 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.

O. 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 to include in its contract price any license fee or royalty required.

ARTICLE 6. SUBCONTRACTORS.

A. Contractor 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.

B. Subcontractor Identification and Approval.

The Contractor shall include with its bid for the contract the names, addresses and license numbers of all subcontractors which 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 by the College.

Within 20 days after Notice to Proceed, the Contractor shall furnish to the College in writing for review by the Architect 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 on List of Subcontractors, AIA Document G805. The Architect or Owner will promptly notify the Contractor in writing if either the Owner or Architect, after due investigation, has reasonable objection to any names on such list. Failure of the Owner and Architect to make objection within 10 days to any name on the list shall constitute acceptance of such name.

In submitting the names of subcontractors, the Contractor shall list 1) the name and address of the Subcontractor, 2) the name and address of all Sub-subcontractors for each significant subdivision of the trade or work 3) reference in the form of a list of at least 3 jobs similar in size and quality to this Project performed in the last 5 years, with name and location of work, dollar value and names of the Owner and Architect.

In submitting sources of supply of materials, articles and pieces of equipment including those under subcontracts and sub-subcontracts, the Contractor shall list 1) the name and address of the source of supply 2) the name of the manufacturer of the items.

If the College disapproves 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 including those performed by the subcontractors. Subcontractors approved by the College may not be changed without prior notice to and approval by the College.
C. **Subcontractor Qualifications.**

The College may disapprove a proposed subcontractor if it has a reasonable objection to the subcontractor, or if there is evidence of poor performance on other projects or financial problems, or if the subcontractor has been suspended or debarred by any public agency within the State of New Jersey, or if 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 if 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 College or other public officials. Subcontractors shall also utilize qualified, competent craftsmen on the project.

D. **Subcontractor Compliance with Contract/Subcontractor Supervisors.**

The Contractor shall require its subcontractors on the project to comply with all pertinent terms of the contract and contract documents, and shall include all appropriate terms and provisions in 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 do not do so.

E. **No Contract Relationship Between College and Subcontractors.**

Nothing in the contract or contract documents shall create any contractual relationship or duties between the Contractor's subcontractors and the College.

**ARTICLE 7. TIME, LIQUIDATED DAMAGES, DELAY CLAIMS AGAINST COLLEGE.**

A. **Contract Times.**

The Contractor shall begin the contract work within 10 days after the issuance of a notice to proceed by the College, and shall perform the work in the contract by the dates specified in the contract, including milestone, substantial completion and final completion dates.

B. **Liquidated Damages For Delay.**

If the Contractor fails to substantially complete the project by the substantial completion date specified, the Contractor shall pay the amounts specified in the contract as liquidated damages for delay for each calendar day that the task remains incomplete beyond the substantial completion date.

The College and the Contractor agree that the actual loss to the College from construction delays and the inability to use 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 reasonable and are not penalties. The College and the Contractor agree that the amount of liquidated damages per calendar day for delays in the substantial completion of the project is a reasonable estimate of the damage to the College for not being able to use the project in a substantially completed state. The College may deduct liquidated damages from payments due under this contract, but its failure to withhold liquidated damages or to assert claims for liquidated damages shall not be deemed a waiver of the College’s right to withhold or to assert claims for damages for any delays which occur at any time on the project.
C. Delay Claims 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 project 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 tortuous 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 it is not responsible.

When the Contractor is entitled to extra compensation for delay under the contract and 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 consequential losses. Any additional compensation under this paragraph shall also be subject to the provisions in the contract and general conditions regarding claims, and the provisions in the contract and general conditions regarding the maintenance and availability of cost records.

D. MEDIATION

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 parties agree first to try in good faith to settle the dispute by mediation administered by the American Arbitration Association under its Construction Industry Mediation Rules before resorting to arbitration or litigation. The Owner reserves the right to request a mediation if it deems it necessary.

ARTICLE 8. PROJECT SCHEDULE.

A. General 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 by the College and the architect, and it shall perform the contract and the work in accordance with the schedule. The project schedule should include a schedule of submittals for approval. 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 schedule is approved 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 updates shall be used in determining the amount of the monthly progress payments to the Contractor. The College may also use the schedule and updates to determine if the Contractor is adequately planning and performing the work in accordance with the contract.

B. Form and Content of 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 schedule shall be in the form of an activity oriented network diagram (CPM). The principles and definitions used in this section 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 its 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 dates and completion dates. The CPM schedule shall include the arrow or network diagram and the computer produced schedule with dates. The schedule shall include and reflect the following factors:

1. Project phasing, and contract milestones and completion dates.
2. The structural breakdown of the project.
3. The types of work to be performed and the labor trades involved.
4. Reasonable logic and activity durations.
5. Reasonable coordination of all activities.
6. Purchase, manufacture and delivery activities for all major materials and equipment.
7. Deliveries of College furnished equipment.
8. Allowances for work by separate contractors identified in writing by the College at the time of contract award.
9. Submittals and approvals of shop drawings, material samples, and other required submittals.
10. Subcontract work.
11. Crew flows and sizes (manpower).
12. Assignment of responsibility for performing all activities.
13. Access and availability to work areas.
14. Identification of interfaces and dependencies with preceding, concurrent and follow-on contractors, and sequences and interdependence of activities.
15. Testing and inspections.
16. Phased or total inspection, acceptance, and takeover by the College.
17. Utilization of schedule to determine amounts of monthly progress payments.
18. Activities required of the College and the project 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 schedule shall be subject to the approval of the College. The schedule shall include a reasonable approach to achieve milestones and completion dates in the contract. Any failure of the Contractor to include any element of the work in the schedule shall not excuse the Contractor from completing that work and all of the work needed to complete the project by the 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.

C. Computerization of Schedule.

The mathematical analysis of the detailed network diagram shall be made by computer, and the tabulation for each activity shall include the following:

1. Activity numbers.
2. Activity descriptions.
3. Durations in work days for each activity.
4. Earliest start date (by calendar date).
5. Earliest finish date (by calendar date).
6. Latest start date (by calendar date).
7. Latest finish date (by calendar date).
8. Slack or total float in work days.
The following computer documents shall be prepared as part of the initial schedule submission and each update:

1. Activity file sort, including sorts listing activities required of the College and the project architect, such as approvals.
2. Eight week "Lookahead" detailed bar chart.
3. Eight week summary bar chart.
4. Additional computer sorts requested by the College.
5. High density floppy disks or CDs of all computer files.

D. Weather Inclusion in Schedule.

Seasonal weather conditions shall be included in the schedule, including average precipitation, temperature and other weather conditions typical in the geographic area over a 5 year period by quarterly period (spring, summer, fall, winter).

E. Schedule Updates.

The Contractor shall prepare schedule updates monthly until its contract and the project are 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:

1. Actual start and completion dates for activities.
2. Activity percent completion.
3. Remaining durations for activities in progress.

Each schedule update shall also include a narrative report which includes the following information:

1. Summary of work completed during update period.
2. Comparison of actual progress and status to activities and dates in original schedule.
3. Analysis of critical path including affect of activity progress on critical path.
4. Analysis of secondary critical paths, meaning float within 10 days of the project critical path.
5. Analysis of time lost or gained during the update period.
6. Identification of problem areas.
7. Identification of change orders and delays impacting or delaying the project under the project schedule.
8. Solutions or proposed solutions to current problems and delays.
9. Extensions requested by the Contractor, including activities affected and the amounts, and the reasons for the requests.
10. 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 completion dates.
11. Delays in activities required of the College and the project architect, and activities which they are required to complete in the update period following the issuance of the update.

All schedule updates must be submitted to the College and the architect for approval. 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 schedule and the contract, and may be utilized by the College in determining if the Contractor is adequately planning and performing the work under contract.

F. 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 project architect. Monthly progress meetings shall be scheduled 3 to 7 days after monthly schedule updates and reports are issued and provided to the College and the project 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 schedule update and report. At the monthly progress meetings, the Contractor shall provide 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 schedule update.

G. 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 by the College. No payment will be made under the contract if, when the payment is due, a schedule update and narrative report is due under this paragraph but has not been submitted to and approved by the College. The original CPM project schedule shall include a breakdown allocating the total contract price among the network activities in the schedule which must be approved by the College.

H. Progress, and Recovery Schedules.

The Contractor shall perform its work in accordance with the schedule. If the Contractor's work falls behind the requirements of the schedule, it shall at its own cost institute measures to improve its progress and bring its work in compliance with the schedule, including but not limited to increasing manpower, increasing work hours per shift, increasing shifts, increasing working days per week, and re-scheduling work activities to perform them concurrently where feasible.

If monthly schedule updates show that the Contractor's progress has fallen behind the project schedule so as to jeopardize the achievement of milestone or completion dates in the contract by more that 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 additional to the project schedule at its own cost.

I. Contractor Failure to Provide Schedule Updates.

If the Contractor fails to provide monthly schedule updates and reports when required, the College can elect in its sole discretion to employ any of the following remedies: 1) not make progress payments; 2) on 10 days written notice to the Contractor, retain its own consultant to provide schedule updates and reports and deduct the cost from the contract price; 3) terminate the contract for default in accordance with the termination provision in these general conditions.

J. Scheduler Qualifications.

The Contractor must utilize a scheduler which satisfies the qualification requirements for the project. If at any time during the project it appears that the Contractor's 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 which is competent to provide the services required. The College may also utilize any of the remedies in this article and the contract and general conditions for the Contractor's failure to provide proper schedule updates and reports.

ARTICLE 9. EXTENSIONS, COMPENSATION FOR CERTAIN EXTENSIONS.

A. Delays Warranting Extensions of Contract Dates.

If the Contractor is unavoidably prevented from completing any part of the work within the milestone, substantial completion or final completion dates in the contract by causes beyond the control and without the fault of the Contractor or its subcontractors, those contract dates 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 dates include unforeseeable and unavoidable delays caused by the College, the project architect, other contractors employed by the College, utility owners or other third parties, acts of God, acts of governmental authorities, wars, abnormal weather conditions, fires, floods, earthquakes, epidemics, plagues, and other unavoidable casualties. The
contractor has 24 hours to notify the owner in writing from the start of a delay with a clear and concise reason for the delay, otherwise the delay will not be reviewed. 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.

B. Weather Delays.

No time extensions will be granted for time lost due to normal seasonal weather conditions. To qualify for a time extension due to unusually severe or abnormal weather conditions, the Contractor must demonstrate that the weather conditions during a given quarterly period (summer, fall, winter, spring) were more severe at the project site than the previous five year average for the geographic area by quarter, and that the weather conditions critically impacted contract milestone, substantial completion or final completion dates by delaying the performance of work on the project's critical path. No time extensions will be considered for any weather conditions that do not affect work on the critical path or contract dates.

Where the cause of delay is due to weather conditions, extension of time shall be granted only for unusually severe weather, as determined by reference to historical data. The term "historical data" as used in the preceding sentence shall be construed according to this formula: Average rainfall (or snow or low temperature) for the past five years for the month in question, plus 10 percent. In other words, weather is not deemed to be unusually severe unless it is 10 percent worse than the average for that month over the last five years.

Apart from 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 he will make no claim for compensation, damages for any such delays, and will accept in full satisfaction for such delays said extension of time.

C. Float Time Use.

Float time in the 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 which 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 which is detrimental to the interests of the College or the project.

D. Calculation of Extensions.

Extensions will be calculated based on the effect of delays on the project schedule and the activities in the 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 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 and completion dates, they too will be extended to the extent affected. The critical path and contract dates will only be extended to the extent that they are actually affected under the schedule by a delay for which the Contractor is entitled to an extension.

If for any scheduled activity or period there are concurrent delays which 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 project completion date.

E. 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 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 of the contract and the general conditions.

F. 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, or it will not be entitled to a review. The written notices of delay and requests for extensions 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 affect to each, and suggestions or proposals to reduce or eliminate the delay.

G. Compensation for Certain Extensions and Limitations.

Under the contract and 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 and 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 and 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 paragraph shall be subject to the provisions in the contract and general conditions regarding claims, and the provisions in the contract and general conditions regarding the maintenance and availability of cost records.

No compensation will be paid if an extension for a delay for which College is responsible is concurrent with another delay for which the Contractor is not entitled to an extension, or is concurrent with another delay 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 which result from the change and any resulting extra compensation for the change shall be addressed under the change order provisions in the contract and the general conditions in addition to this article.

ARTICLE 10. PAYMENTS TO CONTRACTOR.

The College will pay the Contractor as full compensation for performing the contract the contract price as adjusted by approved change orders which 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 signed contract. Payment provisions in the supplemental general conditions which add to or modify this provision shall take precedence over this provision. Payment provisions in the signed contract which add to or modify payment terms shall take precedence over the supplemental general conditions and this article.

A. Monthly Progress Payments.

The College will pay the Contractor monthly progress payments as the contract work proceeds and will pay for 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 contract work completed (less earlier payments), and that amount shall be based on the unit schedule breakdown and the update of the CPM 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 CPM update, the Contractor shall only be entitled to the lesser amount unless the Owner’s Representative, in his/her sole discretion, decides otherwise.

B. Unit Schedule Breakdown/CPM Activity Price Breakdown.

Before the contract is signed, the Contractor shall submit to the College and the architect a unit schedule breakdown (schedule of values) utilizing the College's form 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 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 CPM schedule shall reasonably allocate the contract price among the activities in the schedule so that monthly CPM 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 CPM activity price breakdown must be approved by the architect and the College before any payments are made under the contract.

C. Invoices for Monthly Progress Payments: Form and Content.

The Contractor must utilize the College's invoice form and the invoice forms 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 all suppliers on the project have been paid all amounts legitimately due for work and materials billed to the College in earlier invoices which were paid by the College.

Invoices for monthly project payments must include the status of the work in the unit schedule breakdown and the CPM update for the billing period which shows the activities completed or started and the value of them based on the CPM 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, a partial waiver of liens, a list of all materials stored to date including descriptions, values, quantities and location, and any documents required in the contract documents.

The Contractor will be entitled to have an invoice paid if the architect and the College approve 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.
D. 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 which 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 in 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 off site during the performance of the contract, it will do so when the contract is signed.

If the College does agree to pay for materials and equipment stored off site, 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 off site signed by the Contractor's bonding company.

Payments on account of materials or equipment not incorporated in the Work but delivered and suitably stored at the site, or at some other location agreed upon in writing, may be made by the Owner subject to the following conditions:

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 Progress Schedule.

Title to such materials or equipment shall pass to the Owner 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 Owner.

In the case of off site 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 the 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 in the construction.

E. Retainage.

The College will retain 2% of the amount due on each partial payment pending completion of the contract.

Upon acceptance of the work performed pursuant to the contract, all amounts being withheld by the 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, provided that the contract has been completed as indicated.

F. Payment for Change Order Work.
The Contractor shall invoice for change order work in the monthly contract 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 purchase order issued by the College.

G. Final Payment.

Upon final completion of all work included in the contract including all change orders, upon acceptance of the work by the architect and the College, and upon the issuance of the final acceptance certificate, the Contractor will be paid the fully adjusted contract balance including any retainage. The Contractor shall submit an invoice for the final payment, and that invoice must include a release of all claims except claims expressly identified and described in the invoice including the amounts. The final invoice must be accompanied by all warranties, guarantees, manufacturer literature, approved as-built drawings, shop drawings required, and other documents which the Contractor is required by the contract 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.

H. Payment Terms.

All invoices and payments shall be subject to the terms of the contract and the 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, contract requirements, failure to comply with schedule obligations or other causes authorized by the contract documents. See also the Prevailing Wage Act requirements in the signed contract.

I. Payment Based on Partial Acceptance (Limitation).

The College will not accept portions of the project as substantially or finally complete unless specified elsewhere. If the specifications authorize partial acceptances, they will also specify the terms and conditions of such acceptances.

J. 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 contract work.

K. Waiver of Certain Claims by College Against Contractor in Connection with Final Payment.

In its final acceptance certificate the College shall certify that it has no claims against the Contractor in connection with the performance and completion of the contract except for claims listed in the final acceptance certificate, such as claims for cost overruns, delays, or known defects. The College's certification shall not apply to or release post-completion claims, such as claims for defects or other problems in the completed project which are discovered or which become serious after project completion, warranty or maintenance claims, indemnity or contribution claims, claims for damage occurring after completion, or other claims for the performance of post-completion obligations in the contract or problems which manifest themselves after completion.

ARTICLE 11. CHANGES.

A. Changes Authorized.

The College may at any time authorize and direct changes in the work or accelerations of the work which increase or decrease the contract price. All changes including changes in the contract price shall be governed by this Article and the change provision in the contract. All changes must be in a written change order signed by the Vice President for Facilities, Construction and Campus Safety, the Owner’s Representative, the architect and the contractor.
Purchase Order will then be issued by the College and signed by the Contracting Officer. At which time the contractor can then bill for the completed change order work. Any extensions in the contract times and increases in compensation because of extensions resulting from changes shall be governed by Article 9 regarding extensions, but the authorization for the extra compensation itself resulting from an extension must be contained in a change order which complies with this Article as well. The College may elect to have changed work on the project which is within the scope of this contract performed by another contractor. Changes in the contract shall not affect the surety bond protection or insurance coverage required by the contract.

B. Change Request or Directive.

The College may request a change in the work or materials to be provided under the contract by a written contract change directive ("CCD") signed by the Owner’s Representative. If the College is of the opinion that no change in the contract price or 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 or an upset price. A CCD may provide that specified contract work shall stop until further notice, but the Contractor shall not stop or delay any contract 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 purchase order is issued and signed by the Contracting Officer, or that changed work should proceed before a change order and purchase order are issued by the College to maintain the progress of the project.

C. Change Orders Which Are Protested.

If the Contractor protests the terms of a change order, it shall notify the College in writing within 2 business days of its protest. It shall describe the terms which it objects to and the reasons for its protest. It shall include supporting documentation if appropriate. 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

D. 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 CPM 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 CPM schedule including the substantial and final project completion dates. The Contractor shall also make alternate proposals for change order work which 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.

Change orders must specify whether they result in any delay (or extension) to any critical path activities in the 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.

E. 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 contract scope, terms, price or times, it shall submit a written change order request to the Owner’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 which the Contractor seeks to have considered in support of the request, or which is necessary to a proper consideration of the request.
F. Change Order Amounts.

All price changes or amounts in change orders shall be based on (1) lump sum, (2) actual work time and materials plus mark-ups for overhead and profit, or (3) unit prices times actual quantities which 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 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 which are signed by a representative of the College 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;
- 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 contractor 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 suppliers and 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.

CONTRACTOR MUST USE THE COLLEGE OF NEW JERSEY FORM INCLUDED IN THE PAYMENT PROCEDURE DOCUMENTS.

G. 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 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.

H. 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.

I. 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.

A. Substantial Completion.

When the Contractor believes that the project is substantially complete, meaning all essential requirements of the contract have been sufficiently completed so that the project can be occupied and used for its intended purpose, 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 contract requirements which remain to be completed or corrected and an estimate of the value of the incomplete items.

The architect and the College will conduct an inspection, and if they determine the Contractor has substantially completed the project, the College will issue a certificate of substantial completion. If they determine that the Contractor has not achieved substantial completion, the College will notify the Contractor in writing and will list the work and contract requirements which must be completed for substantial completion and provide a punchlist. They 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 certification 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 for its intended purpose, and the Contractor agrees that the College's use and occupancy of the project shall not affect the Contractor's obligation to complete the project and contract requirements. The Contractor also agrees that its completion of the project will not unreasonably interfere with the College's occupancy and use of the project.

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 without interruption.

After substantial completion, the Contractor is relieved of the duty of maintaining and protecting the project, and of its responsibility for damage to the project occurring after substantial completion, except insofar as such damage or any repair is covered by warranty, or is caused or made necessary by the act of the Contractor or anyone for whom the Contractor is legally or contractually responsible, or is attributable to defects. 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, which ever 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 article of these general conditions and the contract.

B. Final Completion.

The Contractor shall notify the architect and the College in writing when it has completed the project and all of the contract requirements. The architect and the College will then conduct an inspection and issue a certificate of final completion if the project and all contract requirements have been totally completed. 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 College and request a follow-up inspection for final acceptance.

The certificate of final completion will not be issued until all documents required by the contract have been provided, including 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 project 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 site 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 which lists incomplete and defective items, and which deducts 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 provision in the contract and these general conditions.

ARTICLE 13. SUSPENSION AND TERMINATION OF CONTRACT.

A. Suspension.

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 Owner’s Representative, except in an emergency. The representative of the College 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 Owner’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 dates or additional compensation by reason of the suspension. If a suspension is directed for reasons other than 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.

B. **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 Contractor fault or violation of the contract, the Contractor shall be paid in full for all completed work, subject to the payment provisions in the contract 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 on the portion of the contract which 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 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 and general conditions regarding claims and the maintenance of cost records.

The Contractor shall also include provisions similar to this provision 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 and these general conditions regarding payment and project completion.

C. **Termination for Cause.**

The College may terminate the contract for cause if the Contractor commits substantial violations of the contract and contract documents, persistently fails to perform the work in accordance with the contract documents including the project schedule, fails to comply with applicable laws, rules or regulations, fails to pay subcontractors or suppliers to the extent reasonably required, become insolvent or becomes a debtor in a bankruptcy proceeding, fails to pay its debts, is found to have made false or misleading statements to the College in writing in obtaining the contract or payments, fails to comply with employment discrimination laws, fails to pay prevailing wages, fails to maintain or renew the required insurance, fails to maintain proper protection for the safety of persons or property on the site, fails to comply with reasonable and authorized directives of the College under the contract, or 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. When the contract is terminated, the Contractor shall deliver to any location designated by the College materials purchased for the project and paid for by the College, but not stored on site, together with all appropriate warranties and guaranties.
If the Contractor's surety does not take over the completion in accordance with this Article, the College may appropriate any or all materials on the site which may be suitable and acceptable and may enter into an agreement for the completion of the project with another contractor, or use other methods to complete the project.

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 completed by it before the termination. If such expenses exceed the sum available from the unpaid contract balance, 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, neither the Contractor nor the College may file a suit to recover on any claims arising out of the project before the project is substantially complete.

D. 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 takeover the completion of the contract, it may only do so on the following conditions:

1. The surety must notify the College that it will take over completion of the contract by a written notice of intent which is 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.

2. The surety and the College must execute a written takeover agreement within 10 days after the surety sends its notice of intent to take over. In the agreement, the surety must agree 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 which approval shall not be unreasonably withheld. The agreement shall 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 and general conditions.

3. The takeover agreement signed by the surety and the College must also 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 damages or for other reasons where authorized under the contract or the general conditions.

4. The takeover agreement signed by the surety and the College must also 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 which seeks to extinguish any such rights.

5. 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.

ARTICLE 14. WARRANTY/DEFECTIVE WORK AND MATERIALS.

A. General Work One Year Warranty; HVAC Systems Two Year Warranty.
The Contractor warrants and guarantees for a one year period (or two year HVAC work) that all work, materials and equipment 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 HVAC work) shall commence when the certificate of substantial completion is issued, and the one year period (or two year 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 HVAC work), the Contractor shall repair and remedy at its own expense any premature failure, defects or deficiencies in any work, materials or equipment which are discovered or which develop during the one year (or two year HVAC work) period, 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 by misuse or abuse by the College.

This general one year warranty (or two year HVAC work) is intended to provide the College with prompt warranty service for all aspects of the project for the one year period. 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 and law for defects and deficiencies in the work, materials and equipment, the time period of the Contractor's general responsibility and liability.

B. Defective Work, Materials and Equipment.

Apart from the general one year warranty 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 in this Article.

If defects in materials or equipment or non-conforming items are discovered during construction and before 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 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. 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 monies 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 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 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 certification of substantial completion or a certification of final completion shall not constitute acceptance of work, material or equipment which is deficient or not in compliance with the contract, or limit the Contractor's warranty or the other contract obligations.

ARTICLE 15. MISCELLANEOUS.

A. Insurance, Bonds, Indemnification.

The Contractor shall provide and/or maintain the insurance, bonds and indemnification required by the contract and law.
B. 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 and the provisions in the contract regarding prevailing wages.

C. Employment Discrimination.

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.

D. 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 save harmless the College from any and all claims for infringement by reason of the use of any such patented or copyrighted items.

E. 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 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 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 which result.

Any additional compensation or extension of time claims by the Contractor on account of emergency work shall be determined in accordance with the changes provisions of the contract documents. The Contractor shall be responsible for emergencies and costs and delays resulting therefrom which could have been foreseen or prevented with normal diligence, planning, and supervision of the work, or which are caused by the Contractor's failure properly to 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 will shall be displayed prominently at the site so that it is visible when the site is secured and shall be provided to the College's campus police department.

F. Contractor Compliance with Law.

The Contractor shall keep fully informed of all federal, state and local laws, ordinances, regulations and orders of agencies which have jurisdiction or authority which 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 and regulations, or orders. The Contractor shall also protect and indemnify 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.

G. Environmental Protection - Contractor Duty to Comply with 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. Nor shall the Contractor pollute the atmosphere from particulate or
gaseous matter in violation of law.

H. 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 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.

I. Recovery of Monies by 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 this 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 this contract.

J. 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.

K. 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.

L. State Sales Tax Exemption.

Materials, supplies or services for exclusive use in constructing the project are exempt from the State sales tax. Rentals
of equipment are not exempt from any tax under the State Sales Tax Act.
M. Assignment of Contract Funds and Claims Prohibited.

The Contractor shall not transfer or assign to any party any contract funds, due or to become due, or claims of any nature it has against the College without the 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.

N. 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 an 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.

O. 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 which supplies materials, labor, services, or equipment to the Contractor for the performance of the work shall be a third party beneficiary of the contract.

P. 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.

Q. Contractor 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 section 12A of 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 this contract by reason of the acts or omissions of any third parties, including but not limited to the project 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 and the contract documents including the 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 this Article. The Contractor also agrees that suits against the College must be pursued in the county where the project is located.
R. Cost Records a Condition of Receiving or Retaining Extra Compensation on Extras, Changes and Claims.

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 which 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. 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 3 years after final payment is received by the Contractor, or the duration of any dispute or law suit arising out of the project, whichever is later.

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 which are based on costs, expenses or losses incurred by the Contractor or its subcontractors which 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 compensation 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 which is based to any degree on costs which 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 for up to 3 years after the final acceptance of the project, and to demand repayment by the Contractor and its surety of any overpayments discovered in an audit.
PART 1 - GENERAL

1.1 WORK OF THIS PROJECT

A. The Project consists of all work described herewith along with all drawings, specifications, addendums/bulletins/clarifications and all contract bid documents.

B. The contract documents are those contained in these specifications, drawings and addendum/clarifications issued during the bidding process.

1.2 CONTRACTS

A. The Work will be performed under one prime contract.

1. General Construction Contract:

a. The General Construction Contract shall include all labor, materials, equipment and services necessary for the complete construction of all work shown on the Drawings and described in Divisions 0, 1, and 2 through 49 Specifications.

b. All contractors must make themselves familiar with the total project and all the project documents. No additions to Contract sums will be approved for any contract where work may be shown for that Contract on Drawings typical for other trades.

1.3 ALTERATIONS AND COORDINATION

A. The General Contractor shall coordinate the entire work of Project, from the beginning of activity, through the project closeout and warranty periods.

1.4 KNOWLEDGE OF CONTRACT REQUIREMENTS

A. Each Contractor will be held to have examined the site of the Work prior to submitting his proposal and informed himself, his Subcontractors, Sub-subcontractors and material suppliers of all existing conditions affecting the execution of the work.

B. Each Contractor will be held to have examined the Contract Documents, and Modifications thereto, as they may affect subdivisions of the Work and informed himself, his Subcontractors, Sub-subcontractors and material suppliers of all conditions thereof affecting the execution of the Work.

C. Each Contractor will be held to be thoroughly familiar with all conditions affecting labor in the neighborhood of the Project including, but not limited to, Unions, incentive pay, procurement, living and commuting conditions and to have informed his Subcontractors and Sub-subcontractors thereof.
D. The Specifications and Drawings shall be considered as a whole and shall not be separated during the bidding or construction period. Division of specifications into Divisions and Sections is solely for organization and is not intended to define trade responsibilities, unless specifically stated. Each Contractor shall be responsible for all work and, if he/she divides the Drawings or Specifications for use of subcontracts and material suppliers, he does so at his own risk.

1.5 CONTRACT DOCUMENTS INFORMATION

A. The Contract Documents are prepared in accordance with available information as to existing conditions and locations. If, during construction, conditions are revealed at variance with the Contract Documents, notify the Architect immediately so that supplementary instructions may be issued.

B. The Specifications determine the kinds and methods of installation of the various materials, the Drawings establish the quantities, dimensions and details of materials, the schedules on the Drawings, give the location, type and extent of the materials.

C. In case of any discrepancy between the various Drawings, or between various parts of the Specifications or between Drawings and Specifications, the matter shall immediately be submitted to the Architect and for Contractual purposes, the most expensive condition shall apply.

D. Dimensions given on the Drawings govern scale measurements and large scale drawings govern small scale drawings, except as to anything omitted unless such omission is expressly noted on the larger scale drawings.

E. The techniques or methods of specifying to record requirements varies throughout text, and may include "prescriptive", "open generic/descriptive", "compliance with standards", "performance", "proprietary", or a combination of these. The method used for specifying one unit of work has no bearing on requirements for another unit of work.

F. Whenever a material, article or piece of equipment is referred to in the singular number in the Contract Documents, it shall be the same as referring to it in the plural. As many such materials, articles or pieces of equipment shall be provided as are required to complete the Work.

1.6 STANDARDS

A. Whenever a material, article, or piece of equipment is specified by reference to a governmental, trade association or similar standard, it shall comply with the requirements of the latest publication thereof and amendments thereto in effect on the bid date.

B. Applicable standards of construction industry have same force and effect, and are made a part of Contract Documents by reference, as if copied directly into Contract Documents, or as if published copies were bound herewith.

C. Where compliance with 2 or more industry standards or sets of requirements is specified, and overlapping of those different standards or requirements establishes different or conflicting minimums or levels of quality, most stringent requirement, which is generally recognized to be also most costly, is intended and will be enforced, unless specifically detailed language written into the Contract Documents clearly indicates that a less stringent requirement is to be fulfilled. Refer, apparently equal but different requirements, and uncertainties as to which level of quality is more stringent, to Architect for a decision before proceeding. Except for overlapping or conflicting
requirements, where more than one set of requirements are specified for a particular unit of work, option is intended to be Contractor's regardless of whether specifically indicated as such.

D. Reference standards referenced directly in Contract Documents or by governing regulations have precedence over nonreferenced standards that are recognized in industry for applicability to work.

1.7 DEFINITIONS (Also refer to 014200 for further references)

A. A substantial amount of specification language constitutes definitions for terms found in other contract documents, including drawings, which must be recognized as diagrammatic in nature and not completely descriptive of requirements indicated thereon. Certain terms used in contract documents are defined generally in this article. Definitions and explanations of this section are not necessarily either complete or exclusive, but are general for the work to extent not stated more explicitly in another provision of contract documents.

B. General requirements apply to entire work of Contract and, where so indicated, to other elements which are included in the project.

C. The term "indicated" is a cross reference to details, notes or schedules on the Drawings, to other paragraphs or schedules in the Specifications, and to similar means of recording requirements in the Contract Documents. Where terms such as "shown", "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for purpose of helping to locate cross reference, and no limitation of location is intended, except as specifically noted.

D. Where the term "Owner" is used, this shall designate the: The College of New Jersey

E. Where the term "Architect" is used this shall designate the firm of: See the Project Cover for the "ARCHITECT" information.

F. Where the term “Construction Manager” is used this shall designate the TCNJ Project Manager.

G. Where not otherwise explained, terms such as "directed", "requested", "authorized", "selected", "approved", "required", "accepted", and "permitted" mean "directed by Architect", "requested by Architect", etc. However, no such implied meaning will be interpreted to extend Architect's responsibility into Contractor's area of construction supervision.

H. Where used in conjunction with Architect's response to submittals, requests, applications, inquiries, reports and claims by Contractor, the meaning of term "approved" will be held to limitations of Architect's responsibilities and duties as specified in General and Supplementary Conditions. In no case will "approval" by Architect be interpreted as a release of Contractor from responsibilities to fulfill requirements of the Contract Documents.

I. Whenever the word "equivalent" is used it shall be understood to indicate that the Architect will consider substitutions for the product and/or manufacturer named in the Specifications, provided that the proposed substitution meets or exceeds the performance of the specified item. It shall be further understood that the judgment of "equivalency" rests solely with the Architect. Equipment, products, materials, etc. will be judged by the Architect according to the criteria listed below. Criteria shall be applied according to the Architect’s discretion and are not listed in order of importance.

1. Ability to fit into space provided.
2. Quality.
4. Esthetics.
5. Availability of finishes.
6. Workmanship.
7. Economy of operation.
8. Suitability for purpose intended.
9. Performance to meet design requirements

J. The project site is the space available to Contractor for performance of the Work, either exclusively or in conjunction with others performing other work as part of the Project. The extent of project site is shown on the Drawings, and may or may not be identical with description of the land upon which project is to be built.

K. Except as otherwise defined in greater detail, term "furnish" is used to mean supply and deliver to project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.

L. Except as otherwise defined in greater detail, term "install" is used to describe operations at project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations, as applicable in each instance.

M. Except as otherwise defined in greater detail, term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.

N. An installer is the entity, person or firm, engaged by the Contractor or his subcontractor or subcontractor for the performance of a particular unit of work at the project site, including installation, erection, application and similar required operations. It is a general requirement that such installers be expert in operations they are engaged to perform.

O. The testing laboratory is an independent entity engaged to perform specific inspections or tests of the work, either at project site or elsewhere; and to report and interpret results of those inspections or tests.

P. Where the words such as "The Contractor shall" and similar words are omitted, the sentence structure shall be considered to include such words since the Specifications are directional in nature, indicating work to be performed by the Contractor.

Q. The term "Subcontractor" is used hereinafter only to delineate the work of the various trades. The term "Subcontractor" shall not be construed as a firm direction to subcontract a particular Section of the Work.

R. "Piping" includes, in addition to pipe, all fittings, valves, hangers, and other accessories related to such piping.

S. "Concealed" means hidden from sight as in chases, furred spaces, shafts, hung ceilings, or embedded in construction.

T. "Exposed" means "not concealed" as defined above. Work in trenches, crawl spaces, and tunnels shall be considered "exposed" unless otherwise specifically noted.

U. Damage: Any sort of deterioration whether due to weather, normal wear and tear, accident, or abuse, resulting in soiling, marring, breakage, corrosion, rotting, or impairment of function.
PARTIAL OCCUPANCY

Each Contractor agrees to use and occupancy of a portion or unit of the Project before formal acceptance by the Owner under the following conditions:

1. A certificate of Substantial Completion shall be prepared and executed as provided in the General Conditions. If, in the opinion of the Architect, the Contractor is chargeable with unwarranted delay in completing the Work or other Contract requirements, the signature of the Contractor will not be required. The certificate of Substantial Completion shall be accompanied by a written endorsement of the Contractor's insurance carrier and surety permitting occupancy by the Owner during the remaining period of Project work.

2. Occupancy by the Owner shall not be construed by the Contractor as being an acceptance of that part of the Project to be occupied.

3. Contractor will not be held responsible for any damage to the occupied part of the Project resulting from the Owner's occupancy.

4. Occupancy by the Owner shall not be deemed to constitute a waiver of existing claims in behalf of the Owner or Contractor against each other.

5. Use and occupancy of any portion of the building by the Owner prior to Project acceptance does not relieve the Contractor of his responsibility to maintain all insurance and bonds required of the Contractor under the Contract until the Project is completed and accepted by the Owner.

6. The Contractor agrees that the Owner may place and install as much material, equipment and furnishings as is possible during construction without interfering with orderly progress of the Work and prior to use and occupancy of the various parts of the Work, and further agrees that such placing and installation shall not evidence completion of the Work or signify the Owner's acceptance of the Work or of any part thereof.

REGULATIONS AND CODES

A. Work shall be in accordance with the latest applicable requirements, regulation and codes as set forth below.

1. See Drawings for all listed Regulations and Codes that have been applied to this project.

LIMITED USE OF PREMISES

A. General: The prime contractors shall limit their use of the premises to construction activities in areas indicated; allow for Owner occupancy and use by the public.

1. Confine operations to areas within contract limits indicated. Portions of the site beyond areas in which construction operations are indicated are not to be disturbed.

2. Keep driveways and entrances serving the premises clear and available to the Owner and the Public at all times. Do not use these areas for parking or storage of materials and equipment on site.

3. This project will be completed in phases and thus the contractor is to make sure that all exits and entrances are accessible at all times. Coordinate the phasing in such a way that disruption to the occupants is kept to a minimum.

OWNER OCCUPANCY
A. The Owner may wish to occupy a portion of the building prior to full completion. Contractor will cooperate to maintain construction operations in this area to a minimum to avoid conflicts with Owner usage and operations.

1. Refer to the project bidding schedule included in the bid documents for additional information.

1.12 PROJECT SCHEDULE

A. A project bidding schedule is included with these bid documents, which is solely for the purpose of informing the bidders of the "overall" projected schedule and milestone dates. A "Construction" Schedule will be developed by the General Contractor upon contract award per other sections of these Specifications.

PART 2 - PRODUCTS – Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 011000
PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. LEED Building General Requirements: The Owner requires the Contractor to implement practices and procedures to meet the project’s environmental performance goals, which include achieving the equivalent of LEED Silver Certification. Specific project goals that may impact this area of work include: use of recycled-content materials; use of locally-manufactured materials; use of low-emitting materials; and construction waste recycling. The Contractor shall ensure that the requirements related to these goals, as defined in the sections below, are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, shall not be allowed if such changes compromise the stated LEED Building Performance Criteria.

C. Related Requirements:

1. Section 012300 "Alternates" for products selected under an alternate.
2. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and assemblies which deviate from the requirements of the Contract Documents and proposed by Contractor which the Contractor deems will perform the same function and have equal capabilities, service life, economy of operations, and suitability for the intended purpose.

1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.
3. The requirements for substitutions do not apply to specified Contractor options on products and construction methods. Revisions to Contract Documents, where requested by Owner or Architect are changes, not substitutions. Contractor’s determination of and compliance with governing regulations and orders issued by governing authorities do not constitute substitutions and do not constitute a basis for change orders. Otherwise, Contractor’s requests for changes in products, materials, and methods of construction.
required by Contract Documents are considered requests for substitutions, and are subject to requirements hereto.

4. Any and all contractor substitutions that require additional work by other trades not specifically called for in the documents shall be paid for by the contractor requesting the substitution if any other trade increase is required.

5. 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.

1.3 ACTION SUBMITTALS

A. Substitution Requests: Submit requests 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 Requests: All requests for substitutions shall be submitted within 20 days of contract award, together with all supporting information,

2. Substitution Request Form: Use the electronic version of form included as an attachment to this Section; submit in portable document format (.pdf).

3. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

   a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
   b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
   c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
   d. Product Data, including drawings and descriptions of products and fabrication and installation procedures in .pdf format.
   e. Samples, where applicable or requested.
   f. Certificates and qualification data, where applicable or requested.
   g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
   h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
   i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES
   j. 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 date of receipt of purchase order, lack of availability, or delays in delivery.
k. Cost information, including a proposal of change, if any, in the Contract Sum.

l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.

m. 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.

4. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

a. Forms of Acceptance: Change Order.

1.4 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.5 PROCEDURES

A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

B. Should a substitution be rejected by the architect and owner, the contractor is to then provide the specified product, material or method as noted in the contract documents, at no additional cost to the Owner and no change in the project schedule.

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

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 30 days prior to time required for preparation and review of related submittals.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect
will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution is consistent with the Contract Documents and will produce indicated results.

b. Requested substitution does not require revisions to the Contract Documents.

c. Requested substitution provides sustainable design characteristics that specified product provided for achieving LEED prerequisites and requirements.

d. Substitution request is fully documented and properly submitted.

e. Requested substitution will not adversely affect Contractor's construction schedule.

f. Requested substitution has received necessary approvals of authorities having jurisdiction.

g. Requested substitution is compatible with other portions of the Work.

h. Requested substitution has been coordinated with other portions of the Work.

i. Requested substitution provides specified or superior warranty.

j. Requested substitution can be used without adversely affecting Owner's insurance coverage on completed Work.

k. Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule; or 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.

l. Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.

m. Maintenance service and source of replacement parts, as applicable, is available similar to the specified product.

n. Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.

o. Proposed substitution does not affect dimensions and functional clearances.

p. Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

B. Substitutions for Convenience: Architect will consider requests for substitution if received within 20 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.

b. Requested substitution does not require revisions to the Contract Documents or, if revisions are required, the Contractor acknowledges that the cost of the Architect's redesign fee will be deducted from the Contract Price.

c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
d. Requested substitution provides sustainable design characteristics that specified product provided for achieving LEED prerequisites and requirements.

e. Substitution request is fully documented and properly submitted.

f. Requested substitution will not adversely affect Contractor's construction schedule.

g. Requested substitution has received necessary approvals of authorities having jurisdiction.

h. Requested substitution is compatible with other portions of the Work.

i. Requested substitution has been coordinated with other portions of the Work.

j. Requested substitution provides specified or superior warranty.

k. Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule; or 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.

l. Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.

m. Maintenance service and source of replacement parts, as applicable, is available similar to the specified product.

n. Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.

o. Proposed substitution does not affect dimensions and functional clearances.

p. Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

ATTACHMENT: SUBSTITUTION REQUEST FORM
SUBSTITUTION REQUEST
(After the Bidding Phase)

Project: Brower Student Center and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931

Substitution Request Number:

From:

Date:

To: KSS Architects LLP

A/E Project Number: 21931

Contract For:

Re:

Specification Title: ________________________________
Description: ____________________________________

Section: ___________ Page: ___________ Article/Paragraph: ___________

Proposed Substitution:

Manufacturer: ___________ Address: ____________________________ Phone: ____________________________
Trade Name: ____________________________ Model No.: ____________________________
Installer: ___________ Address: ____________________________ Phone: ____________________________
History: □ New product □ 2-5 years old □ 5-10 yrs old □ More than 10 years old

Differences between proposed substitution and specified product:

__________________________________________________________________________

☐ Point-by-point comparative data attached - REQUIRED BY A/E

Reason for not providing specified item:

__________________________________________________________________________

Similar Installations: Include List of Projects with name, address and phone number of Owner; name, address and phone number of Architect; and date installed

Proposed substitution affects other parts of Work: □ No ☐ Yes; explain ____________________________

Savings to Owner for accepting substitution: ____________________________ ($ ____________________________).

Proposed substitution changes Contract Time: □ No ☐ Yes [Add] [Deduct] ____________ days.

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ ____________

SUBSTITUTION REQUEST FORM

01 2500A - 1
The Undersigned certifies:
• 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.
• Requested substitution does not require revisions to the Contract Documents or, if revisions are required, the Contractor acknowledges that the cost of the Architect's redesign fee will be deducted from the Contract Price.
• Requested substitution is consistent with the Contract Documents and will produce indicated results.
• Requested substitution provides sustainable design characteristics that specified product provided for achieving LEED prerequisites and credits.
• Substitution request is fully documented and properly submitted.
• Requested substitution will not adversely affect Contractor's construction schedule.
• Requested substitution has received necessary approvals of authorities having jurisdiction.
• Requested substitution is compatible with other portions of the Work.
• Requested substitution has been coordinated with other portions of the Work.
• Requested substitution provides specified or superior warranty.
• Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule; or 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.
• Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
• Maintenance service and source of replacement parts, as applicable, is available similar to the specified product.
• Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
• Proposed substitution does not affect dimensions and functional clearances.
• Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.
SECTION 012900

PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SCHEDULE OF VALUES

A. The Contractor shall prepare a schedule of values in coordination with the preparation of progress schedule. The percent complete on the schedule of values shall match the percent complete on the monthly updated project schedule. Correlate line items with other administrative schedules and forms required for the work, including progress schedule, payment request form, listing of subcontractors, schedule of allowances if any, schedule of alternates if any, listing of products and principal suppliers and fabricators, and schedule of submittals. Break down principal subcontract amounts into multiple line items for each entity of work. Round off to nearest whole dollar, but with total equal to Contract Sum. Submit 4 copies of schedule of values to the Project Manager and Architect for review and approval.

1. Upon Owner/Architect approval, Owner will return the Schedule of Values to the contractor for the contractor to submit to the bonding company for their acceptance. Payments will not be made to the contractor until the bonding company has provided a written acceptance of the schedule of values to the owner.

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

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

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

1.2 CHANGES IN THE WORK

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

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

C. For all extra Work performed by Contractor, the gross cost to the Owner shall include the net cost of the Work to the Contractor plus an allowance for overhead and profit not to exceed 15% of the net cost.
D. For all extra Work performed by a Subcontractor, the gross cost to the Owner shall include the net cost of the Work to the Subcontractor plus an allowance ("mark-up") for overhead and profit not to exceed 15% of the net cost, plus the Contractor's overhead and profit (mark-up) not to exceed 5% of the Subcontractor's cost. All "mark-up" includes bond and insurance costs.

E. Net cost of extra Work shall be the actual or pro-rated cost of:
   1. Labor, including foreman, at the prevailing rate of wages, contributions and taxes.
   2. Materials entering permanently into the Work, including delivery to the site.
   3. The ownership or rental cost of construction equipment and expendable tools, pro-rated for the time necessary for the Work.
   4. Power and consumable supplies for the operation of power equipment, pro-rated for the time necessary for the Work.

F. Gross costs shall be net costs plus the allowances (mark-up) described above, such mark-up allowances being inclusive of all costs associated with superintendence, supervision, engineering, overhead, profit, bond/insurance, administrative and site office expenses and all other general expenses.

1.3 APPLICATIONS FOR PAYMENT

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


C. Except as otherwise indicated, complete every entry provided on the form, including notarization and execution by authorized persons. Incomplete applications will be returned by Architect and Owner without action. Entries shall match current data of schedule of values, progress schedules and reports. Listing shall include amounts of fully executed change orders (and issued purchase orders) issued prior to first day of the period of construction covered by application. Contractor shall furnish to the Owner certified payroll reports for each payroll period, indicating name craft, social security number and actual hourly rate of wages paid to each workman employed on the project. A certified payroll record is defined as "a payroll record which is attested to by the employer, or corporate officer of such company, or an authorized agent of the employer."

D. Submit one "pencil" copy of each proposed payment application to the architect and owner in the field on or before the 25th of each of month.

E. Submit 4 executed final copies of each payment application to the Architects office on or before the 30th of each month. Transmit with a transmittal form listing attachments, and recording appropriate information related to application.

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

Brower Student Center Addition and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931
1.4 INITIAL PAYMENT APPLICATION

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

1. Listing of subcontractors and principal suppliers and fabricators.
2. Schedule of values.
4. Schedule of submittals (preliminary if not final).
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.
9. Bonding Company Acceptance of the Schedule of Values

1.5 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 25th 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. Withholding of Payments:
   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.
   b. 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.
3. 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 Paragraph 2 above.

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

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

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

7. Upon substantial completion, the retainage shall, upon the Architect/Owner’s approval, remain at 2% of the value of work completed and the Owner will assign a value to the incomplete work which shall be added to the 2% retainage. Final release of retained monies will occur only upon the total completion of all punch list and closeout documentation to the satisfaction of the Architect and Owner.

8. For each day’s delay in the Contractor’s submission of an application for payment acceptable to the Architect and Owner, the Owner may delay one day in making his progress payment.
9. Owner shall make payments within 45 days of receipt of said accepted pay requisition.

1.6 APPLICATION AT TIME OF SUBSTANTIAL COMPLETION

A. Following issuance of certificate of substantial completion on each Contractor's work, and also in part as applicable to prior certificates on portions of completed work as designated, a "special" payment application may be prepared and submitted by Contractor. The principal administrative actions and submittals which shall precede or coincide with such special applications can be summarized as follows, but not necessarily by way of limitation:

1. Occupancy permits and similar approvals or certifications by governing authorities and franchised services, assuring Owner's full access and use of completed work.
2. Warranties, guarantees, maintenance agreements and similar provisions of Contract Documents.
3. Test/adjust/balance records, maintenance instructions, meter readings, start up performance reports, and similar change over information germane to Owner's occupancy, use, operation and maintenance of completed work.
4. Final cleaning of the work.
5. Advice to Owner on coordination of shifting insurance coverages, including proof of extended coverage as required.
6. Listing of Contractor's incomplete work, recognized as exceptions to certificate of substantial completion.

1.7 FINAL PAYMENT APPLICATION

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

1. Completion of project closeout requirements.
2. Completion of items specified for completion beyond time of substantial completion, regardless of whether special payment application was previously made.
3. Assurance, satisfactory to Owner, that unsettled claims will be settled and that work not actually completed and accepted will be completed without undue delay.
4. Transmittal of required project construction records to Owner via the Architect.
5. Proof, satisfactory to Owner, that taxes, fees and similar obligations of Contractor have been paid.
6. Removal of temporary facilities, services, surplus materials, rubbish and similar elements.
7. Notarized consent of surety for final payment.
8. Complete all TCNJ required forms as provided by the TCNJ Representative.

1.8 WAIVER OF LIENS

A. Each Contractor, for himself, and for all Subcontractors and material men, agrees that no mechanic's lien or other claim shall be filed or maintained by the Contractor or by any Subcontractor, materialmen, laborer or any other person whatsoever for, or on account of any work performed or materials furnished under this Contract.

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

END OF SECTION 012900
PART 1 - GENERAL

1.1 SPECIAL REQUIREMENTS

A. Schedule: General Contractor shall provide a master schedule showing sequencing of work utilizing the CPM method. The General Contractor shall supply a schedule with all subcontractor activities, relationships, and durations, utilizing the CPM method via SureTrak/Primavera or Microsoft Scheduling program to the Owner on a working version CD and also through the project management website, and coordinate their schedule with the Owner.

1. The General Contractor is required to update at the end of each month the CPM Schedule based on the percentage completed for each activity on the approved schedule (in concert with the submission of the percentage completed in the monthly proposed schedule of values).

2. The contractor in their bid includes a cost of $500.00 per month for this schedule submission, for the duration of construction (per the milestone schedule in the bidding documents). This only applies to projects in excess of 2 million dollars in base contract price. The contractor’s schedule of values shall include this cost, and can only be billed for upon TCNJ’s successful receipt of said schedule. Should any schedule not be received at the end of any month during construction, TCNJ will issue a deduct change order in the amount of $500.00 to the contractor.

3. The contractor will not be paid for that month’s work without providing the Owner with an updated schedule each month.

B. Coordination Drawings (This is not a requirement of this project): Refer to Section 01 3115 for requirements for coordination drawings.

C. Each Contractor shall take all necessary precautions to ensure the safety of all structural elements during all phases of all work. No materials, cranes, trucks or any other construction loads shall be placed on any part of the structure until the Contractor has determined the adequacy of that structure to carry the intended load without damage or overstress.

D. Entrance into, or other use of the building will not be permitted except as may be necessary for the execution of the Work, and shall be subject to the restrictions and instructions of the Owner.

E. Routes of ingress and egress to areas where work is being performed shall be subject to the restrictions and instructions of the Owner.

F. Materials shall be moved through the Building using rubber tired vehicles which shall be properly controlled at all times to avoid damage to existing wall, floor or ceiling surfaces.

G. Water damage cannot be tolerated and it is incumbent upon Contractors to take any steps necessary to keep the existing premises dry at all times.
H. Any damage to adjacent buildings or the new construction from heavy equipment, striking the Building or any other damage to any part of the premises shall be repaired at the expense of the Contractors.

I. All welding and cutting shall be performed by qualified and certified welders. Certificates shall be on file with the Contractor prior to commencement of any welding.

J. All projects that require access to dormitories and apartments by contractor personnel require that each person have a state police background check completed and the contractor is to provide a list of all potential personnel to work at the site, and provide a copy of the back ground checks to the TCNJ project manager prior to start of the work on the project. Should a person not have a back ground check as required herewith (such as a delivery person), this unchecked person must be accompanied by a representative of the contractor who has been checked.

K. No work shall start before 8:00am unless agreed to in advance with the College.

1.2 INFORMATIONAL SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, 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.

B. Key Personnel Names: 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, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

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

1.3 REQUESTS FOR INFORMATION (RFIs)

A. Requests for Information (RFI’s) are requests for clarifications or questions regarding the contract drawings and specifications, not contract terms, scheduling items, or general correspondence, nor, are they to be as a means to describe or request approval of alternate construction means, methods or concepts or substitution for materials, systems means and methods.

1. Carefully study and compare the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, and prior Project correspondence and documentation prior to submitting an Request for Information.

B. Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response. Architect will return RFIs submitted to Architect by other entities controlled by Contractor 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.

C. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Architect
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
   a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.


1. Attachments shall be electronic files in Adobe Acrobat PDF format.

E. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow five working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.

1. Based upon the amount of RFI's received and their level of content, the Architect will establish the level of importance of each RFI and allow sufficient time in the Architect's professional judgment to permit adequate review.
2. The following Contractor-generated RFIs will be returned without action:
   a. Requests for approval of submittals.
   b. Requests for approval of substitutions.
   c. Requests for approval of Contractor's means and methods.
   d. Requests for coordination information already indicated in the Contract Documents.
   e. Requests for adjustments in the Contract Time or the Contract Sum.
   f. Requests for interpretation of Architect's actions on submittals.
   g. Incomplete RFIs or inaccurately prepared RFIs.
3. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.

4. 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 a change proposal according to the General Conditions of the Contract.

   a. If the Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect and Owner in writing within 15 calendar days of receipt of the RFI response, otherwise it will be assumed there is no change in the Contract Time or Contract Sum.

F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly; include the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were returned without action or withdrawn.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.

G. 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 seven days if Contractor disagrees with response.

1.4 PROJECT INFORMATION MANAGEMENT (PIM) SITE

A. It is the intent to use the Architect's Project Information Management (PIM) software transmission server software for purposes of hosting and managing project communication and documentation until Final Completion. Project Information Management (PIM) software site includes the following functions:

1. Project directory.
2. Project correspondence.
3. Meeting minutes.
5. RFI forms and logs.
6. Task and issue management.
7. Photo documentation.
8. Schedule and calendar management.
10. Payment application forms.
11. Drawing and specification document hosting, viewing, and updating.
13. Reminder and tracking functions.

B. Architect will provide Project Information Management (PIM) software user licenses for use of the Owner, Contractor, Architect, and Architect's consultants.
C. The Architect may utilize a system similar to Newforma Project Center Project Information Management (PIM) software to track submittals and RFI’s; Newforma recommends:

1. Computer
   a. CPU: Intel Pentium P4 or later processor
   b. RAM: 1GB (minimum), 2+GB (recommended)
   c. Hard Disk: 135 MB required for installation
   d. OS: Windows XP Professional SP3, Windows Vista SP2, or Windows 7 (32-bit and 64-bit versions of each OS are supported)

2. Internet Connection: High speed connection recommended.
3. Internet Explorer 8 or newer.

D. Post electronic submittals as PDF electronic files directly to Architect’s Newforma Project Center server, specifically established for Project.

PART 2 - PRODUCTS- Not Applicable

PART 3 - EXECUTION

3.1 GENERAL

A. Contractors shall perform the work on or about the premises in a careful manner with full consideration to fire protection as required by the National Fire Protection Association Standards, National Board of Fire Underwriters and State and Local Departments having jurisdiction. Fire resistant materials shall be used for temporary enclosures.

B. Chemical extinguishers approved by the Owner shall be provided by the General Contractor during the progress of the work where and as required by the Owner, the Local Fire Marshal and the National Board of Fire Underwriters.

C. The General Contractor shall maintain an active program of fire prevention to keep workmen fire conscious during the entire life of the Contract. Designate one member of the organization to execute and coordinate fire control measures of his own organization and that of all subcontractors under his jurisdiction.

D. All sub-contractors shall cooperate with the General Contractor in carrying out the above program.

E. Storage of flammable materials will not be permitted in the Building unless written permission is obtained from the Owner. Storage of all such materials shall be the Contractors' responsibility.

F. On-site open burning of rubbish, garbage, trade waste, leaves or plant life is prohibited.

G. Safety Program: The General Contractor shall institute a safety program in accordance with OSHA and any local, state, or federal guidelines. The contractor shall name a safety officer to monitor this program and shall submit a safety report at job meetings.
H. Stockpiling: Stockpiling of materials on site will be allowed (but limited due to the limited space on this site). Such materials shall not impair or impede the functioning of the facility. Materials stored on site shall be secured to prevent loss from theft, damage, vandalism or fire. By stockpiling materials on site, the contractor assumes full responsibility for said materials, and shall protect them to the fullest extent possible. Specific locations for stockpiling materials shall be coordinated with the Architect and Owner.

I. Safety Barriers: The General Contractor shall erect safety barriers to deter and prohibit unauthorized access to the construction site; such barriers may take the form of fences and shall be clearly marked with signage prohibiting unauthorized access. The General Contractor shall be responsible for safety barriers within the building. The contractor shall be liable for damages to persons or property due to the construction process if adequate safety measures are not undertaken. The Owner and Architect shall review safety precautions for their adequacy but shall not be held liable for Contractors failure to maintain or provide adequate protection.

J. Sequencing: The General Contractor will work with the Sub-Contractors to sequence the work during the submission of monthly project schedules. Contractors shall endeavor to coordinate their work efforts with the Owner's requirements. Interruptions of utility services shall be coordinated with the Architect and Owner, but in no instance shall last longer than 2 hours.

3.2 PROGRESS MEETINGS

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

B. The Contractors and his/their subcontractors attending these meetings shall present complete and definite reports as to the status of their respective work, conditions of product and equipment manufacturer, labor availability, productivity and cooperation, shipping data, time of completion, sequence of the work, safety program, and any other information bearing upon the execution of the Contract or subcontract.

C. The Owner will chair the meetings and take meeting minutes

3.3 OTHER MEETINGS

A. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 10 days after execution of the Agreement.

1. Conduct the conference to review responsibilities and personnel assignments.
2. Attendees: Authorized representatives of Owner, Owner's Commissioning Authority, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect progress; follow TCNJ's standard agenda.

4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

B. LEED Coordination Conference: Owner will schedule and conduct a LEED coordination conference before starting construction, at a time convenient to Owner, Architect, and Contractor.

1. Attendees: Authorized representatives of Owner, Owner's Commissioning Authority, Architect, and their consultants; Contractor and its superintendent and LEED coordinator; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Discuss items of significance including the following:

   a. LEED Project Checklist.
   b. General requirements for LEED-related procurement and documentation.
   c. Project closeout requirements.
   d. Role of LEED coordinator.
   e. Construction waste management.
   f. Construction operations and LEED requirements and restrictions.

3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Preinstallation Conferences: Conduct a preinstallation 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's Commissioning Authority of scheduled meeting dates.

2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

   b. Options.
   c. Related RFI s.
   d. Related Change Orders.
   e. Purchases.
   f. Deliveries.
   g. Submittals.
   h. LEED requirements.
   i. Review of mockups.
   j. Possible conflicts.
   k. Compatibility requirements.
   l. Time schedules.
   m. Weather limitations.
   n. Manufacturer's written instructions.
   o. Warranty requirements.
q. Acceptability of substrates.
r. Temporary facilities and controls.
s. Space and access limitations.
t. Regulations of authorities having jurisdiction.
u. Testing and inspecting requirements.
v. Installation procedures.
w. Coordination with other work.
x. Required performance results.
y. Protection of adjacent work.
z. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 90 days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.
2. Attendees: Authorized representatives of Owner, Owner’s Commissioning Authority, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

   a. Preparation of record documents.
   b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
   c. Submittal of written warranties.
   d. Requirements for completing LEED documentation.
   e. Requirements for preparing operations and maintenance data.
   f. Requirements for delivery of material samples, attic stock, and spare parts.
   g. Requirements for demonstration and training.
   h. Preparation of Contractor’s punch list.
   i. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
   j. Submittal procedures.
   k. Coordination of separate contracts.
   l. Owner’s partial occupancy requirements.
   m. Installation of Owner’s furniture, fixtures, and equipment.
   n. Responsibility for removing temporary facilities and controls.
4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

3.4 MONTHLY REPORTS

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

1. Project overview
2. Financial status
3. Updated project schedule
4. Change order request log
5. Submittal log
6. RFI log
7. Owner/Architect issues that need immediate resolution
8. Order/delivery issues

B. The Contractor is to provide TCNJ with this report, and include in their bid a cost of $500.00 per month for the duration of the construction period as noted in the bidding milestone schedule. This total cost will be listed in the contractor’s schedule of values and can be billed for on a monthly basis only if said report is received in whole as noted above. Should TCNJ not receive said complete report a deduct change order will be issued to the contractor for $500.00 for that month.

END OF SECTION 01 3100

ATTACHMENT:

REQUEST FOR INFORMATION FORM
# REQUEST FOR INFORMATION (RFI)

**Contractor**

<table>
<thead>
<tr>
<th>Address</th>
<th>Phone:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fax</td>
</tr>
</tbody>
</table>

**Architect: KSS Project #21931**

Address: Public Ledger Building, Suite 944

150 S. Independence Mall West, Philadelphia, PA 19106

Phone: 215-320-3000

---

**Project Name & No.: Brower Student Center Addition & Renovation – AV Systems Installation Project**

| 1013016.01 |

**Project Location:** The College of New Jersey

2000 Pennington Road, Ewing Twp, NJ 08618

---

**RFI Number:**

| 1 |

**RFI Subject:**

|   |

**Date of Request:**

|   |

**Requested Date of Response:**

|   |

---

Check

I have carefully studied and compared the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, and prior Project correspondence and documentation prior to submitting this Request for Information.

---

**Sketches of Condition (Attach)**

**Spec Section:**

| Page: |

**Paragraph Ref.:**

| Drawing No. / Detail No.: |

**Detail Ref.:**

---

**Question or Information Needed**

---

**Contractor's Proposed Solution**

---

Submitted By:

---

**Architects Response:**

---

Response By:

Date of Response:

1. Refer to Section 01 3100 "Project Management and Coordination" for RFI procedures.
2. Responses from the Architect do not change any requirements of the Contract Documents.
3. The information provided in this RFI is for clarification purposes only. It shall not be interpreted as a change order, nor an extension of time.
4. Failure to Notify the Architect within 15 days of receipt of the response to this RFI shall indicate that there is no cost or additional time associated with the response.
SECTION 01 3200
CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Daily construction reports.
2. Site condition reports.
3. Special reports.

B. Related Requirements:

1. General Conditions, Section 013100 and Section 013300 for requirements relating to preparation and submission of Contractor’s construction schedule.
2. Section 01 3300 "Submittal Procedures" for submitting schedules and reports.
3. Section 01 4000 "Quality Requirements" for submitting a schedule of tests and inspections.
4. Section 01 7419 “Construction Waste Management and Disposal” for submitting LEED documentation.

1.2 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. PDF electronic file.

B. Daily Construction Reports: Submit at monthly intervals.

C. Site Condition Reports: Submit at time of discovery of differing conditions.

D. Special Reports: Submit at time of unusual event.

PART 2 - PRODUCTS

2.1 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.  
6. High and low temperatures and general weather conditions, including presence of rain or snow.  
7. Accidents.  
8. Meetings and significant decisions.  
9. Unusual events (see special reports).  
10. Stoppages, delays, shortages, and losses.  
11. Meter readings and similar recordings.  
13. Orders and requests of authorities having jurisdiction.  
14. Change Orders received and implemented.  
15. Field Orders received and implemented.  
16. Services connected and disconnected.  
17. Equipment or system tests and startups.  
18. Partial completions and occupancies.  
19. Substantial Completions authorized.  

B. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions.

2.2 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day(s) 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 – Not used.

END OF SECTION 01 3200
SECTION 01 3233

PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

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

1. Preconstruction photographs.
2. Preconstruction videos.
3. Construction Progress Photo’s

1.2 SUBMITTALS

A. Qualification Data: For photographer.

B. Key Plan: Submit key plan of Project site and buildings with notation of vantage points marked for location and direction of each photograph and video. Indicate elevation or story of construction. Include same label information as corresponding set of photographs or video.

C. Construction Photographs: Submit two prints of each photographic view monthly

1. Format: 8-by-10-inch smooth-surface matte prints on single-weight commercial-grade photographic paper, enclosed back to back in clear plastic sleeves that are punched for standard 3-ring binder.
2. Identification: On back of each print, provide an applied label or rubber-stamped impression with the following information:
   a. Name of project.
   b. Name and address of photographer.
   c. Name of Architect.
   d. Name of Contractor.
   e. Date photograph was taken if not date stamped by camera.
   f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
   g. Unique sequential identifier.

3. Digital Images: Submit a complete set of digital image electronic files with each submittal of prints as a Project Record Document on CD-ROM. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as the sensor, uncropped.

D. DVD’s: Submit 3 copies of each DVD with protective sleeve or case within seven days of recording.
1. Identification: On each copy, provide an applied label with the following information:
   a. Name of Project.
   b. Name and address of photographer.
   c. Name of Architect.
   d. Name of Contractor.
   e. Date video was recorded.
   f. Description of vantage point, indicating location, direction (by encompass point), and
elevation or story of construction.
   g. Weather conditions at time of recording.

2. Transcript: Prepared on 8-1/2 by 11-inch paper, punched and bound in heavy-duty, 3-ring,
vinyl-covered binders. Mark appropriate identification on front and spine of each binder.
Include a coversheet with same label information as corresponding video. Include name of
Project and date of video on each page.

1.3 QUALITY ASSURANCE

A. Photographer Qualifications: An individual who has been regularly engaged as a professional
photographer of construction products for not less than three years.

1.4 COORDINATION

A. Auxiliary Services: Cooperate with photographer and provide auxiliary services requested, including
access to Project site and use of temporary facilities, including temporary lighting required to
produce clear, well-lit photographs without obscuring shadows.

1.5 USAGE RIGHTS

A. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of
photographic documentation.

1.6 EXTRA PRINTS

A. Extra Prints: If requested by Architect or Owner, photographer shall prepare extra prints of
photographs. Photographer shall distribute these prints directly to designated parties who will pay
the costs for extra prints.

PART 2 - PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

A. Photographic Film: Medium format, 2-1/4 by 2-1/4 inches.

B. Digital Images: Provide images in uncompressed TIFF format, produced by a digital camera with
minimum sensor size of 4.0 megapixels, and at an image resolution of not less than 1600 by 1200
pixels.
C. Digital Video Recordings: Provide high-resolution, digital video disc in format acceptable to the Owner.

PART 3 - EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS

A. Photographer: Engage a qualified commercial photographer to take construction photographs.

B. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.

1. Maintain key plan with each set of photographs that identifies each photographic location.

C. Film Images:

1. Date Stamp: Unless otherwise indicated, date and time stamp each photograph as it is being taken so stamp is integral to photograph.
2. Field Office Prints: Retain one set of prints of photographs in the field office at Project site, available at all times for reference.

D. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.

1. Date and Time: Include date and time in filename for each image.
2. Field Office Images: Maintain one set of images on CD-ROM in the field office at Project site, available at all times for reference.

E. Preconstruction Photographs: Before commencement of excavation, commencement of demolition, or starting construction, take color and digital photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points.

1. Flag excavation areas and construction limits before taking construction photographs.
2. Take 20 photographs of each existing building to accurately record physical conditions at start of excavation, demolition, or construction.
3. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.

F. Construction Progress Photographs: Provide monthly progress photographs of the project. 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 month which will be selected by the Architect

G. Additional Photographs: The Owner may issue requests for additional photographs, in addition to photographs specified. Additional photographs will be paid for by Change Order and are not included in the Contract Sum.

1. Three days' notice will be given, where feasible.
2. In emergency situations, take additional photographs within 24 hours of request.

Brower Student Center Addition and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931
3. Circumstances that could require additional photographs include, but are not limited to, the following:
   a. Special events planned at Project site.
   b. Immediate follow-up when on-site events result in construction damage or losses.
   c. Photographs to be taken at fabrication locations away from Project site. These photographs are not submit to unit prices or unit-cost allowances.
   d. Substantial Completion of a major phase or component of the Work.
   e. Extra record photographs at time of final acceptance.
   f. Owner's request for special publicity photographs.

3.2 CONSTRUCTION DIGITAL VIDEO

   A. Video Photographer: Engage a qualified commercial videographer to record construction video.

   B. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to show area of construction. Display continuous running time and date. At start of each video, record weather conditions from local newspaper or television and the actual temperature reading at Project site.

   C. Narration: Describe scenes on video by audio narration by microphone while video is recorded. Include description of items being viewed, recent events, and planned activities. At each change in location, describe vantage point, location, direction (by compass point), and elevation or story of construction.
   1. Confirm date and time at beginning and end of recording.
   2. Begin each video with name of Project, Contractor's name, videographer's name, and Project location.

   D. Transcript: Provide a typewritten transcript of the narration. Display images and running time captured from video opposite the corresponding narration segment.

   E. Preconstruction Video: Before starting excavation, demolition, or construction record video of Project site and surrounding properties from different vantage points.
   1. Flag excavation areas before recording construction video.
   2. Show existing conditions adjacent to Project site before starting the Work.
   3. Show existing buildings either on or adjoining Project site to accurately record physical conditions at the start of excavation, demolition, or construction.
   4. Show protection efforts by Contractor.

   F. Construction Progress Videos: Provide monthly progress videos of the project. Provide one progress video, 15 minutes long, submitted each month. Video shall show the videographer walking and recording the site, each floor and the roof.
SECTION 01 3300

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.2 PROGRESS SCHEDULE / COORDINATION DRAWINGS

A. The General Contractor's schedule, shall coordinate with all trades to produce a coordinated CPM via Suretrak/Primavera or a Microsoft Scheduling program. The schedule shall indicate the start and completion dates for each portion of the work as defined by the schedule of values, with the total time as defined by the contract time and milestone dates as set forth in these specifications. The General Contractor’s CPM schedule shall be submitted in electronic format to the Owner and Architect prior to first application for payment Contractor will not be paid until the schedule has been submitted and accepted by TCNJ. Any revisions or additional information requested by the Owner or Architect shall be provided. (No payment shall be made to any Contractor not providing a schedule that reflects their entire work).

1. Also refer to Section 01 3100 – Project Management and Coordination.

B. General Contractor shall prepare coordination drawings for submission to Architect and Owner (This is not a requirement of this project). Mechanical Contractor shall submit the ductwork drawings and each contractor shall prepare their own coordination drawings (as an overlay of ductwork drawings) and submit to General Contractor for final coordination within ninety (90) calendar days from Notice to Proceed. General Contractor shall submit coordination drawings to Architect and Owner within 120 days of Notice to Proceed. Failure to submit these drawings will result in no changes to contract sum for necessary corrections due to uncoordinated work.

1. Also refer to Section 01 3100 – Project Management and Coordination.

C. The General Contractor shall revise the progress schedule on a monthly basis as the work progresses reflecting therein any delays, including those not within the Contractor's control, or accelerations in the progress of the work. The progress schedule, as revised for any weekly period, shall be discussed at every job meeting with the Owner, Project Manager, the Architect, and the General Contractor and the major trades in order to insure that the percentage of actual completion of any portion of the work as called for in the progress schedule for that bi-weekly period is attained. Monthly updates to the progress schedule shall be made prior to application for payment.
D. Should any delay occur in the progress of the work or any portion thereof, the Contractors shall be required to implement all necessary measures to accelerate the construction, to meet the percentages of completion dictated by the progress schedule on the applicable dates, without additional cost to the Owner.

E. Each Contractor will have to provide a schedule based upon "Resource Loading" for all critical activities when requested for by the Owner.

1.3 SUBMITTAL SCHEDULE

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Allow sufficient processing time; as a minimum, as indicated in this Section.
3. Initial Submittal: Submit concurrently with initial submission of construction schedule (refer to Paragraph 1.2.A of this section for timeframe). Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
4. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
   a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.

5. Format: Arrange the following information in a tabular format:
   a. Scheduled date for first submittal.
   b. Specification Section number and title.
   c. Submittal category: Action; informational.
   d. Name of subcontractor.
   e. Description of the Work covered.
   f. Scheduled date for Architect's final release or approval.
   g. Scheduled date of fabrication.
   h. Scheduled dates for purchasing.
   i. Scheduled dates for installation.
   j. Activity or event number.

B. Architect will review Submittal Schedule for concentrations, overloading and similar conflicts which will impact the Architect’s ability to meet the schedule and propose revisions to the duration of processing time to the Contractor.

C. No payment will be made to Contractor (except for insurance, bonds and mobilization costs) until complete Schedule of Submittals has been received and accepted by Owner and Architect.

D. The Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals if the Contractor fails to submit a Submittal Schedule and adhere to said schedule.

Brower Student Center Addition and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931
1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files:

1. Any request for digital data files shall be solely and exclusively for use related to this Project.
2. Building Information Modeling (BIM): At the Contractor's written request, electronic data files of the BIM Model will be available from the Architect as a convenience to the Contractor for use in preparing shop drawings and coordination drawings for this Project in accordance with the attached Electronic Data Order Form and following:
   a. To the extent the Architect chooses to utilize BIM software, it shall be for the Architects use in developing the Instruments of Service.
   b. BIM files were created by the Architect for the primary purpose of creating 2D contract documents. No implication is intended for any purpose beyond the production of 2D documents.
   c. BIM Digital Data Files will be available to the contractor, subcontractor or supplier on written request to the Architect in accordance with this Section.
3. AutoCAD: At the Contractor's written request, Digital Data Files of the Floor Plan Background Drawings in editable file format will be available from the Architect as a convenience to the Contractor for use in preparing shop drawings for this Project in accordance with the attached Electronic Data Order Form and following:
   a. AutoCAD 2012 file (editable file format) of documents indicated above will be available to the contractor, subcontractor or supplier on written request to the Architect in accordance with this Section.
   b. Floor Plan Background Drawings as defined in the attached Electronic Data Order Form are available as a convenience to the Contractor.
   c. Floor Plan Background Drawings files requested will be delivered in editable file format indicated, and will not be further altered by the Architect prior to delivering them to any said party.
4. Electronic Data Order Procedure:
   a. Submit completed Electronic Data Order Form attached to this Section to the Architect's representative in .pdf format.
   b. The Architect's representative will complete the CAD or BIM Digital Data Transfer Agreement Between Architect and Contractor or Subcontractor and send it to the requesting entity for signature.
   c. The requesting entity shall sign the Agreement and return it to the Architect in .pdf format.
5. Each contractor, subcontractor, trade, supplier or entity requesting electronic data file shall submit a request for Electronic Data Files, prior to delivery of said files. No contractor, subcontractor, trade, supplier or entity shall transfer these Electronic Files received from the Architect, or any portion thereof to any third party ("Transferee") without written permission of the Architect.
6. The Architect will transfer files to the requesting entity via the Project Information Management (PIM) software.
7. All files are a schematic representation of elements within the project. All Contractors are responsible for field verification and coordination with other trades.
8. Use of these files does not relieve the Contractor from producing Coordination Drawings and Shop Drawings required by the Contract.

1.5 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

A. Shop drawings, product data and samples will not be processed by the Owner and/or Architect until the list of subcontractors, material suppliers and fabricators is submitted.

B. The Architect shall be compensated on an hourly basis for review of all shop drawings or samples that do not meet the requirements of the contract documents after two submissions. The compensation shall be deducted from the contractors contract via a deduct change order, or other means that both parties agree to.

C. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of 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.

D. Processing Time: Allow sufficient time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 10 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required, and for coordination of multiple components of a submittal in a substantial submittal package. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Resubmittal Review: Allow 10 days for review of each resubmittal.
3. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 10 days for initial review of each submittal

E. Paper Submittals: Place a permanent label or title block on each submittal item for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Place fully executed "Submittal Cover Sheet" attached to the end of this Section as first page of every paper submittal.
3. Include the following information for processing and recording action taken:
   a. Project name.
   b. Date.
   c. Name of Architect.
d. Name of Contractor.

e. Name of subcontractor.

f. Name of supplier.

g. Name of manufacturer.

h. Submittal number or other unique identifier, including revision identifier.

1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).

i. Number and title of appropriate Specification Section.

j. Drawing number and detail references, as appropriate.

k. Location(s) where product is to be installed, as appropriate.

l. Other necessary identification.

4. Additional Paper 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.

a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.

5. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return without review submittals received from sources other than Contractor.

a. Transmittal Form for Paper Submittals: Use form acceptable to Architect and Owner.

b. Transmittal Form for Paper Submittals: Provide locations on form for the following information:

1) Project name.
2) Date.
3) Destination (To:).
4) Source (From:).
5) Name and address of Architect.
6) Name of Contractor.
7) Name of firm or entity that prepared submittal.
8) Names of subcontractor, manufacturer, and supplier.
9) Category and type of submittal.
10) Submittal purpose and description.
11) Specification Section number and title.
12) Specification paragraph number or drawing designation and generic name for each of multiple items.
13) Drawing number and detail references, as appropriate.
14) Indication of full or partial submittal.
15) Remarks.
16) Signature of transmitter.

F. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.

2. Name file with submittal number or other unique identifier, including revision identifier.
   a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).

3. Transmittal Form for Electronic Submittals: Use software-generated form from electronic project management software or electronic form acceptable to Owner, containing the following information:
   a. Project name.
   b. Date.
   c. Name and address of Architect.
   d. Name of Contractor.
   e. Name of firm or entity that prepared submittal.
   f. Names of subcontractor, manufacturer, and supplier.
   g. Category and type of submittal.
   h. Submittal purpose and description.
   i. Specification Section number and title.
   j. Specification paragraph number or drawing designation and generic name for each of multiple items.
   k. Drawing number and detail references, as appropriate.
   l. Location(s) where product is to be installed, as appropriate.
   m. Related physical samples submitted directly.
   n. Indication of full or partial submittal.
   o. Submittal and transmittal distribution record.
   p. Other necessary identification.
   q. Remarks.

G. Options: Identify options requiring selection by Architect.

H. Deviations and Additional Information: 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 identification information as related submittal.

I. Each submission shall be complete, with all options clearly marked and with all components required for the assembly fully described and detailed. Submissions missing important information will be returned unchecked.

J. Except as otherwise indicated in individual work sections, comply with requirements specified herein for each indicated category of submittal. Provide and process intermediate submittals, where required between initial and final, similar to initial submittals.

K. Maintain returned final set of samples at project site, in suitable condition and available for quality control comparisons by the Architect, and by Owner.
L. Do not proceed with installation of materials, products or systems until final copy of applicable shop drawings, product data and samples are in possession of Installer.

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

N. Resubmittals: Make resubmittals in same form and manner as initial submittal.
   1. Note date and content of previous submittal.
   2. Note date and content of revision in label or title block and clearly indicate extent of revision.
   3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

O. 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.

P. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

Q. Submittals will be accepted from the Contractor only. Submittals received from other entities will be returned without review or action.
   1. Submittals received without a transmittal form will be returned without review or action.

1.6 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
   1. Post electronic submittals as PDF electronic files directly to Architect’s project information transmission web based software specifically established for Project.
   2. Action Submittals: Submit electronic file except where paper copies of submittals are specifically required.
   3. Informational Submittals: Submit electronic file except where paper copies of submittals are specifically required.
   4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
      a. Provide a notarized statement on original paper copy certificates and certifications where indicated.

B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect’s digital data drawing files is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
   a. Identification of products.
   b. Schedules.
   c. Compliance with specified standards.
   d. Notation of coordination requirements.
   e. Notation of dimensions established by field measurement.
   f. Relationship and attachment to adjoining construction clearly indicated.
   g. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm), but no larger than 30 by 42 inches (750 by 1067 mm).

3. Submit Shop Drawings in the following format:
   a. PDF electronic file.
   b. In addition to submission of electronic files, submit 3 paper copies of fire alarm shop drawings and sprinkler shop drawings with Contractor approval stamps applied, signed and sealed by a NJ licensed engineer, for submittal to College Code Review for review and comment.
   c. Additional copies of submittals may have to be provided for the Owner's insurance review (i.e. Factory Mutual).

C. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are 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 catalog cuts.
   b. Manufacturer's product specifications.
   c. Standard color charts.
   d. Statement of compliance with specified referenced standards.
   e. Testing by recognized testing agency.
   f. Application of testing agency labels and seals.
   g. Notation of coordination requirements.
   h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:
   a. Wiring diagrams showing factory-installed wiring.
   b. Printed performance curves.
   c. Operational range diagrams.
   d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before or concurrent with Samples.
6. Submit Product Data in the following format:
Submittal Procedures
Section 013300 – Page 9
08/15/2015

a. PDF electronic file.

7. Use a form matching the sample form attached to this section.

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 applicable Specification Section.
   e. Specification paragraph number and generic name of each item.

3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.

4. 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.

5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

   a. Number of Samples: Submit three full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect, will return submittal with options selected.

6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

   a. Number of Samples: Submit sets of Samples. Architect will retain two Sample sets; 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: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.
5. Submit product schedule in the following format:
   a. PDF electronic file.

F. Coordination Drawing Submittals: Comply with requirements specified in Section 013115 “Coordination Drawings.”

G. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 01 4000 "Quality Requirements."

H. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 01 7700 "Closeout Procedures."

I. Maintenance Data: Comply with requirements specified in Section 01 7823 "Operation and Maintenance Data."

J. LEED Submittals: Comply with requirements specified in Section 018113 "Sustainable Design Requirements - LEED" and individual specification sections.

K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

L. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
P. Material Certificates: Submit written statements on manufacturer’s letterhead certifying that material complies with requirements in the Contract Documents.

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

R. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

S. Research Reports: Submit 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.

T. Preconstruction Test Reports: Submit 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.

U. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency’s standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

V. Field Test Reports: Submit written reports 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.

W. Design Data: Prepare and submit 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.

1.7 DELEGATED-DESIGN SERVICES

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

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

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

1.8 COLOR SELECTIONS

A. All colors for all finished surfaces and materials will be selected or approved by the Architect. The color selections will be made at one time to provide a complete and coordinated color schedule which, upon acceptance of the Owner, will be provided to the Contractor. Any and all specific color selections for materials not noted on drawings or in specification shall be chosen by Architect after submittal of samples.

B. It is imperative that all color information be submitted to the Architect by the Contractor before color selections can be made. If any color selection information is not available when colors are needed to meet the project schedule, the Architect will select colors from one of the named manufacturers in the Specifications, and the Contractor will be required to exactly match that color. A claim for delay will not be accepted if the color schedule is late due to the failure of the Contractor to provide the Architect with all required color information, nor will an extra be entertained if the selected color is not available from the manufacturer the Contractor intended to use but neglected to submit.

1.9 MISCELLANEOUS SUBMITTALS

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

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

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

PART 2 - PRODUCTS (not applicable)

PART 3 - EXECUTION

3.1 CONTRACTOR’S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
B. Project Closeout and Maintenance Material Submittals: See requirements in Section 01 7700 "Closeout Procedures."

C. 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.

3.2 ARCHITECT'S ACTION

A. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.

B. Architect's Actions:

1. Contractor may proceed with fabrication on submittals marked "No Exception Taken" or "Make Corrections Noted" provided that the Contractor adheres to the corrections noted.
2. Contractor may proceed with fabrication on submittals marked "Resubmit for Record Only" provided that the Contractor makes the corrections noted and resubmits submittals for record purposes.
3. Contractor may not proceed with fabrication on shop drawings noted "Revise and Resubmit" or "Rejected" until "No Exception Taken" or "Make Corrections Noted" stamp is received on resubmitted drawing.
4. Contractor may not proceed with fabrication on the specific shop drawings noted "Partial Resubmit" until "No Exception Taken" or "Make Corrections Noted" stamp is received on resubmitted drawing.
5. Do not permit submittals marked "Revise and Resubmit," or "Rejected," to be used at Project site, or elsewhere where Work is in progress.
6. Other Action: Where submittal is primarily for information or record purposes, special processing or other activity, submittal will be returned, marked "No 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 prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.

E. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

F. Submittals not required by the Contract Documents may be returned by the Architect without action.

3.3 CONTRACTOR'S ACTION

A. One copy of all submissions will be returned to the Contractor for his files. The Contractor shall mark up other copies so as to conform with the copy returned to him and forward them to all interested Contractors, Subcontractors, and Suppliers.

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

END OF SECTION 01 3300

ATTACHMENTS:
- Submittal Cover Sheet
- Electronic Data Transfer Agreement For Building Information Modeling (BIM) Files Between Architect and Contractor
- Electronic Data Transfer Agreement For CAD Files Between Architect and Contractor
- Electronic Data Order Form
## SUBMITTAL COVER SHEET

<table>
<thead>
<tr>
<th><strong>CONTRACTOR:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STREET ADDRESS:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>CITY/STATE:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>CONTRACTOR'S PROJECT NO:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>SUBMITTAL NO:</strong></td>
<td></td>
</tr>
</tbody>
</table>

| **DATE OF SUBMITTAL:** |  |
| **SUBCONTRACTOR:** |  |

| **SUBMITTAL DESCRIPTION:** |  |
| **RESUBMITTAL:** | ☐ Y ☐ N |
| **SUBSTITUTION:** | ☐ Y ☐ N |

| **SHOP DRAWING TITLE:** |  |

| **NO.** | **REVISION NO.** | **DATE:** |  |
|---------|------------------|-----------|
|         |                  |           |

| **PRODUCT DATA, TESTS, SCHEDULES:** |  |

| **SAMPLES:** |  |
| **MANUFACTURER:** |  |
| **ADDRESS:** |  |

| **REFERENCES:** |  |

| **SPECIFICATION SECTION - PAGE:** | **PARAGRAPH(S):** |  |
| **CONTRACT DRAWINGS(S):** | **ROOM NO.(S):** |  |

| **CONTRACTOR'S STAMP:** |  |
| **ARCHITECT'S STAMP:** |  |

---

**REMARKS:**
Type Date Here

[Address]

Re: Electronic Data Transfer Agreement for BIM Model, Between Architect and Contractor
   The College of New Jersey, BSC Renovation and Addition

Dear [Addressee's Name]:

Pursuant to the request of _____ (“Owner”), KSS Architecture LLP. (“Architect”) will deliver to _____ (“Contractor”) certain electronic files (such files and any and all drawings, models, data, and other information contained in the files are collectively referred to as the “Files”) for Contractor’s use in connection with the above project (“Project”), subject to the following terms and conditions.

These Files are components of the Architect’s Instrument of Service and not products. They are transmitted for the Owner’s benefit on this Project. Delivery of the Files to Contractor shall not be deemed to be a sale by Architect. Architect makes no representations or warranties whatsoever regarding the Files, including, without limitation, any representations or warranties of merchantability or fitness for any purpose. All rights to the Files, including all rights under the copyright and other laws, and the material objects in which the rights are embodied, are and shall be owned by Owner. Transfer of the information does not transfer any license to use the underlying software or obligate the Architect to provide the software to the recipient. The Architect retains the right to reuse the information in the general course of a professional practice.

This Agreement provides the Contractor with a nonexclusive, limited license to use the information in the Files for the specific purpose of responding to the requirements of the Contract Documents for this Project. Except as necessary to respond to the requirements of the Contract Documents for this Project, Contractor shall not reproduce the Files or any portion thereof, create any derivations of the Files, or otherwise modify them. Receipt and use of the electronic data does not relieve the recipient of any responsibility or obligation. Contractor shall treat the information contained in the Files as proprietary and confidential. Contractor understands that protection of the information is of vital importance and shall maintain in confidence all such information and not use the information outside of the scope of the Project prior or subsequent to the duration of the Project. The Contractor shall not transfer the Files or any portion thereof to any third party (“Transferee”). Trade contractors and subcontractors must execute their own Electronic Data File Agreement.

The Files are not Contract Documents for the Project. Only hard copy documents are Contract Documents. If any discrepancies exist at any time between the Files and the Contract Documents the Contract Documents shall control. **These BIM files were created by the designers for the primary purpose of creating 2D contract documents. No implication is intended for any purpose beyond the production of 2D documents.** Contractor shall be responsible for updating the Files throughout the course of the Project or requesting updated electronic files (if they exist) by executing a new Electronic File Data Agreement and paying an additional service fee for each requested file.

A complete list of the Files to be delivered to Contractor, including their dates and sizes, is attached. The Files are electronic source material for Contract Documents current as of **[Date files were recorded for transfer]**. Architect shall transmit the Files to Contractor in electronic form as Revit 2013 format files. Use of the electronic data is at the sole risk of the recipient, who acknowledges that the electronic data is subject to undetectable
alteration or electronic corruption or degradation. Upon acceptance, Contractor shall waive any right to claims for detrimental reliance upon the information contained in the File.

Contractor acknowledges it has no contractual relationship with Architect or any relationship that is the functional equivalent of privity of contract, other than this letter agreement. Contractor shall hold Architect harmless from and against any and all losses, damages, costs, claims and any other liability relating directly or indirectly to the subject matter of this agreement. In no event shall Architect’s liability exceed the amount of service fee payment made under this agreement. This agreement shall be binding upon and inure to the benefit of the successors and assigns of the parties. Contractor shall not assign or otherwise transfer this agreement to any third party without the prior written consent of Architect.

Please sign below, indicating acceptance of these terms, and return one copy of the signed letter to me. Upon receipt of the signed letter and the above fee, we will transmit the Files to you.

Very truly yours,

KSS Architects LLP

__________________________________________  
Signature                                      Date

[Name of Contractor’s Representative] 
Contractor’s Representative

__________________________________________  
Signature                                      Date

cc: [CA Person for Project]
Re: Electronic Data Transfer Agreement for AutoCAD files, Between Architect and Contractor

KSS Project #21931

Pursuant to the request of _____ (“Owner”), KSS Architects LLP. (“Architect”) will deliver to _____ (“Contractor”) certain electronic files (such files and any and all drawings, data, and other information contained in the files are collectively referred to as the “Files”) for Contractor’s use in connection with the above project (“Project”), subject to the following terms and conditions.

These Files are components of the Architect’s Instrument of Service and not products. They are transmitted for the Owner’s benefit on this Project. Delivery of the Files to Contractor shall not be deemed to be a sale by Architect. Architect makes no representations or warranties whatsoever regarding the Files, including, without limitation, any representations or warranties of merchantability or fitness for any purpose. All rights to the Files, including all rights under the copyright and other laws, and the material objects in which the rights are embodied, are and shall be owned by Owner. Transfer of the information does not transfer any license to use the underlying software or obligate the Architect to provide the software to the recipient. The Architect retains the right to reuse the information in the general course of professional practice.

This Agreement provides the Contractor with a nonexclusive, limited license to use the information in the Files for the specific purpose of responding to the requirements of the Contract Documents for this Project. Except as necessary to respond to the requirements of the Contract Documents for this Project, Contractor shall not reproduce the Files or any portion thereof, create any derivations of the Files, or otherwise modify them. Receipt and use of the electronic data does not relieve the recipient of any responsibility or obligation. Contractor shall treat the information contained in the Files as proprietary and confidential. Contractor understands that protection of the information is of vital importance and shall maintain in confidence all such information and not use the information outside of the scope of the Project prior or subsequent to the duration of the Project. The Contractor shall not transfer the Files or any portion thereof to any third party (“Transferee”). Trade contractors and subcontractors must execute their own Electronic Data File Agreement.

The Files are not Contract Documents for the Project. Only hard copy documents are Contract Documents. If any discrepancies exist at any time between the Files and the Contract Documents the Contract Documents shall control. Contractor shall be responsible for updating the Files throughout the course of the Project or requesting updated electronic files (if they exist) by executing a new Electronic Data File Agreement for each requested file.

A complete list of the Files to be delivered to Contractor, including their dates and sizes, is attached. The Files are [electronic source material for] [electronic versions of] Contract Documents current as of [Date files were recorded for transfer]. Architect shall transmit the Files to Contractor in electronic form as AutoCAD version 2012, format files. These Files will be accompanied, upon request, by hard copy Contract Documents current as of the same date as the Files. The Contractor shall notify the Architect of any discrepancies between the hard copy Contract Documents and the Files within 30 days of receipt of the Files or the Files will be deemed to be accepted. Upon notification that there is a discrepancy between the hard copy Contract Documents and the
Files, the Architect will replace the Files. Use of the electronic data is at the sole risk of the recipient, who acknowledges that the electronic data is subject to undetectable alteration or electronic corruption or degradation. Upon acceptance, the Contractor shall waive any right to claims for detrimental reliance upon the information contained in the File.

Contractor acknowledges it has no contractual relationship with Architect or any relationship that is the functional equivalent of privity of contract, other than this letter agreement. Contractor shall hold Architect harmless from and against any and all losses, damages, costs, claims and any other liability relating directly or indirectly to the subject matter of this agreement. In no event shall Architect’s liability exceed the amount of service fee payment (if any) made under this agreement. This agreement shall be binding upon and inure to the benefit of the successors and assigns of the parties. Contractor shall not assign or otherwise transfer this agreement to any third party without the prior written consent of Architect.

Please sign below, indicating acceptance of these terms, and return one copy of the signed letter to me. Upon receipt of the signed letter, we will transmit the Files to you.

Very truly yours,

KSS Architects LLP

__________________________________________
Signature _________________________________
Date

[Name of Contractor's Representative]
Contractor’s Representative

__________________________________________
Signature _________________________________
Date

cc: [CA Person for Project]
Electronic Data Order Form

Date: ____________________________

Project Name: ____________________________

Project Number: ____________________________

Recipient Name: ____________________________

Recipient Address: ____________________________

Recipient Telephone: ____________________________ Recipient Fax: ____________________________

Person Requesting Electronic Data: ____________________________

Signature: ____________________________

I hereby request the following electronic data:

☐ AutoCAD 2012 - Background Drawings

☐ Revit 2014 - BIM Model
Electronic Data Order Form - Definitions

Editable File Format:
Editable file format electronic data can be altered by the Recipient. These electronic data will arrive in the format utilized by the Architect and indicated above.

Sheet Drawing:
An electronic document representing a hard copy drawing, which may be used to produce a drawing sheet

Bound:
All external references to an electronic document will be included into that electronic document, delivering it as a single electronic file.

Unbound:
All external references to an electronic document will be included as separate electronic files.

Background Drawing:

A. Floor plans including the following elements:
   1. Exterior walls and openings in exterior walls at or below typical window or door height.
   2. Interior walls and partitions and openings in interior walls and partitions at or below typical door height.
   3. Glazed openings
   5. Toilet partitions and screens.
   6. Cabinets, casework and countertops that are permanently installed.
   7. Wall cabinets shown dotted.
   8. Locations of elevators, dumbwaiters, escalators and chutes.
   9. Stairs, landings, ramps, handrails and guards.
   11. Permanently mounted equipment in contact with the floor except Food Service Equipment.
   12. Fixed seating.

B. Separate Reflected Ceiling Plans including the following elements:
   1. Grid patterns for exposed grid ceilings
   2. Tile patterns for acoustical tile ceilings
   3. Ceiling bulkheads and soffits
   4. Ceiling mounted Light fixtures
   5. Fire suppression sprinkler heads
   6. HVAC diffusers
PART 1 - GENERAL

1.1 TRADESMEN AND WORKMANSHIP

A. Each Contractor shall ensure that tradesmen performing work at site are skilled and knowledgeable in methods and craftsmanship needed to produce required quality levels for workmanship in completed work. Remove and replace work which does not comply with workmanship standards as specified and as recognized in the construction industry for applications indicated. Remove and replace other work damaged or deteriorated by faulty workmanship or its replacement.

B. In certain instances, specification text requires that specific work be assigned to specialists or expert entities, who shall be engaged for performance of those units of work. These shall be recognized as special requirements over which Contractor has no choice or option. These assignments shall not be confused with, and are not intended to interfere with, normal application of regulations, union jurisdictions and similar conventions. One purpose of such assignments is to establish which party or entity involved in a specific unit of work is recognized as "expert" for indicated construction processes or operations. Nevertheless, final responsibility for fulfillment of entire set of requirements remains with Contractor.

1.2 INSPECTION, TESTS AND REPORTS

A. Required inspection and testing services are intended to assist in determination of probable compliances of the work with requirements, but do not relieve any Contractor of responsibility for those compliances, or for general fulfillment of requirements of Contract Documents. Specified inspections and tests are not intended to limit any Contractor's quality control program. Afford reasonable access to agencies performing tests and inspections.

1.3 The Owner is responsible for all testing and inspections (foundations, soils compaction, concrete, steel, etc.) unless specifically indicated otherwise in the Specifications. Each Prime Contractor is responsible to coordinate the activities of the testing agency to assure that work is tested prior to being covered up or other activities associated to the work begin. Provide proper notice to the TCNJ on site superintendent and/or project manager to assure the inspections are completed prior to any work requiring same is done.

1.4 SPECIAL INSPECTIONS

A. Special Inspections: Owner will engage qualified testing agency(ies) and special inspectors to conduct special inspections required by authorities having jurisdiction as the responsibility of Owner, as indicated in New Jersey Uniform Construction Code and as follows:

1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.

Brower Student Center Addition and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931
2. Notifying Architect, Commissioning Authority, Owner’s Representative, and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.

3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect and Commissioning Authority, through Owner’s Representative, with copy to Contractor and to authorities having jurisdiction.

4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.

5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.

6. Retesting and reinspecting corrected work.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For land surveyor.

B. Final As-Built Survey of Underground Utilities: Submit two paper copies and one electronic (.pdf) file, signed by land surveyor.

PART 2 - PRODUCTS (not applicable)

PART 3 - EXECUTION

3.1 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/her 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.

3.2 SITE LAYOUT

A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

B. Each contractor is required to complete their own surveying and layout work as required to complete their work.

3.3 EXAMINATION

A. Existing Conditions: 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.
1. Before construction, verify the location and points of connection of utility services.

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

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

C. Acceptance of Conditions prior to work starting: 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.

3.4 PREPARATION

A. Existing Utility Information: Furnish information to local utility and 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. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Owner not less than 72 hours in advance of proposed utility interruptions.

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

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


3.5 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect and Owner promptly.

B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
3. Inform installers of lines and levels to which they must comply.
4. Check the location, level and plumb, of every major element as the Work progresses.
5. Notify Architect and Owner when deviations from required lines and levels exceed allowable tolerances.
6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. 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, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect and Owner.

3.6 FIELD ENGINEERING

A. Identification: Identify existing benchmarks, control points, and property corners.

B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect or Owner. Report lost or destroyed permanent benchmarks or control points
promptly. Report the need to relocate permanent benchmarks or control points to Architect
and Owner before proceeding.
2. Replace lost or destroyed permanent benchmarks and control points promptly. Base
replacements on the original survey control points.

C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site,
referenced to data established by survey control points. Comply with authorities having jurisdiction
for type and size of benchmark.
1. Record benchmark locations, with horizontal and vertical data, on Project Record
Documents.
2. Where the actual location or elevation of layout points cannot be marked, provide temporary
reference points sufficient to locate the Work.
3. Remove temporary reference points when no longer needed. Restore marked construction
to its original condition.

D. Certified Survey: On completion of foundation walls, major site improvements, and other work
requiring field-engineering services, prepare a certified survey showing dimensions, locations,
angles, and elevations of construction and sitework.

E. Final Survey for Underground Utilities: Engage a land surveyor to prepare a final survey of all
utilities installed during the project, including all elevations and inverts.

F. Final Property Survey: Prepare a final property survey showing significant features (real property)
for Project. Include on the survey a certification, signed by land surveyor, that principal metes,
bounds, lines, and levels of Project are accurately positioned as shown on the survey.
1. Show boundary lines, monuments, streets, site improvements and utilities, existing
improvements and significant vegetation, adjoining properties, acreage, grade contours, and
the distance and bearing from a site corner to a legal point.
2. Recording: At Substantial Completion, have the final property survey recorded by or with
authorities having jurisdiction as the official “property survey.”
3. Submit final survey to TCNJ in CADD format.

3.7 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 96 inches (2440 mm) in occupied spaces and 90
inches (2300 mm) in unoccupied spaces without ceilings.

B. Mechanical Installations: Comply with the following requirements:
1. Where mounting heights are not detailed or dimensioned, install systems, materials, and
equipment to provide the maximum headroom possible.
2. Coordinate connection of mechanical systems with exterior underground and overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies. Provide required connection for each service.

3. Install all equipment to facilitate servicing, maintenance, and repair or replacement of equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations. Extend grease fittings to an accessible location.

C. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

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

E. Concoct 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.

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

G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. 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.

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

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

END OF SECTION 01 40 00
SECTION 01 42 00

REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved" or "Furnished as Submitted": When used to convey Architect's action on Contractor's submittals, applications, and requests, "Approved" or "Furnish as Submitted" 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," "approved," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

H. "Provide": Furnish and install, complete and ready for the intended use.

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

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

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

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

D. Copies of Standards: Each entity engaged in construction on Project must 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 and make them available on request.

E. 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 standards and regulations in the following list. Names, telephone numbers, and Web-site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADAAG</td>
<td>Americans with Disabilities Act (ADA)</td>
<td>(800) 872-2253, (202) 272-5434</td>
</tr>
<tr>
<td></td>
<td>Accessibility Guidelines for Buildings and Facilities</td>
<td><a href="http://www.access-board.gov">www.access-board.gov</a></td>
</tr>
<tr>
<td></td>
<td>Available from Access Board</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Available from Government Printing Office</td>
<td><a href="http://www.access.gpo.gov/nara/cfr">www.access.gpo.gov/nara/cfr</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>Federal Specification</td>
<td>(215) 697-6257</td>
</tr>
<tr>
<td></td>
<td>Available from Defense Automated Printing Service</td>
<td><a href="http://www.astimage.daps.dla.mil/online">www.astimage.daps.dla.mil/online</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Available from General Services Administration</td>
<td>(202) 619-8925</td>
</tr>
</tbody>
</table>

Brower Student Center Addition and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931
1.3 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale Research's "Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the U.S."

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-site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Name</th>
<th>Phone Number</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. Code Agencies:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NJUCC</td>
<td>New Jersey Uniform Construction Code</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 42 00
PART 1 - GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

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.

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, Owner's Project Manager, 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.

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.

1.2 GENERAL REQUIREMENTS

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

1.3 JOB CONDITIONS

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.

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.
1.4 ENVIRONMENTAL PROTECTION

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.

1.5 FIELD OFFICES

A. The Contractor shall establish a construction office on the site if needed where directed by the Owner.

B. Provide adequate office space for field office personnel of Contractor plus one spare work station for incidental use by Subcontractors’ personnel; suitably finished, furnished, equipped and heated/air conditioned. Provide a Group 3 or greater facsimile machine with separate telephone lines for use of all contractors, the Architect and the Owner on the site in the General Construction Trailer as well as the Architect/Owner trailer. Include separate space for project meetings, with tables not less than 4’ x 8’, and seating for not less than 12 persons; cover main walls with tackboard material for posting of notices, progress schedule and similar information. Provide shelf space adequate for storage of approved samples.

C. The Contractor shall provide a lockable office, minimum space 12’ x 40’ at the site for the Owner/Architect. For duration of the entire construction project, provide this office with: (not applicable to this project)

1. Temporary electric service sufficient for all equipment in office. Service and monthly usage is to be paid by the Contractor.
2. Adequate lighting, toilet facilities chemically treated, heating, ventilation and air conditioning throughout.
3. Weekly janitorial services.
4. Telephone:
   a. Provide two (2) telephone lines; one designated for fax machine. Service and monthly usage is to be paid by the Contractor.
   b. Provide two (2) telephones. Each telephone to have the capacity of answering either line, placing calls on hold, transferring calls and conference calling. These instruments are to be located as directed by the Owner’s Project Manager (phones, fax, computer).
   c. Provide one (1) automatic telephone answering/recording device to be located in this office.
   d. Provide an external sound-emitting device to have a different sound from other devices that may be installed outside Contractor’s office.
   e. These telephones shall have listed telephone numbers and monthly bills are paid by the Contractor.
   f. Provide high-speed Internet Access. Provide for a minimum of (2) wired (Ethernet) connections per workspace within the Owner's Project Manager office space (including private office, conference, and meeting spaces). Access shall provide for direct connection to the Owner's corporate network for the purpose of accessing corporate Brower Student Center Addition and Renovation Audio Video Systems Installation Project The College of New Jersey KSS Project #21931
LAN resources. Access shall also include a minimum of (2) wireless access point devices providing coverage within the Owner's Project Manager private office and the largest-capacity meeting space. General wireless access shall employ a minimum of WPA2 access control security. Contractor shall provide secured space, power, and cabling within the Project Manager office space to accommodate installation of any equipment necessary to effect these requirements. Direct connection to TCNJ facilities shall be established to the nearest accessible campus network connection point in coordination with Owner. Wireless access with direct campus connection shall provide for security access control identical to that employed on Owner's corporate network. Cost of service is to be paid by the Contractor.

5. Furniture and equipment as follows:
   a. Three desks, three swivel chairs and two side chairs.
   b. Two plan racks, two plan tables and one sample shelf.
   c. Two 5-drawer file cabinets.
   d. One draftsman's stool and one drafting table with a 36” x 60” top and straight edge.
   e. Two meeting tables 8’ x 4’ minimum and twelve (12) folding chairs.
   f. One copying machine, Xerox or equal complete with paper supplies and two-year maintenance contract. (Capable of producing 50 copies per minute and have sort, sort/staple function.)
   g. One first-aid cabinet complete with supplies. Model 0412036 as manufactured by Mine Safety Appliances Company or equal.
   h. One calculator, electric semi-automatic.
   i. One water cooler with water service.
   j. One plain paper fax machine with memory dial.
   k. Provide copy/fax paper on request.

6. Trailer to be laid out with office at each end and conference room in the center.

D. Other prime/sub contractors shall each provide suitable field offices for their own personnel and for incidental use by their subcontractors.

   1. General Note: All temporary office trailers shall be strapped down to the ground.

E. The Electrical Contractor shall provide temporary electrical service to the Contractor’s and Architect/Owner field offices. Connection of other contractors' field offices shall be each contractor’s responsibility, coordinated with the Electrical Contractor.

1.6 SHEDS

A. Each Contractor shall provide his own temporary sheds or trailers for storage, fabrication and similar purposes, which shall be located in accordance with the Contractor's coordinated plan for site utilization, as directed by the Architect and Owner.

1.7 WATER CONTROL
A. Surface water drainage provisions shall be provided by the Contractor. The Contractor is to comply with Erosion and Sedimentation Control Plan on the Drawings and adjust as directed by the Owner to eliminate any interference with other trades work and access to areas of the site.

B. The contractor will be responsible to control all water during excavations and to maintain the bottom of footings, trenches and mass excavations in a stable condition. Replace all “soft spots” with suitable clean compactable fill as part of the base contract.

1.8 SECURITY

A. The Contractor shall maintain complete security on the site at all times outside of normal working hours to protect the Work and all field offices, and to secure the area of construction by restricting all trespassers.

1.  This means locking the gates. A guard is not required.

1.9 SITE ENCLOSURE FENCE

A. The Contractor shall enclose the entire project site to be sufficient to contain entire construction activity. Provide 8’ high chain link steel fence with screening. Provide 8’ high gates for both personnel and trucks, with locks held under strict security control. A minimum of four gates will be required (locations will be coordinated in the field with the Owner).

1.10 TEMPORARY CONSTRUCTION FACILITIES

A. Contractor to provide temporary stairs (centrally located, meeting the latest OSHA requirements) at each story of construction as soon as construction of floor system at head of stairs is started, and retain in use until permanent stairs are placed in use. Also, provide temporary plywood walkways, scaffold and railings as needed for public areas to protect against overhead work. Also refer to Paragraph 1.10 of this section.

B. Contractor to provide, maintain, operate and remove when no longer needed, a temporary elevator for vertical movement of personnel and materials if required. Provide full time operator if required. Also refer to Paragraph 1.10 of this section.

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

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

E. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

1.11 DEBRIS CONTROL (Refer to Section 01 7419 for further delineation)

Brower Student Center Addition and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931
A. Each Contractor shall be responsible for daily cleaning up of spillages and debris resulting from his operations and from those of his Subcontractors; and shall be responsible for complete removal and disposition of hazardous and toxic waste materials. The Contractor shall provide containers at grade, sufficient for the depositing of nonhazardous/nontoxic waste materials, and shall remove such waste materials from project site at least weekly during cold weather (daily high temperatures below 50°F) and at least twice weekly during mild and warm weather.

1. Contractor is responsible to provide all dumpsters.

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

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

D. Should cleanup not be completed to the satisfaction of the Owner, the Owner will hire additional labor to clean the site and backcharge the contractor via a deduct change order.

1.12 TEMPORARY PARKING

A. Limited staging and on site parking will be allowed on site. The Contractor will coordinate with the owner all parking areas with all the subcontractors. Parking for contractor employees is available across Route 31, on Carlton Avenue in the TCNJ Contractor parking lot. Contractor to shuttle employees accordingly.

1. Contractors shall figure the site will only have enough parking for 6 vehicles (or less). All others shall park at the TCNJ Carlton Avenue parking lot, and be shuttled as necessary to the site by the Contractor or other contractor means.

PART 2 - PRODUCTS

2.1 TEMPORARY CONSTRUCTION

A. Construction Sign: (not required with this project) Four (4) 8'-0" x 20'-0" vinyl banners shall be provided by the Contractor and shall be subject to the review of the Architect and the approval of the Owner. Letters and images shall be of a type, size, and layout as directed by the Architect/Owner. Sign shall contain the name of the Building, Owner, Architect, Contractor, image of the building and other such reasonable information as the Architect or Owner may require. Letters shall be adhered to the face of the sign in strict accordance with manufacturer's printed instructions. Sign shall be installed on the site (hung on a fence) in location as directed by the Architect/Owner, plumb and level in all directions. The Owner reserves the right to change the text prior to installation of sign. The signs shall remain in place for the duration of the project as per Architect/Owner direction.

B. Contractor shall provide wind bracing per FM Research approved criteria.
C. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes and noise. Provide types of partitions approved by Owner in Owner occupied areas

1. Temporary partitions within the new building as required for construction shall be constructed of 2x4 studs 16” o.c. with 5/8” drywall floor to bottom side of floor above. Drywall shall be attached to occupied face of studs and nailed/screwed 8” o.c. maximum spacing. Joints shall occur over studs and shall be taped and finish spackled along with screws. Partitions are to be painted with two coats of paint for interior or exterior type partitions.

2. In areas where containment of airborne particles is critical to Owner operations, construct dustproof partitions with two layers of 6-mil (0.14-mm) polyethylene sheet on each side. Cover floor with two layers of 6-mil (0.14-mm) polyethylene sheet, extending sheets 18 inches (460 mm) up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant-treated plywood.
   a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches (1219 mm) between doors. Maintain water-dampened foot mats in vestibule.

3. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.

4. Insulate partitions to control noise transmission to occupied areas.

5. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.

6. Protect air-handling equipment.

7. Provide dust control adhesive-surface walk-off mats at each entrance through temporary partition.

D. Contractor to use ¾” plywood for exterior faced temporary partitions.

PART 3 - EXECUTION

3.1 ENCLOSURES

A. At all times, the Contractor shall secure building against unauthorized entrance at times when personnel are not working. Provide secure temporary enclosure at ground floor and other locations of possible entry, with locked entrances.

B. At each story of construction, as soon as the structural floor work is principally completed and the enclosure wall work is principally completed, the Contractor shall provide temporary enclosure of remaining openings. Arrange enclosure work to accommodate access, temporary heating, and natural ventilation as required for construction work by all entities on the project.

C. Where any form of demolition will expose the interior of the building to weather, demolition shall follow the erection of weatherproof walls by the Contractor installed inside the demolition line, sealed and flashed, as required, to keep all water from the building interior. Keep temporary weatherproofing in place until new construction has been completed to the stage where water will not enter the building.
D. The Contractor shall provide constant protection against rain, wind, storms, frost or heat to maintain the work, materials, apparatus and fixtures free from damage. At the end of each day's work, cover work likely to be damaged. During cold weather, protect work from damage by freezing and provide such enclosures and heating apparatus as may be necessary diligently to prosecute the Work without stoppage for reason of unfavorable weather.

E. Wherever a Contractor provides openings through walls or slabs, each location shall be adequately protected at the end of each working day with temporary enclosures to make these areas tight. Openings through exterior walls shall be watertight.

3.2 TEMPORARY ELECTRICITY

A. Provide temporary power as required to complete the work of this contract.

B. Electrical Sub-Contractor shall provide sufficient temporary lighting to ensure proper workmanship everywhere; by combined use of daylight, general lighting, and portable plug in task lighting.

3.3 TEMPORARY HEATING AND COOLING

A. Provide temporary heat as required to accomplish the work of this contract and as required by the manufacturers recommendations to continue with the work in cooler temperatures.

3.4 TEMPORARY VENTILATION

A. A trade requiring ventilation for Work shall provide fans to induce circulation of air provided prior approval has been obtained from the Owner and Architect.

3.5 TEMPORARY TELEPHONES

A. Each Contractor is responsible for their own telephone service and for payment of all charges relating to that service.

3.6 TEMPORARY WATER

A. Where potable water is available, either for total temporary requirements or as a separate service for drinking water and sanitation, extend piping system through construction areas and to temporary offices and hand wash facilities, and provide one refrigerated drinking fountain at each temporary office and at least one fountain at every third story of construction.

B. Provide meters for water services, if required. Read meters and record readings weekly, and include in progress report to Architect at monthly intervals.

3.7 TEMPORARY SANITARY FACILITIES

A. Starting at time of start of work at project site, the Contractor shall provide and maintain self-contained toilet units of type acceptable to governing authorities, adequate, at all stages of construction, for use of personnel at project site. Provide separate facilities for male and female personnel when both sexes are working, in any capacity, at project site. Provide self-contained
hand wash facilities. Facilities shall remain in use until completion of project. Use of permanent facilities will not be permitted.

3.8 REMOVAL AND RESTORATION

A. Prior to acceptance of the Project, each contractor shall remove temporary work for which he has been responsible.

3.9 OWNER'S RIGHTS

A. If any Contractor fails to carry out his responsibilities in providing temporary facilities, as set forth above, the Owner shall have the right to take such action as they deem proper for the protection and conduct of the Work, and to deduct the cost thereof from the amount due the Contractor at fault.

B. Extended work days, hours, shifts, weekend work, etc. may be allowed upon coordination and approval by Owner, and Architect at no additional cost to the Owner.

1. 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.

3.10 TEMPORARY STAIRS and ELEVATOR

A. The Contractor will supply wooden stairs per floor suitable for other trades to access the work on upper levels including the mechanical mezzanines. The stairs shall meet the code in effect at the time of construction with handrails and guardrails of the appropriate structural capacity and dimensions. The Contractor shall submit to the local code official (if required) two sets design drawings of the stairs that have been prepared, signed and sealed by an Architect licensed in the State of the place of work. The Contractor shall maintain these stairs until such time that the permanent stairs are available for use. At that time, the Contractor shall remove the temporary stairs.

B. The Contractor is to provide, maintain, operate, and remove when no longer needed, a temporary elevator for the vertical movement of personnel and equipment/materials and pay for all costs associated with said elevator and its operation should OSHA regulations require the use of one.

3.11 MOISTURE AND MOLD CONTROL


END OF SECTION 01 5000
SECTION 01 6000
PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; and equivalent products.

B. Related Requirements:

1. Section 012500 "Substitution Procedures" for requests for substitutions.
2. Section 014200 "References" for applicable industry standards for products specified.

1.2 DEFINITIONS

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

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
3. Equivalent Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," 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 equivalent products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

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

1. Include data to indicate compliance with the requirements specified in "Equivalent Products" Article.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a equivalent product request. Architect will notify Contractor of approval or rejection of proposed equivalent product request within 10 working days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

   a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
   b. Use product specified if Architect does not issue a decision on use of a equivalent product request within time allocated.


1.4 QUALITY ASSURANCE

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

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

B. Mechanical Materials and Equipment: When two or more items of same material or equipment are required (pumps, valves, air conditioning units, etc.), they shall be of the same manufacturer. Product manufacturer uniformity does not apply to raw materials, bulk materials, pipe, tube, fittings (except flanged and grooved types), sheet metal, wire, steel bar stock, welding rods, solder, fasteners, motors for dissimilar equipment units, and similar items used in the work, except as otherwise indicated. Provide products which are compatible within systems and other connected items.

C. Asbestos in Materials: All products submitted for use and incorporated into this project shall be asbestos free.

D. Mercury-Free Products: All products submitted for use and incorporated into this Project shall be mercury-free. In the absence of mercury-free products, provide products with the lowest amount of mercury possible.

E. Lead-Free Products: All products submitted for use and incorporated into this Project shall be lead-free.

F. To the greatest extent possible, provide products, materials and equipment of a singular generic kind and from a single source.

G. Performance Criteria: Provide products which comply with specific performances indicated, and which are recommended by manufacturer, in published product literature or by individual certification, for application indicated. Overall performance of a product is implied where product is specified for specific performance.
1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

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

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.
7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

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

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.

6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved equivalent," comply with requirements in "Equivalent Products" Article to obtain approval for use of an unnamed product.

7. A named product and model number establishes the characteristics and salient features of the specifications even when they are not fully described and will serve as the basis of comparison.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Equivalent products or substitutions for Contractor's convenience will not be considered.

2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Equivalent products or substitutions for Contractor's convenience will not be considered.

3. Products:
   a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Equivalent products or substitutions for Contractor's convenience will not be considered.
   b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Equivalent Products" Article for consideration of an unnamed product.

4. Manufacturers:
   a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Equivalent products or substitutions for Contractor's convenience will not be considered.
   b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Equivalent Products" Article for consideration of an unnamed manufacturer's product.

5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a equivalent product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Equivalent Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 “Substitution Procedures” for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 EQUIVALENT PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for equivalent product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require 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. Evidence that the proposed product provides sustainable design characteristics that specified product provided for achieving LEED prerequisites and credits.
3. Evidence that the proposed product will not adversely affect Contractor's construction schedule.
4. Evidence that the proposed product has received necessary approvals of authorities having jurisdiction.
5. Evidence that the proposed product will have no adverse effect on other trades and will not affect or delay progress schedule; or if proposed product involves more than one contractor, proposed product 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.
6. Evidence that the proposed product maintenance service and source of replacement parts, as applicable, is available similar to the specified product.
7. 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.
8. Evidence that proposed product provides specified warranty.
9. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
10. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 60 00
SECTION 01 73 29
CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes procedural requirements for cutting and patching.

B. Related Requirements:

1. Drawings and General Provisions of the Contract including General and Supplemental Conditions and Specifications, apply to this section.

1.2 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.3 SUBMITTALS

A. Cutting and Patching Proposal: Submit proposal describing procedures at least 10 days prior to the time cutting and patching will be performed, requesting approval to proceed. Include the following information:

1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
2. Changes to Existing Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building’s appearance and other significant visual elements.
3. Products: List products to be used and firms or entities that will perform the Work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.
6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
7. Architect’s Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory 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: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.

   1. Primary operational systems and equipment.
   2. Air or smoke barriers.
   3. Fire-protection systems.
   4. Control systems.
   5. Conveying systems.
   6. Communications systems.
   7. Electrical wiring systems.

C. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

   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 construction that has been cut and patched in a visually unsatisfactory manner.

   1. If possible, retain original Installer or fabricator to cut and patch exposed Work listed below. If it is impossible to engage original Installer or fabricator, engage another recognized, experienced, and specialized firm.

      a. Processed concrete finishes.
      b. Ornamental metal.
      c. Roofing.
      d. Firestopping.
      e. Window wall system.

E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
1.5 EXISTING WARRANTIES

A. Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections of these Specifications.

B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing 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 existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.

1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to minimize interruption of services 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 existing 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 existing 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. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Sections of these Specifications where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.

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.
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 existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

   a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather tight condition.

END OF SECTION 01 73 29

Brower Student Center Addition and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931
SECTION 01 7419

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

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

1. Salvaging nonhazardous demolition and construction waste.
2. Recycling nonhazardous demolition and construction waste.
3. Disposing of nonhazardous demolition and construction waste.

B. Related Sections include the following:

1. Drawings and General Provisions of the Contract including General and Supplemental Conditions and Specifications, apply to this section.

1.2 DEFINITIONS

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

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

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

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

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

1.3 PERFORMANCE REQUIREMENTS

A. General: Achieve end-of-Project rates for salvage/recycling of at least 75 percent by weight of total non-hazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials.

1.4 INFORMATIONAL SUBMITTALS

A. Waste Management Plan: Submit 4 copies of plan within 15 days of date established for the Notice to Proceed.
B. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Use Form CWM-8 for demolition waste. Include the following information:

1. Material category.
2. Generation point of waste.
3. Total quantity of waste in tons
4. Quantity of waste salvaged, both estimated and actual in tons
5. Quantity of waste recycled, both estimated and actual in tons
6. Total quantity of waste recovered (salvaged plus recycled) in tons
7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.

C. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.

D. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.

E. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.

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

G. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

H. LEED Submittal: LEED letter template for Credit MR 2, signed by Contractor, tabulating total waste material, quantities diverted and means by which it is diverted, and statement that requirements for the credit have been met.

I. Qualification Data: For refrigerant recovery technician.

J. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.5 QUALITY ASSURANCE

A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.

B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 01. Review methods and procedures related to waste management including, but not limited to, the following:
1. Review and discuss waste management plan.
2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

1.6 WASTE MANAGEMENT PLAN

A. General: Develop plan consisting of waste identification, and waste reduction work plan. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing, and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Use Form CWM-4 for demolition waste. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
2. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
3. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
4. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
5. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement waste management plan as approved by the Owner. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

1. Comply with Division 01 Section "Temporary Facilities" for operation, termination, and removal requirements.

B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
1. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

   1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
   2. Comply with Division 01 Section "Temporary Facilities" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

A. Salvaged Items for Sale and Donation: Not permitted on Project site.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle beverage containers used by on-site workers.

B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.

C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.

   1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
      a. Inspect containers and bins for contamination and remove contaminated materials if found.
   2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
   3. Stockpile materials away from construction area.
   4. Store components off the ground and protect from the weather.
   5. Remove recyclable waste off Owner's property and transport to recycling receiving or processor.

3.4 RECYCLING DEMOLITION WASTE

A. Asphaltic Concrete Paving: Break up and transport paving to asphalt-recycling facility.

B. Concrete: break up and sort rebar as best as possible. Recycle all concrete

C. Recycle all unused metal products during construction of a new building and from the building before demolition remove all aluminum, copper and steel etc.

D. Recycle as much unused and demolished products as possible and provide a complete report to Owner to confirm the percentage of waste being recycled on the project. Submit said report monthly.

Brower Student Center Addition and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931
3.5 RECYCLING CONSTRUCTION WASTE

A. Packaging:
   1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
   3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
   4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:
   1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.

3.6 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
   1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
   2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials on site.

C. Burying: Do not bury waste materials on site.

D. Disposal: Transport waste materials off Owner's property and legally dispose of them.

E. Washing waste materials into sewers or drains is not permitted.

END OF SECTION 01 74 19
PART 1 - GENERAL

1.1 DEFINITION

A. Closeout is hereby defined to include general requirements near end of Contract Time, in preparation for final acceptance, final payment, normal termination of Contract, occupancy by Owner and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in sections of Divisions 2 through 49. Time of closeout is directly related to Substantial Completion, and therefore may be either a single time period for entire work or a series of time periods for individual parts of the work which have been certified as substantially complete at different dates. That time variation, if any, shall be applicable to other provisions of this section.

B. Substantial completion shall be defined that every material item has been installed. Nothing is missing and therefore, the punch list can begin.

1.2 PREREQUISITES TO SUBSTANTIAL COMPLETION

A. At least ten (10) days prior to requesting the Architect's inspection for certification of substantial completion, for either entire work or portions thereof, complete the following and list known exceptions in request:

1. In progress payment request coincident with or first following date claimed, show either 100% completion for portion of work claimed as substantially complete, or list incomplete items, value of incomplete items, and reasons for being incomplete.

2. Include supporting documentation for completion as indicated in these Contract Documents.

a. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.

3. Submit statement showing accounting of changes to the Contract Sum.

4. Advise Owner of pending insurance change over requirements.

5. For all fire sprinklers, devices, alarm system, roofing system, doors, insulation, etc. requiring FM Research approval, submit certification from Factory Mutual indicating compliance with requirements.


7. Submit sustainable design submittals required in Section 018113 "Sustainable Design Requirements – LEED for New Construction and Major Renovations" and in individual Sections.

8. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

9. Certificates of Release: Obtain and submit releases from authorities having jurisdiction enabling Owner's full and unrestricted use of the work and access to services and utilities, including occupancy permits, operating certificates, and similar releases.
10. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.

11. Perform preventive maintenance on equipment used prior to Substantial Completion.

12. Complete start up and testing of systems and equipment. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."


14. Participate with Owner in conducting inspection and walkthrough with local emergency responders.

15. Discontinue, or change over, and remove from project site temporary facilities and services, along with construction tools and facilities, mockups, and similar elements.

16. Complete final clean up requirements.

17. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect and Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection, or the Owner will notify Contractor of items, either on Contractor's list or additional items identified by Architect that must be completed or corrected before certificate will be issued.

   a. Architect will perform inspection in areas no smaller than a floor plate. Inspection of individual rooms or spaces will not be performed.
   b. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
   c. Results of completed inspection will form the basis of requirements for Final Completion.

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

1.3 PREREQUISITES TO FINAL ACCEPTANCE

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

   1. Submit final payment request with final releases and supporting documentation not previously submitted and accepted.
   2. Submit release of liens for all subcontractors.
   3. Submit Contractor's statement that his final application, as presented, is the final bill and no other claims will be presented.
   4. Submit updated final statement, accounting for additional changes to Contract Sum including change orders and allowances.
5. Submit certified copy of Architect’s final punch list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by Architect.

6. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.

7. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship/maintenance bonds, maintenance agreements, final certifications and similar documents.

8. Deliver tools, spare parts, extra stocks of materials, and similar physical items to Owner, in location directed by Architect, obtaining a signed receipt of materials delivered. Refer to individual work sections for required quantities of spare parts, extra and overrun stock, maintenance tools and devices, keys, and similar physical units to be submitted. Label with manufacturer’s name and model number where applicable.
   a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section.

9. Submit one set of record documents, bound copies of maintenance/operating manuals, final project photographs, damage or settlement survey, property survey, and similar final record information.

10. Complete final clean up requirements.

11. Touch up and otherwise repair and restore marred exposed finishes.

12. Submit notarized consent of surety to final payment.

13. Submit final liquidated damages settlement statement, if required, acceptable to Owner.

14. Revise and submit evidence of final, continuing insurance coverage complying with insurance requirements.

15. A letter from the Owner's representative certifying that he has been properly instructed in the operation and maintenance of equipment by the Contractor.


17. Underwriter’s Certificate or Electrical Sub Code Official’s Approval.

18. Fire Alarm Certification.

19. HVAC Contractor to submit certified balancing report.

20. Final acceptance by Architect of record documents

B. Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. Upon receipt of Contractor's notice that work has been completed, including all punch list items, but excepting incomplete items delayed because of circumstances acceptable to the Owner and Architect, the Owner and Architect will reinspect the work. Upon completion of reinspection, the Architect will either prepare the certificate of final acceptance or advise the Contractor of work not completed or obligations not fulfilled as required for final acceptance.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected

C. In the event that the work is not completed or obligations are not fulfilled as required for final acceptance and the Architect/Owner is required to reinspect the work more often than the two inspections the Contractor shall compensate the Architect and/or the Owner at the rate of $1500.00 for each additional site visit required for reinspections. The compensation shall be
processed by change order as a deduction to the Contractor's Contract Sum, which amount will be paid to the Architect by the Owner, through a Supplemental order as an addition to the Architect's Fee.

D. Each Contractor has a scheduled amount of time to complete their respective punch list per the punchlist activity or final completion milestone date on the project schedule with the Notice to Proceed. **Liquidated damages of $500/day for every day thereafter will be applied and deducted from the final contract if the project is not FINAL completed by the established date.**

1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

   1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
   2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
   3. Include the following information at the top of each page:
      a. Project name.
      b. Date.
      c. Name of Architect.
      d. Name of Contractor.
      e. Page number.

   4. Submit list of incomplete items in the following format:

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces. Use cleaning products that comply with the maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 CLEANING

A. Where extra materials of value remaining after completion of associated work have become Owner's property, dispose of these to Owner's best advantage as directed.
B. After Substantial Completion of the Work, each Contractor shall do the final cleaning of the surfaces of his installations as may be required by the various Specification sections.

C. After each Contractor has cleaned their work, The General Contractor shall engage a professional cleaning service to perform final cleaning of the work consisting of cleaning each surface or unit to normal clean condition. Comply with manufacturer's instructions for cleaning operations and chemicals. The following are examples, but not by way of limitation, of cleaning levels required:

1. Remove labels that are not required as permanent labels.
2. Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing substances that are noticeable as vision obscuring materials. Replace broken glass and damaged transparent materials.
3. Wipe surfaces of mechanical and electrical equipment clean, including elevator equipment and similar equipment; remove excess lubrication and other substances.
4. Remove debris and surface dust from limited access spaces including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics and similar spaces.
5. Vacuum and clean carpeted surfaces and similar soft surfaces.
6. Clean light fixtures and lamps to function with full efficiency.
7. Clean and wax or polish all hard floors following manufacturer's instructions.
8. Clean all window surfaces inside and outside.
9. Perform final cleaning in, on and around all casework, sinks, toilets fixtures, etc.
10. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
11. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
12. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
13. Remove tools, construction equipment, machinery, and surplus material from Project site.
14. Remove snow and ice to provide safe access to building.
15. 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.
16. Sweep concrete floors broom clean and wet mop.
17. Replace parts subject to unusual operating conditions.
18. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
19. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
20. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
21. 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.
22. 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.

Brower Student Center Addition and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931
3.2 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.

3.3 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.
   a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 01 77 00
SECTION 01 7823

OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory.
2. Emergency manuals.
3. Operation manuals for systems, subsystems, and equipment.
4. Product maintenance manuals.
5. Systems and equipment maintenance manuals.

B. Related Requirements:

1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
2. Section 019113 "General Commissioning Requirements" for verification and compilation of data into operation and maintenance manuals.

1.2 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.3 CLOSEOUT SUBMITTALS

A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

1. Architect and Commissioning Authority will comment on whether content of operations and maintenance submittals are acceptable.
2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

B. Format: Submit operations and maintenance manuals in the following format:

1. PDF electronic file. Assemble each manual into a composite electronically indexed file complete with Table of Contents and book marked by equipment. Submit on digital media acceptable to Architect.
a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.

b. Enable inserted reviewer comments on draft submittals.

2. Four paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves.

C. Initial Manual Submittal: Submit draft copy of each manual at least 60 days before commencing demonstration and training. Architect and Commissioning Authority will comment on whether general scope and content of manual are acceptable.

D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 30 days before commencing demonstration and training. Architect and Commissioning Authority will return copy with comments.

1. Correct or revise each manual to comply with Architect's and Commissioning Authority's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's and Commissioning Authority's comments and prior to commencing demonstration and training.

2. Upon completion and approval, 3 copies will be forwarded to the Owner and 1 copy retained by the Architect

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:

1. List of documents.
2. List of systems.
3. List of equipment.
4. Table of contents.

B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.

C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.

D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

Brower Student Center Addition and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931
2.2 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

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.

B. Title Page: 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 and contact information for Contractor.
6. Name and contact information for Architect.
7. Name and contact information for Commissioning Authority.
8. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
9. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder. Include the following, as a minimum:

1. Catalog cuts and shop drawings:
   a. Catalog cuts shall clearly indicate the exact model and type of each piece of equipment installed in the Project, including all options provided.
   b. Catalog cuts shall fully describe equipment including physical, electrical, mechanical and other characteristics, performance characteristics and installation or erection diagrams.
   c. Catalog cuts shall indicate spare part numbers and name, address and telephone number of local representative or service department.

2. Typewritten list of all subcontractors on the Project including name, address, telephone number and responsibility on the Project.
3. Warranties, permits, inspection stickers/approvals and Certificate of Occupancy are to be included.
E. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.

2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

F. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.

1. Binders: Heavy-duty, three-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. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.

   b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. 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 storage media for computerized electronic equipment.


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.

2.3 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:

1. Fire.
2. Flood.
5. Power failure.
7. System, subsystem, or equipment failure.
8. 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 the following, as applicable:

1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

2. Performance and design criteria if Contractor has delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
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 the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.5 PRODUCT MAINTENANCE MANUALS

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 and drawing or schedule designation or identifier where applicable.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

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 and drawing or schedule designation or identifier where applicable.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
1. Standard maintenance instructions and bulletins.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training video recording, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.

B. 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.

C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.

2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence
and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

1. Do not use original project record documents as part of operation and maintenance manuals.
2. Comply with requirements of newly prepared record Drawings in Section 017839 "Project Record Documents."

G. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 01 7823
SECTION 01 7836
WARRANTIES

PART 1 - GENERAL

1.1 DEFINITIONS

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

B. 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.

1.2 GUARANTEES AND 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 the Contractor of obligations under requirements of the Contract Documents.

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. Refer to Divisions 2 through 49 Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures."

D. Period for all guarantees and warranties shall commence at date of substantial completion of the last phase of construction for the entire project, as determined by the Architect and Owner. This shall include the successful testing, balancing, and commissioning of all building systems and units turned over to Owner.

E. Each contractor's guarantee on all work, covered by Maintenance Bond shall be One (1) year.

F. Submittal Time: Submit written warranties on request of Owner for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

G. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

H. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2 by 11-inch paper.

2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.

3. Identify each binder on the front and spine with the typed title, "Warranties," Project Name, and name of Contractor.

I. Submit three copies of warranty manual to the Architect. Provide additional copies of each warranty to include in operation and maintenance manuals.

J. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document

1.3 STANDARD MANUFACTURER WARRANTIES/GUARANTEES

A. Unless otherwise noted in specifications, contractor shall provide standard of the industry and acceptable warranties/guarantees provided by all manufacturers of products used on this project. Warranties/guarantees shall commence at date of substantial completion for entire project as determined by the Architect. Review each Technical Section for other warranty requirements.

END OF SECTION 01 78 36
SECTION 01 7839

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project record documents consisting of:
   a. Record drawings.
   b. Record project manual (specifications).
   c. Record product data.
   d. Miscellaneous record submissions.

B. Refer to other sections of these specifications for further requirements.

1.2 SUBMITTALS

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

1. Record drawings: Submit in form of opaque prints and pdf electronic forms.
   a. Sets shall include all drawings, whether changed or not.

2. Other record documents: Submit originals or good quality photocopies.

3. Each prime/sub contractor is responsible for their respective trade, record documents and record drawings. Combine with General Contractor record drawing documents for a complete set.

B. Closeout Submittals:

1. Record Drawings: Submit PDF electronic files of scanned record prints and one set of prints

2. Record Specifications: Submit annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.

3. Record Product Data: Submit annotated PDF electronic files and directories of each submittal
   a. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual

4. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories of each submittal.

PART 2 - PRODUCTS
(NOT USED)
PART 3 - EXECUTION

3.1 MAINTENANCE OF PROJECT RECORD DOCUMENTS

A. Do not use record documents of any type for construction purposes.

B. Maintain record documents in a secure location at the site while providing for access by the contractor and the architect during normal working hours; store in a fire-resistive room or container outside of normal working hours.

C. Record information as soon as possible after it is obtained.

D. Assign a person or persons responsible for maintaining record documents.

E. Record the following types of information on all applicable record documents:
   1. Dimensional changes.
   2. New and revised details.
   3. Revisions to electrical circuits.
   4. Locations of utilities concealed in construction.
   5. Particulars on concealed products which will not be easy to identify later.
   6. Changes made by modifications to the contract; note identification numbers if applicable.
   7. New information which may be useful to the owner, but which was not shown in either the contract documents or submittals.

3.2 RECORD DRAWINGS

A. Maintain a complete set of opaque prints of the contract drawings, marked to show changes.

B. Where the actual work differs from that shown on the drawings, mark this set to show the actual work.
   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.
F. Format: Submit PDF electronic files of scanned record prints and one set of prints.

1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.

G. Record Coordination Drawing Digital Data Files: Immediately after receiving Certificate of Substantial Completion and prior to final completion, submit the comprehensive model integrating all trade models for the project.

1. Format: Same digital data software program, version, and operating system as the original Contract Drawings

3.3 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.

C. Format: Submit record Specifications as scanned PDF electronic file(s) of marked-up paper copy of Specifications

3.4 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, record Specifications, and record Drawings where applicable.

B. Format: Submit record Product Data as annotated PDF electronic file or scanned PDF electronic file(s) of marked-up paper copy of Product Data.
3.5 Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data

3.6 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Format: Submit miscellaneous record submittals as PDF electronic file or scanned PDF electronic file(s) of marked-up miscellaneous record submittals.

1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

3.7 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 Architect, unless otherwise indicated.

END OF SECTION 01 73 89
SECTION 01 7900
DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SUMMARY

A. 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 recordings.

1.2 INFORMATIONAL SUBMITTALS

A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.

1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.

B. Attendance Record: For each training module, submit list of participants and length of instruction time.

C. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

1.3 CLOSEOUT SUBMITTALS

A. Demonstration and Training Video Recordings: Submit two copies within 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 and address of videographer.
   c. Name of Architect.
   d. Name of Contractor.
   e. Date of video recording.
1.4 QUALITY ASSURANCE

A. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.

B. Videographer Qualifications: A professional videographer who is experienced photographing demonstration and training events similar to those required.

C. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:

1. Inspect and discuss locations and other facilities required for instruction.
2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
3. Review required content of instruction.
4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.5 COORDINATION

A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.

B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

C. 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.

PART 2 - PRODUCTS

2.1 INSTRUCTION PROGRAM

A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.

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 as applicable to the system, equipment, or component:

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.

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 training manual organized in coordination with requirements in Section 017823 “Operation and Maintenance Data.”

B. Set up instructional equipment at instruction location.

3.2 INSTRUCTION

A. Engage qualified instructors to instruct Owner’s personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

1. Architect will furnish an instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.
2. Owner will furnish Contractor with names and positions of participants.

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, through Architect, with at least seven days’ advance notice.

C. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
D. Provide operating and maintenance instruction to Owner's personnel for systems and components as indicated in individual Specification Sections. Provide instruction periods, comprised of approximately 50 percent classroom instruction and 50 percent "hands-on" instruction.

3.3 DEMONSTRATION AND TRAINING VIDEO RECORDINGS

A. General: Engage a qualified videographer to record demonstration and training video recordings. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids.

B. Video: Provide minimum 640 x 480 video resolution converted to .mp4 format file type, on electronic media.

1. Electronic Media: Read-only format compact disc acceptable to Owner, with computer made label.
2. File Hierarchy: Organize folder structure and file locations according to project manual table of contents. Provide complete screen-based menu.
3. File Names: Utilize file names based upon name of equipment generally described in video segment, as identified in Project specifications.
4. Contractor and Installer Contact File: Using appropriate software, create a file for inclusion on the Equipment Demonstration and Training DVD that describes the following for each Contractor involved on the Project, arranged according to Project table of contents:
   a. Name of Contractor/Installer.
   b. Business address.
   c. Business phone number.
   d. Point of contact.
   e. E-mail address.

C. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to adequately cover area of demonstration and training. Display continuous running time.

1. Film training session(s) in segments not to exceed 15 minutes.
   a. Produce segments to present a single significant piece of equipment per segment.
   b. Organize segments with multiple pieces of equipment to follow order of Project Manual table of contents.
   c. Where a training session on a particular piece of equipment exceeds 15 minutes, stop filming and pause training session. Begin training session again upon commencement of new filming segment.

D. Light Levels: Verify light levels are adequate to properly light equipment. Verify equipment markings are clearly visible prior to recording.

1. Furnish additional portable lighting as required.
E. Narration: Describe scenes on video recording by audio narration by microphone while or dubbing audio narration off-site after video recording is recorded. Include description of items being viewed.

F. Preproduced Video Recordings: Provide video recordings used as a component of training modules in same format as recordings of live training.

END OF SECTION 01 79 00
SECTION 11 70 00

AUDIO VIDEO SYSTEMS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Stipulations

The specifications section "General Conditions" or other correspondence provided by the owner with this document and related amendments, form a part of this specification by this reference thereto and shall have the same force and effect as if printed herewith in full.

B. Audio and Video Drawings “AV”

The contract documents for this project includes set of drawings consisting of 46 sheets titled AV-01 though AV-46.

C. Specification Section 11 70 00 Audio Video Systems (this document 89 pages)

The Section 11 70 00 specification document is provided in three parts:

Part 1 GENERAL

This portion of the specifications provides general project information, including Project Scope, Description of Work, Substitutions, References, Definition of Terms, Submittal Requirements, Quality Assurance, Delivery/Handling/Storage, Scope of Work, Related Work and Performance Requirements.

Part 2 PRODUCT SPECIFICATIONS

This portion of the specifications defines the provides a listing of materials required for the project

Part 3 EXECUTION

This portion of the specifications provides specific instructions with regard to the renovation work, specific methods, performance requirements and other requirements pertaining to the work to be provided by the contractor.

D. Specification Section 26 76 10 Electrical Rough-In Requirements for AV Systems

The section 26 76 10 Electrical Rough-In Requirements for AV Systems specification provides specifications, instructions and related information associated with AV rough-in work required from the project electrical contractor.
E. T Series Drawings (Voice/Data/IT Infrastructure)

F. Section 27 10 00 Voice/Data/IT Infrastructure

The section 271000 Voice/Data/IT Infrastructure specification provides specifications, instructions and related information associated with the building Voice/Data/IT Infrastructure requirements.

The AV contractor is advised that certain AV equipment items on this project will interface to the building data network and therefore, coordination between the AV contractor, the voice/data/IT contractor and the college’s IT department will be required.

All AV network cabling including RJ45 tie lines, AV control networks and related AV devices and systems utilizing Category 6 or similar network cabling, shall be subject to the requirements specified within Section 271000 and as shown on the T series drawings for this project.

1.2 SCOPE OF SPECIFICATION

A. This specification covers the procurement, installation and maintenance of Audio and Video Systems for the Brower Student Center Addition and Renovation project at the College of New Jersey located in Ewing, New Jersey. The objective is to provide fully professional Audio and Video Systems. All work shall be provided in a professional manner, completely installed and acceptance tested for use.

The intent of this section is to define the products, methods and scope of services required to provide a first class, professionally installed, performance tested Audio and Video System. This section in conjunction with the project drawings defines the technical, functional and performance requirements for the specified Audio and Video Systems.

The systems specified herein will be purchased by the College from a qualified Audio and Video System contractor. The Audio Video contractor’s proposal shall be provided on a lump sum basis. Unit price details shall be provided within post award submittals as described in paragraph 1.7 of this document.

The contractor’s proposal is to be based on a Lump Sum price inclusive of all items required to meet the design intent. The design intent is specifically defined within Part 1, 2 and 3 of this Section and on the AV drawings that are referenced to, and part of, this section. Equipment lists as described in part 2 of this section and on the provided Bid Form have been prepared as a convenience to the bidding contractors. The contractor’s lump sum price shall include all materials and services as required to fulfill the design intent.

The bidder’s lump sum price shall include all goods and services as shown on the project drawings and within these specifications.

The Addition and Renovation project includes AV systems for the following areas:

Brower Student Center Addition and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931
1.3 SYSTEM DESCRIPTIONS

The following provides a description of the features and equipment to be included within the AV System for this project.

A. Lobby 101A

Provide all cabling, plates, AV system infrastructure and equipment as shown on drawings, as described throughout this section and as required to fulfill the design intent.
The AV systems associated with Lobby 101A shall include the following features and capabilities:

1. Video Signage Display

   Provide one 65" Digital Signage Display at the location shown on AV drawings.

   Video Sources to the display wall shall include:

   Qty (1) Digital Signage Player including factory implementation support and software maintenance agreement.

   Control of the video display (on/off) will be provided via a connection to the building network.

   Data Network connection to the Video Signage Player will be through the building data network. See the project T Series drawings for locations, ports and related information.

2. Audio System

   The audio systems for this area are provided by speaker zone 7 as shown on the AV drawings and as described elsewhere in this section.

3. Connection Plates

   The AV contractor shall provide a system input connection plate below the video display wall that provides the following connections to the AV system:

   Qty (1) Paging Input Plate (MPP) at Reception Desk
   Qty (1) AV Control Network at Reception Desk Touch Panel

   All low voltage connections to the Lobby 101 Video Signage Display are provided by the Section 271000 Voice/Data/IT Contractor.

4. Control System

   Provide one 6" touch panel to be located at the reception desk (105) and all required programming as required to provide the following features:

   Zoned Volume Control of Dining and Lobby Speaker Zones
   Volume Control and Source Selection for Lounge 102
   TV Channels for all TV Displays in Lobby Lounge
   TV Channels for all 4 elements of the Lounge 102 Display Wall
   TV Channels for all TV Displays in Dining/Servery 108
Paging Microphone Volume Control  
Volume and Mute for all TV sources  
System on/off  

Touch panel shall be a wall mounted device located at the reception desk.  

Touch Panel use shall be password protected.  

5. AV Equipment Racks  

Video Signage and CATV Coax cabling is served from IT/Data System.  

AV Equipment for this area is served from AV Rack AVR-130.  

Provide 24 Strand Fiber Optic AV Network Cable System as shown on Drawing AV-46.  

B. Box Office 104  

Provide all cabling, plates, AV system infrastructure and equipment as shown on drawings, as described throughout this section and as required to fulfill the design intent.  

1. Video Signage Display  

Provide on 55” Digital Signage Display, mounting hardware, connection cables and related devices at the signage display location shown on AV drawings. This display shall be mounted in Portrait orientation.  

Video Sources to the display wall shall include:  

Qty (1) Digital Signage Player including factory implementation support and software maintenance agreement.  

Control of the video display (on/off) will be provided via a connection to the building network.  

Data Network connection to the Video Signage Player will be through the building data network. See the project T Series drawings for locations, ports and related information.  

2. Connection Plates  

All low voltage connections to the Box Office 104 Video Display are provided by the Section 271000 Voice/Data/IT Contractor.  

3. AV Equipment Rack  

Video Signage and CATV Coax cabling is served from IT/Data System.
AV Equipment for this area is served from AV Rack AVR-130.

C. Restaurant 129

Provide all cabling, plates, AV system infrastructure and equipment as shown on drawings, as described throughout this section and as required to fulfill the design intent.

The AV systems associated with Restaurant 129 shall include the following features and capabilities:

1. Television Displays

Provide three television displays, mounting hardware, connection cables and related equipment as necessary to provide the restaurant guests with television images on three displays at locations shown on the AV drawings.

2. Audio Systems

Provide loudspeakers, amplifiers and signal processing equipment as shown on drawings and as described throughout this section as necessary to provide playback of background music, playback from a designated television display.

Input sources to the Restaurant Audio System will include the following:

- Background Music Sources
- TV Audio
- Performance Audio from the Stage

Provide loudspeakers as shown on the AV drawings and as described in Part 2 of this section.

3. Control Systems

Provide one 6” touch panel located at the hostess stand of the restaurant. Provide control system programming as required to provide at a minimum, the following features:

- TV Displays On/Off
- Channel Selection for each TV Display
- Audio Source Selection (Performance/Background Music/TV)
- Playback audio volume control
- System on/off

Touch Panel use shall be password protected.

4. Connection Plates
The AV contractor shall provide connection plates and cabling as shown on the AV drawings including the following:

Qty (1) AV Control Network Plate at each television Display location.

Qty (1) AV Control Network Connection at the Hostess Stand Touch Panel Location.

The AV contractor shall provide all plates, cables, connectors and hardware as required to provide the described connectivity and related features.

Coaxial cable feeds to television displays are provided by the Section 271000 Voice/Data/IT contractor.

5. Equipment Rack

The AV equipment for Restaurant 129 will be housed in a shared AV equipment rack located in Equipment Closet 130C.

Provide 24 Strand Fiber Optic AV Network Cable System as shown on Drawing AV-46.

D. Stage Systems

Provide all cabling, plates, AV system infrastructure and equipment as shown on drawings, as described throughout this section and as required to fulfill the design intent.

The AV systems associated with the stage shall include the following features and capabilities:

1. Connection Plates

The AV contractor shall provide connection plates and cabling as shown on the AV drawings including the following:

Qty (2) ASP plates and related cabling for the Active Stage Speaker Systems.

Qty (2) AWP plates and related cabling for the Active Subwoofer Connection Plate.

Qty (1) FOH connection plate at the Hostess/Mix Stand location.

Qty (2) SML Stage Mic Line Connection plates on upstage wall.

Qty (1) TSW AV Control Network Connection at the Hostess Stand Touch Panel Location.
The AV contractor shall provide all plates, cables, connectors and hardware as required to provide the described connectivity and related features.

Coaxial cable feeds to television displays are provided by the Section 271000 Voice/Data/IT contractor.

2. Performance Loudspeaker Systems

Provide two self-powered, high output, electronically steerable line array loudspeakers as shown on drawings and as described in Part 2 of this section. Each loudspeaker array is comprised of two boxes linked as one.

3. Subwoofer Speakers

Provide two self-powered, high output, dual 18” loudspeakers as shown on drawings and as described in Part 2 of this section.

The subwoofer speakers shall be provided in a manner that allows them to be disconnected, moved if and when necessary and easily re-connected for events requiring subwoofer use.

Provide qty (2) 10 Ft Line level audio with embedded power, cables.

4. Stage Monitors

Provide qty (4) two-way, self-powered stage monitor loudspeakers.
Provide qty (4) 25 Ft Line level audio with embedded power, cables.
Provide qty (2) 40 Ft Line level audio with embedded power, cables.

5. Audio Mixer

Provide qty (1) 24 channel digital mixer as shown on drawings and as described in Part 2 of this Section.

6. Wireless Microphone Systems

Provide four channels of handheld, UHF wireless microphone systems. Wireless receivers shall be provided in a portable equipment rack as shown on drawings and as described in Part 2 of this Section.

Portable rack shall include antenna connector plate with audio output connectors and power connection panel on rear of rack.

Portable Rack shall include one four space drawer assembly.

Provide qty (1) four channel, 25ft audio cable harness.

Provide qty (1) 110Volt 25 ft Power cord (black).
7. Wired Microphones and Related Accessories

Provide the following portable equipment items as further described in Part 2 of this Section:

- Qty (10) Dynamic Microphones
- Qty (6) Condenser Microphones
- Qty (16) Large Base/Standard Post Mic Stands (Black)
- Qty (16) Telescoping Boom Arms
- Qty (6) Large Base/Short Post Mic Stands (Black)
- Qty (4) Direct Boxes
- Qty (1) Microphone Storage Case
- Qty (32) Professional Grade 25 Foot Microphone Cables
- Qty (2) Eight Channel Stage Box to Fan Out with 30 Foot Cables
- Qty (1) Cable Storage Bin
- Qty (6) Double Duplex 110Volt Electrical Boxes with 25ft Cable.
- Qty (6) 14 Gauge 110volt Extension cords (black)
- Qty (2) 1/8” Mini TRS to RCA 12 ft Cables
- Qty (4) RCA Female to 1/4” Adapters
- Qty (4) XLR to 1/4” Cable Adapters 12”

8. Stage Lighting Equipment

Provide a complete, basic stage lighting system including the following items:

- Qty (8) 5W QUAD RGBA Color LED PAR Fixture including Power Con cable, 6 foot DMX cable, pipe clamp and safety cable.

- Qty (2) Compact, fast wash, 15W Quad Color RGBW LED moving light fixture including Power Con cable, 6 foot DMX cable, pipe clamp and safety cable.

- Qty (1) 1.5” Diameter x 14 foot wide lighting pipe including all hardware as required to suspend the pipe and the above noted fixtures within the lighting alcove as shown on the architectural drawings.

- Qty (1) Desk Top DMX Lighting controller as shown on drawings and as described in Part 2 of this section.

9. Equipment Rack

Head End equipment for the Stage Area AV systems will be provided within AV Equipment Closet 130C.
E. Lobby Lounge 130

Provide all cabling, plates, AV system infrastructure and equipment as shown on drawings, as described throughout this section and as required to fulfill the design intent.

The AV systems associated with Lobby 101A shall include the following features and capabilities:

1. Video Signage Display

Provide one 65” Digital Signage Display, mounting hardware, connection cables and related hardware at the video signage display location shown on AV drawings.

Video Sources to the display wall shall include:

Qty (1) Digital Signage Player including factory implementation support and software maintenance agreement.

Control of the video display (on/off) will be provided via a connection to the building network. See the project T Series drawings for locations, ports and related information.

Data Network connection to the Video Signage Player will be through the building data network. See the project T Series drawings for locations, ports and related information.

2. Television Displays

Provide two television displays, mounting hardware, connection cables and related equipment as necessary to provide the restaurant guests with television images on three displays at locations shown on the AV drawings.

3. Audio System

Speaker systems for this area are provided by speaker zone 8 as shown on the AV drawings and as described elsewhere in this section.

4. Connection Plates

Provide AV Control Network connections at each of the two TV65 Television Displays located within Lobby Lounge 130.

The AV contractor shall provide all plates, cables, connectors and hardware as required to provide the described connectivity and related features.
5. Control System

System control for the Lobby Lounge AV systems will occur from the touch panel provided at the Reception Desk in Lobby 101A.

6. AV Equipment Rack

AV Control Network equipment for Lobby Lounge Television Displays will be housed in a shared AV equipment rack located in Equipment Closet 130C.

F. Lounge 102

Provide all cabling, plates, AV system infrastructure and equipment as shown on drawings, as described throughout this section and as required to fulfill the design intent.

The AV systems associated with Lounge 102 shall include the following features and capabilities:

1. Television Displays

Provide qty (1) 2 x 2 Video Wall Display as described herein, within Part 2 of this section and as shown on drawings.

Video Sources to the 2 x 2 display wall shall include:

Qty (4) TV Tuners

Wall Mounted Input Plate

Control of the video display (on/off) will be provided by the AV control System Touch Panel located at the Reception Desk.

2. Audio System

The speaker systems for this area are provided from a local power amp located in AV Rack AVR-103 as shown on the AV drawings and as described elsewhere in this section.

3. Connection Plates

Provide a wall mounted input connector plate with HDMI, VGA and Audio connectors as described herein, within Part 2 of this section and as shown on the AV drawings.
4. Control System

Audio and video system control for Lounge 102 will be provided by the touch panel located at the reception desk.

5. AV Equipment Rack

AV Equipment for Lounge 102 will be housed in AVR-103 located within Meeting Room 103.

G. Dining and Servery Spaces 108 and Dining 120

Provide all cabling, plates and related AV system infrastructure as shown on drawings, as described throughout this section and as required to fulfill the design intent.

The AV systems associated with Dining and Servery Spaces shall include the following features and capabilities:

1. Video Signage Display Systems

Provide six ceiling suspended 65” Digital Signage Displays, mounting hardware, connection cables and related hardware at the video signage display locations shown on AV drawings.

Video Sources to each display wall shall include:

Qty (1) Digital Signage Player including factory implementation support and software maintenance agreement.

Control of the video display (on/off) will be provided via a connection to the building network. See the project T Series drawings for locations, ports and related information.

Data Network connection to the Video Signage Player will be through the building data network. See the project T Series drawings for locations, ports and related information.

2. Television Displays

Provide qty (3) 65” Television Displays at the location shown on AV drawings. Two displays are located adjacent to Stair 1S1 and one display is located on the wall adjacent to Catering Storage 108A.

Video Sources to each display wall shall include:

Qty (1) Coax TV feeds to each Television Display.

Control of the video display (on/off) will be provided by the AV control System Touch Panel located at the Reception Desk.
Coaxial cable feeds to television displays are provided by the Section 271000 Voice/Data/IT contractor.

3. Audio Systems

Provide loudspeakers, as shown on drawings by way of zones 1, 2, 11 and 12.

4. Control Systems

Control of the Dining / Servery Spaces 108 and Dining 120 AV Systems will occur at the reception desk touch panel described in paragraph 1.3.A above. User interface and programming for this area as required to provide the following features:

- TV Display On/Off
- Channel Selection for each TV Display
- Audio volume control.
- Background Music Source Selection
- System on/off

5. Equipment Rack

The AV equipment for the Dining and Servery spaces will be housed in a shared AV equipment rack located in Equipment Closet AV-117.

6. Connection Plates

The AV contractor shall provide connection plates and cabling as shown on the AV drawings including the following:

- Qty (1) AV Control Network Plate at each television Display location.

Coaxial cable feeds to television displays are provided by the Section 271000 Voice/Data/IT contractor.

All low voltage connections to the Video Signage Display will be provided by the Section 271000 Voice/Data/IT Contractor.

H. AV Closet 130C

Provide a complete AV equipment rack assembly as shown on drawings and as described within Part 1 and 2 of this section including the following equipment, features and functions:

Provide 24 Strand Fiber Optic AV Network Cable System as shown on Drawing AV-46.
Provide a rack mounted Audio Monitor panel providing audible and visual monitor capabilities for all amplifier inputs.

I. Game Room

Provide all cabling, plates and related AV system infrastructure as shown on drawings, as described throughout this section and as required to fulfill the design intent.

The AV systems associated with the Game Room shall include the following features and capabilities:

1. Video Displays and Gaming Equipment

   Provide two 65" wall mounted displays, mounting hardware and related accessories as shown on drawings, and as described in Part 1 and 2 of this section.

   Gaming consoles shall be furnished by the owner.

   Each display shall include three HDMI and one Component Video input cables. The video cables shall be provided at three shelves (one for each gaming console).

   Provide two HDMI switchers as described herein, within Part 2 of this Section and as shown on the AV drawings. Input sources to each switcher will include the following:

   Three HDMI gaming Sources

   Each of the two component video sources will be directly connected to the respective display.

2. Audio

   Gaming audio will be played through the speakers built into each display.

   Provide ceiling mounted audio playback speakers in the table game area as shown on drawings and as described throughout this section.

   Provide amplifiers and audio distribution equipment as necessary to support the table games audio system.

   Audio Sources for the table game area shall include:
Building Wide Background Music Source

3. Control Systems

Control of the Gaming Area AV systems will be provided by a wall 7” touch screen located adjacent to Gaming Station #2.

User interface and programming for this area as required to provide the following features:

- Background Music Volume Control in Table Game Area
- TV Displays On/Off
- Source Selection for each display
- System on/off

Touch Panel use shall be password protected.

4. Equipment Rack and Gaming Cabinet

Provide an equipment rack assembly as shown on drawings and as described throughout this section.

The equipment rack assembly providing two retractable EIA rack frames housing the AV switches, system amplifier, control system processor and related items. The equipment rack shall be provided with power distribution devices as shown on drawings and as described throughout this section.

The AV equipment rack assemblies shall be mounted within millwork credenza provided by others. AV contractor to provide coordination as necessary to insure that the AV rack assembly is successfully implemented within the credenza.

Provide 24 Strand Fiber Optic AV Network Cable System as shown on Drawing AV-46.

J. Meeting Room 103

Provide all cabling, plates and related AV system infrastructure as shown on drawings, as described throughout this section and as required to fulfill the design intent.

The AV systems associated with Meeting Room 103 shall include the following features and capabilities:
1. **Video Systems**

   Provide a ceiling mounted, electrically operated projection screen with low voltage controller. Low voltage controller shall include wall switch and control port for connecting to AV control system.

   Provide a 4500 Lumen video projector, ceiling mount, digital media receiver device as shown on drawings and as described throughout this section.

   Provide an Apple TV appliance.

   **Video sources:**
   - Wall Plate HDMI/VGA input.
   - Wall Plate HDMI/VGA Input
   - Apple TV Appliance
   - Cable TV

   Provide one HDMI 1 x 2 Distribution Amplifier as described herein, within Part 2 of this section and as shown on drawings.

2. **Audio Systems**

   Provide two wall mounted playback loudspeakers and local amplifier as shown on drawings and as described throughout this section.

3. **Control Systems**

   Control of the Meeting Room Area AV systems will be provided by a wall mounted touch panel controller adjacent to AV rack.

   User interface and programming for this area as required to provide the following features:
   - Volume Control
   - Projection Screen up/down
   - Video Projector on/off
   - Source Selection control of the AV matrix switcher.
   - Channel Selection for TV tuner
   - Playback audio volume control.
   - System on/off

4. **Equipment Rack**

   Provide an equipment rack as shown on drawings and as described in Part of this Section including caster base, all required AV components, electrical distribution, lacing bars, cable management and related accessories as required to provide a complete, operable and professionally fabricated AV rack assembly.
5. Scheduling Display

Provide one wall mounted scheduling display and factory service agreements as described herein, within Part 2 of this section and as shown on drawings.

K. Meeting Room 121

Provide all cabling, plates and related AV system infrastructure as shown on drawings, as described throughout this section and as required to fulfill the design intent.

The AV systems associated with Meeting Room 121 shall include the following features and capabilities:

1. Video Systems

Provide a ceiling mounted, electrically operated projection screen with low voltage controller. Low voltage controller shall include wall switch and control port for connecting to AV control system.

Provide a 4500 Lumen video projector, ceiling mount, digital media receiver device as shown on drawings and as described throughout this section.

Provide an Apple TV appliance.

Video sources:

- Wall Plate HDMI/VGA input.
- Wall Plate HDMI/VGA Input
- Apple TV Appliance
- Cable TV

Provide one HDMI 1 x 2 Distribution Amplifier as described herein, within Part 2 of this section and as shown on drawings.

2. Audio Systems

Provide two wall mounted playback loudspeakers amplifier as shown on drawings and as described throughout this section.

3. Control Systems

Control of the Meeting Room Area AV systems will be provided by a wall mounted touch panel located adjacent to the AV Rack.

User interface and programming for this area as required to provide the following features:
Volume Control
Projection Screen up/down
Video Projector on/off
Source Selection control of the AV matrix switcher.
Channel Selection for TV tuner
Playback audio volume control.
System on/off

6. Equipment Rack

Provide an equipment rack as shown on drawings and as described in Part of this Section including caster base, all required AV components, electrical distribution, lacing bars, cable management and related accessories as required to provide a complete, operable and professionally fabricated AV rack assembly.

Provide 24 Strand Fiber Optic AV Network Cable System as shown on Drawing AV-46.

7. Scheduling Display

Provide one wall mounted scheduling display as described herein, within Part 2 of this section and as shown on drawings.

L. Event Room Pre-Function Area, Lounge 119C and Lobby 119B

Provide all cabling, plates and related AV system infrastructure as shown on drawings, as described throughout this section and as required to fulfill the design intent.

The AV systems associated with the pre-function area shall include the following features and capabilities:

1. Video Display Systems

Provide three video displays, mounting hardware, digital media transmitters, receivers and related signal distribution equipment as shown on drawings, as described throughout this section and as necessary to provide guests with video images from any of the following sources:

- Video Cameras from within the Event Center
- Digital Signage Network
- Two local HDMI/VGA Input Plates
- One Apple TV Appliance

2. Audio Systems

Provide loudspeakers shown as zones 4 and 5 on drawings and as described throughout this section. Audio sources for this area shall include the following:
3. Control Systems

Control of the Event Room Pre-Function Area AV Systems will occur at a 10" touch panel located at Event Room AV equipment rack (room AV-117).

User interface and programming for this area as required to provide the following features:

Displays On/Off
Source Selection for each display.
Playback audio volume control.
Audio Source Selection
Wireless Microphone Gain Control
Wired Mic Gain Control
Line Level Input Gain Control
Activate Event Room AV Feeds
Activate / Select Event Room Cameras
System on/off

4. Connection Plates

The AV contractor shall provide connection plates and cabling as shown on the AV drawings including the following:

Qty (1) AV Control Network Plates at each Signage Display location.

Qty (2) "AVP5" AV Connector plates as shown on drawings.

Provide connection plates for digital media receivers at each signage display.

Network connections to the Video Signage Displays will be provided by the Section 271000 Voice/Data/IT Contractor.

5. Equipment Rack

The AV amplifiers, switchers and related head-end equipment for this area will be housed in a shared AV equipment rack located within Equipment Closet AV-117.
M. Event Room

Provide all cabling, plates and related AV system infrastructure as shown on drawings, as described throughout this section and as required to fulfill the design intent.

1. Infrastructure

Provide four AV floor box connection plates, cabling and related accessories as shown on drawings and as described throughout this section. Each floor box shall include the following:

- Hdmi/VGA input
- Six microphone inputs
- Two line level inputs
- One audio tie lines
- Two RJ45 tie lines
- Touch Panel/DM Output Connection Plate

Provide four AV wall box input connection plates, cabling and related accessories as shown on drawings and as described throughout this section. Each of these plates shall include the following:

- Hdmi/VGA input
- DM video output
- Six microphone inputs
- Two line level inputs
- Four audio tie lines
- Four RJ45 tie lines
- Four Dual Channel Intercom Connectors

Provide a custom fabricated audio tie line panel as shown on drawings and as described throughout this section. The audio tie line panel shall be located in AV Rack Room 117. The audio tie line panel shall provide patching capabilities allowing cross connection of audio tie line connections from any wall or floor plate connector in the event or pre-function area.

Provide a custom fabricated RJ45 (Shielded Twisted Pair) tie line panel as shown on drawings and as described throughout this section. The audio tie line panel shall be located in AV Rack Room 117. The RJ45 tie line panel shall provide patching capabilities allowing cross connection of RJ45 tie line connections from any wall or floor plate connector in the event or pre-function area.

2. Video Systems
Provide ceiling mounted, electrically operated projection screens as shown on drawings and as described throughout this section. Provide low voltage screen controllers for each screen. Low voltage controller shall include wall switch and control port for connecting to AV control system. Projection Screen Aspect ratios shall be 16:10.

Provide video projectors, ceiling mounts, digital media receivers with scaler and related devices as shown on drawings and as described throughout this section.

Provide a video matrix system as shown on drawings and as described throughout this section.

The video matrix shall provide full input/output matrix capabilities such that the following input sources can be readily assigned to any and all of the Event Center projection systems as well as video output connections at wall plates and the Pre-function Area display systems:

Video sources:

- Qty (4) Floor Box HDMI/VGA
- Qty (4) Screen Wall Input Plates HDMI/VGA
- Qty (4) Wall Input Plates HDMI/VGA
- Qty (2) Apple TV Appliance
- Qty (2) Cable TV Tuners
- Qty (2) Single Chip PTZ Cameras

Portable Video Equipment

- Qty (1) Blu Ray Player
- Qty (1) Document Camera

3. Audio Systems

Provide a complete audio system as shown on drawings and as described throughout this section. The audio system shall provide good quality sound reinforcement and music playback capabilities though a distributed ceiling speaker system.

Provide all digital signal processing and amplification equipment as shown on drawings and as described throughout this section.

Provide a complete audio matrix system as shown on drawings and as described throughout this section. The audio matrix shall provide full input/output matrix capabilities such that the following input sources can be readily assigned to any and all of the Event Center and Pre-Function Area speaker systems:
Audio sources:

- Qty (4) Floor Box Microphone Inputs (2 inputs per floor box)
- Qty (4) Floor Box Line Level Inputs (2 inputs per floor box)
- Qty (4) Floor Box computer audio inputs (1 1/8" Mini per floor box)
- Qty (4) Wall Input Plates (2 Mic Level Connectors each)
- Qty (4) Wall Input Plates (2 Line Level Connectors each)
- Qty (4) Wall computer audio inputs (1 1/8" Mini per plate)
- Qty (2) Wall Input Plates (2 Mic Level Connectors each)
- Qty (2) Wall Input Plates (2 Line Level Connectors each)
- Qty (2) Wall computer audio Inputs (1 1/8" Mini per plate)
- Qty (2) Apple TV Appliance
- Qty (2) Cable TV Tuners
- Qty (8) (4 stereo) Aux Audio Inputs at Rack
- Qty (4) Wireless Microphone Systems
- Qty (1) Background Music Source

Audio Recording Capabilities

Audio recording hardware to be determined during further review with the college.

Portable Audio Equipment

- Qty (2) 18" Lectern Gooseneck Microphones
- Qty (4) Condenser Handheld Microphones
- Qty (4) Dynamic Handheld Microphones
- Qty (8) Microphone Stands
- Qty (8) Telescoping Boo Arms
- Qty (24) 25 Foot Microphone Cables
- Qty (2) AV Direct Boxes
- Qty (2) Production Audio Direct Boxes
- Qty (1) 16 Channel Digital Mixer and case
- Qty (1) Assortment of audio breakout cables

4. Assisted Listening Systems

Provide a complete assisted listening system as shown on drawings and as described throughout this section. The assisted listening system shall be an RF transmitter/receiver system that includes the following capabilities and features:

- Qty (2) RF Transmitters
- Qty (32) Belt Pack Transmitters
- Qty (12) Neck Loops
- Qty (32) Headsets
- Qty (4) Assisted Listening Placard Signs
Qty (64) Batteries

6. Control Systems

Provide a complete AV control system as shown on drawings and as described throughout this section. The control system for the Event Room shall include the following user interface locations:

Qty (2) Lectern Touch Panels
Qty (2) Rear of Room (Entrance Wall) Touch Panels
Qty (1) AV Rack Room Touch Panel

All Event Room touch panels shall be 10”.

User interface and programming for the event room shall include the following:

Individual Room Operation

At a minimum, provide the following control features for each of the two event room spaces:

- System on/off
- Projection Screen 1/3 up/down
- Projection Screen 2/4 up/down
- Video Projector 1/3 on/off
- Video Projector 2/4 on/off
- Source Selection of all inputs relevant to the room
- Camera Assignment
- Camera Control (pan/tilt/zoom)
- Individual Microphone Volume Control
- Master Microphone Volume Control
- Individual Line Input Volume Control
- Background Music Volume Control
- Master Line Input Volume Control
- CATV Tuner Control
- Four Lighting System Presets
- Shade Control

Combined Room Operation

At a minimum, provide the following control features for the combined event room condition:

- System on/off
- Projection Screen 1 up/down
- Projection Screen 2 up/down
- Projection Screen 3 up/down
- Projection Screen 4 up/down
- Video Projector 1 on/off
Video Projector 2 on/off
Video Projector 3 on/off
Video Projector 4 on/off
Source Selection of all AV inputs.
Camera Assignments for both rooms
Camera Control (pan/tilt/zoom) for both rooms
Individual Microphone Volume Control for both rooms
Master Microphone Volume Control for both Rooms
Individual Line Input Volume Control for both rooms
Background Music Volume Control
Master Line Input Volume Control for both rooms
CATV Tuner Control
Eight Lighting Presets
Shade Control

Provide an initial touch panel page allowing the user to set up either combined or uncombined room use.

Touch Panel use will be password protected.

7. Production Intercom System

Provide a complete production intercom system including the following items:

Four Two Channel Beltpacks
Four Single Muff Intercom Headsets
Two Dual Muff Intercom Headsets

8. Equipment Racks

All head-end equipment serving the Event Center will be housed in shared equipment racks located in AV Equipment Room 117.

9. Scheduling Displays

Provide two wall mounted scheduling displays including factory service agreements as described herein, within Part 2 of this section and as shown on drawings.

N. AV Equipment Room 117

Provide a complete equipment rack assembly within AV Room 117 as shown on drawings and as described throughout this section. Equipment racks will house the following items:

Pre-Function Area Amplifiers
Pre-Function Area Signal Processors
Event Room Amplifiers
Event Room Signal Processors
Event Room/Pre-Function AV Matrix
Event and Pre-Function Area Touch Panel
AV Network Switch
Four Channel Production Intercom Master Station
Audio Monitor Panel for all Rooms Served From the Rack Room
Electrical Power Distribution for all AV devices with UPS as shown
Blank and Vent Panels as shown/required
Rack Shelves as shown on drawings or as described
Rear Rack Rails
Horizontal Cable Lacing Bars
Vertical Cable Lacing Bars

The AV Room 117 Racks shall also house Matrix Switching, Signal Processing and amplification for all rooms described above as being served by Rack Room 117.

Provide 24 Strand Fiber Optic AV Network Cable System as shown on Drawing AV-46.

Provide a rack mounted Audio Monitor panel providing audible and visual monitor capabilities for all amplifier inputs.

O. Student Organization Lounge 229

Provide one 65” Video Display as shown on drawings and as described throughout this section. This display will provide television viewing capability as well as digital signage capability.

P. Dean’s Suite Conference Room 201F

Provide a complete AV system as shown on drawings and as described throughout this section.

AV System features for this room shall include the following:

1. Infrastructure

Provide cables, plates, connectors and related infrastructure items as shown on drawings and as described throughout this section including:

Wall Connection Plate with:

  HDMI
  VGA
  1/8” Audio Digital Transmitter

   All cables run from the wall plate to the display.

Display Mount and Connection Plate with:
CATV Coax Connection to head end.

Wall Mount Controller

2. Video Systems

Video systems shall include the following:

Qty (1) Wall Mounted 65" Display

Video Sources shall include the following:

CATV Feed
HDMI from Wall Plate
VGA from Wall Plate
Apple TV Appliance (mounted behind display)

3. Audio Systems

Audio Playback for this space is limited to the speakers provided with the video display.

4. Control Systems

AV Control for this room is provided by a wall mounted button control panel. The controller provides the following:

Display On/Off
Source Selection
TV Channel Selection
Master Volume Control

5. Equipment Rack

This system is self-contained with no equipment rack required.

Q. VP of Student Affairs Conference Room 214E

Provide a complete AV system as shown on drawings and as described throughout this section. AV System features for this room shall include the following:

1. Infrastructure
Provide cables, plates, connectors and related infrastructure items as shown on drawings and as described throughout this section including:

Wall Connection Plate with:

- HDMI
- VGA
- 1/8” Audio Digital Transmitter

All cables run from the wall plate to the display.

Display Mount and Connection Plate with:

- CATV Coax Connection to head end.
- Wall Mount Controller

6. Video Systems

Video systems shall include the following:

- Qty (1) Wall Mounted 65” Display

Video Sources shall include the following:

- CATV Feed
- HDMI from Wall Plate
- VGA from Wall Plate
- Apple TV Appliance (mounted behind display)

7. Audio Systems

Audio Playback for this space is limited to the speakers provided with the video display.

8. Control Systems

AV Control for this room is provided by a wall mounted button control panel. The controller provides the following:

- Display On/Off
- Source Selection
- TV Channel Selection

9. Equipment Rack
This system is self-contained with no equipment rack required.

**R. Small Meeting Rooms 202 and 204**

Provide a complete AV system for Meeting Rooms 202 and 204 as shown on drawings and as described throughout this section. AV System features for this room shall include the following:

1. **Infrastructure (typical of both rooms)**

   Provide cables, plates, connectors and related infrastructure items as shown on drawings and as described throughout this section including:

   Wall Connection Plate with:

   - HDMI
   - VGA
   - 1/8" Audio Digital Transmitter

   All cables run from the wall plate to the display.

   Display Mount and Connection Plate with:

   - CATV Coax Connection to head end.

   Wall Mount Controller

2. **Video Systems (typical of both rooms)**

   Video systems shall include the following:

   Qty (1) Wall Mounted 65" Display

   Video Sources shall include the following:

   - CATV Feed
   - HDMI from Wall Plate
   - VGA from Wall Plate
   - Apple TV Appliance (mounted behind display)

   Provide two HDMI 1 x 2 Distribution Amplifiers as described herein, within Part 2 of this section and as shown on drawings.

3. **Audio Systems (typical of both rooms)**
Audio Playback for this space is limited to the speakers provided with the video display.

4. Control Systems (typical of both rooms)

AV Control for this room is provided by a wall mounted button control panel. The controller provides the following:

- Display On/Off
- Source Selection
- TV Channel Selection

5. Equipment Rack

This system is self-contained with no equipment rack required.

6. Scheduling Displays

Provide one wall mounted scheduling display for each meeting room as described herein, within Part 2 of this section and as shown on drawings.

S. Leadership Training Room 231

Provide a complete AV system for Leadership Training Room 231 as shown on drawings and as described throughout this section. AV System features for this room shall include the following:

All cabling, plates and related AV system infrastructure as shown on drawings, as described throughout this section and as required to fulfill the design intent including the following:

1. Video Systems

Provide a ceiling mounted, electrically operated projection screen with low voltage controller. Low voltage controller shall include wall switch and control port for connecting to AV control system.

Provide a 4500 Lumen video projector, ceiling mount, digital media receiver device as shown on drawings and as described throughout this section.

Provide an Apple TV appliance.

Video sources:

- Floor Box HDMI/VGA input.
- Wall Plate HDMI/VGA Input
- Apple TV Appliance
Cable TV

Provide one HDMI 2 x 1 Distribution Amplifier.

2. Audio Systems

Provide two wall mounted playback loudspeakers amplifier as shown on drawings and as described throughout this section.

3. Control Systems

Control of the Meeting Room Area AV systems will be provided by a wall 7” touch screen located adjacent to the room entrance.

User interface and programming for this area as required to provide the following features:

- Volume Control
- Projection Screen up/down
- Video Projector on/off
- Source Selection control of the AV matrix switcher.
- Channel Selection for TV tuner
- Playback audio volume control.
- System on/off

Touch Panel use will not be password protected.

4. Equipment Rack

Provide an equipment rack as shown on drawings and as described in Part of this Section including caster base, all required AV components, electrical distribution, lacing bars, cable management and related accessories as required to provide a complete, operable and professionally fabricated AV rack assembly.

Provide 24 Strand Fiber Optic AV Network Cable System as shown on Drawing AV-46.

5. Scheduling Display

Provide one wall mounted scheduling display including factory service agreements as described herein, within Part 2 of this section and as shown on drawings.

T. Large Meeting Rooms 203 and 205

Provide a complete AV system for Large Meeting Rooms 203 and 205 as shown on drawings and as described throughout this section. AV System features for this room shall include the following:
All cabling, plates and related AV system infrastructure as shown on drawings, as described throughout this section and as required to fulfill the design intent including the following:

1. **Video Systems (typical of both rooms)**

   Provide a ceiling mounted, electrically operated projection screen with low voltage controller. Low voltage controller shall include wall switch and control port for connecting to AV control system.

   Provide a 4500 Lumen video projector, ceiling mount, digital media receiver device as shown on drawings and as described throughout this section.

   Provide an Apple TV appliance.

   Video sources:
   - Floor Box HDMI/VGA input.
   - Wall Plate HDMI/VGA Input
   - Apple TV Appliance
   - Cable TV

2. **Audio Systems (typical of both rooms)**

   Provide ceiling mounted playback loudspeakers, amplifier and related accessories as shown on drawings and as described throughout this section.

   Provide Assisted Listening Systems as shown on drawings and as described throughout this section.

3. **Control Systems (typical of both rooms)**

   Control of the Meeting Room Area AV systems will be provided by a wall 7” touch screen located adjacent to the room entrance.

   User interface and programming for this area as required to provide the following features:
   - Volume Control
   - Projection Screen up/down
   - Video Projector on/off
   - Source Selection control of the AV matrix switcher.
   - Channel Selection for TV tuner
   - Playback audio volume control.
   - System on/off

   Touch Panel use will not be password protected.

---

Brower Student Center Addition and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931
4. Scheduling Displays

Provide two wall mounted scheduling displays including factory service agreements as described herein, within Part 2 of this section and as shown on drawings.

U. Multi-Purpose Room 213A and 213B

Provide a complete AV system for Large Meeting Rooms 203 and 205 as shown on drawings and as described throughout this section. AV System features for this room shall include the following:

All cabling, plates and related AV system infrastructure as shown on drawings, as described throughout this section and as required to fulfill the design intent including the following:

1. Infrastructure (Typical of both rooms)

Provide two AV floor box connection plates, cabling and related accessories as shown on drawings and as described throughout this section. Each floor box shall include the following:

- Hdmi/VGA input
- DM video output
- Two microphone inputs
- Two line level inputs
- Two audio tie lines
- Two RJ45 tie lines

Touch Panel Connection

Provide four AV wall box input connection plates, cabling and related accessories as shown on drawings and as described throughout this section. One wall plate shall be provided below each of the projection screens. Each of these plates shall include the following:

- Hdmi/VGA input
- DM video output
- Six microphone inputs,
- Two line level inputs
- Two audio tie lines
- Two RJ45 tie lines

Touch Panel Connection

Provide a custom fabricated audio tie line panel as shown on drawings and as described throughout this section. The audio tie line panel shall be located in AV Rack Room 117. The audio tie line panel shall provide patching capabilities allowing cross connection of audio tie line connections from any wall or floor plate connector in the event or pre-function area.

2. Video Systems (typical of both rooms)
Provide ceiling mounted, electrically operated projection screens as shown on drawings and as described throughout this section. Provide low voltage screen controllers for each projection screen. Low voltage controller shall include wall switch and control port for connecting to AV control system. Projection Screen Aspect ratios shall be 16:10.

Provide video projectors, ceiling mounts, digital media receivers with scaler and related devices as shown on drawings and as described throughout this section.

Provide a video matrix system as shown on drawings and as described throughout this section. The video matrix shall provide full input/output matrix capabilities such that the following input sources can be readily assigned to any and all of the Event Center projection systems as well as video output connections at wall plates and the Pre-function Area display systems:

Video sources:

- Qty (2) Floor Box HDMI/VGA
- Qty (4) Screen Wall Input Plates HDMI/VGA
- Qty (2) Apple TV Appliance
- Qty (2) Cable TV Tuners
- Qty (4) Aux Video (HDMI) Inputs at Rack

3. Audio Systems (typical of both rooms)

Provide a complete audio system as shown on drawings and as described throughout this section. The audio system shall provide good quality sound reinforcement and music playback capabilities though a distributed ceiling speaker system. Provide all digital signal processing and amplification equipment as shown on drawings and as described throughout this section.

Provide a complete audio matrix system as shown on drawings and as described throughout this section. The audio matrix shall provide full input/output matrix capabilities such that the following input sources can be readily assigned to any and all of the Event Center and Pre-Function Area speaker systems:

Audio sources:

- Qty (3) Floor Box Microphone Inputs (2 inputs per floor box)
- Qty (3) Floor Box Line Level Inputs (2 inputs per floor box)
- Qty (3) Floor Box computer audio inputs (1 1/8" Mini per floor box)
- Qty (4) Screen Wall Input Plates (2 Mic Level Connectors each)
- Qty (4) Screen Wall Input Plates (2 Line Level Connectors each)
- Qty (4) Screen Wall computer audio inputs (1 1/8" Mini per plate)
Audio Recording Capabilities

Portable Audio Equipment

- Qty (2) 18" Lectern Gooseneck Microphones
- Qty (4) Condenser Handheld Microphones
- Qty (4) Dynamic Handheld Microphones
- Qty (8) Microphone Stands
- Qty (8) Telescoping Boo Arms
- Qty (24) 25 Foot Microphone Cables
- Qty (2) AV Direct Boxes
- Qty (2) Production Audio Direct Boxes

4. Assisted Listening Systems

Provide a complete assisted listening system as shown on drawings and as described throughout this section. The assisted listening system shall be an RF transmitter/receiver system that includes the following capabilities and features:

- Qty (2) RF Transmitters
- Qty (32) Belt Pack Transmitters
- Qty (12) Neck Loops
- Qty (32) Headsets
- Qty (4) Assisted Listening Placard Signs
- Qty (64) Batteries

5. Control Systems

Provide a complete AV control system as shown on drawings and as described throughout this section. The control system for the Event Room shall include the following user interface locations:

- Qty (2) Lectern Touch Panels
- Qty (2) Rear of Room (Entrance Wall) Touch Panels
- Qty (1) AV Rack Room Touch Panel

All touch panels shall be 7".

User interface and programming for the event room shall include the following:
Individual Room Operation

At a minimum, provide the following control features for each of the two event room spaces:

- System on/off
- Projection Screen 1 up/down
- Projection Screen 2 up/down
- Video Projector 1 on/off
- Video Projector 2 on/off
- Source Selection of all inputs relevant to the room
- Individual Microphone Volume Control
- Master Microphone Volume Control
- Individual Line Input Volume Control
- Background Music Volume Control
- Master Line Input Volume Control
- CATV Tuner Control
- Four Lighting System Presets

Combined Room Operation

At a minimum, provide the following control features for the combined event room condition:

- System on/off
- Projection Screen 1 up/down
- Projection Screen 2 up/down
- Video Projector 1 on/off
- Video Projector 2 on/off
- Source Selection of all AV inputs.
- Individual Microphone Volume Control for both rooms
- Master Microphone Volume Control for both rooms
- Individual Line Input Volume Control for both rooms
- Background Music Volume Control
- Master Line Input Volume Control for both rooms
- CATV Tuner Control
- Eight Lighting Presets

Provide an initial touch panel page allowing the user to set up either combined or uncombined room use.

Touch Panel use will be password protected.

6. Scheduling Displays

Provide one wall mounted scheduling display at the entrance to each room as described herein, within Part 2 of this section and as shown on drawings.
V. AV Equipment Room 213C

Provide all amplifiers, signal processors, matrix switching and rack mounted related hardware items associated with the Multi-Purpose Room subsystem within equipment racks located in AV Rack Room 213C.

Provide all rack mount hardware, power outlets, blank panels, vent panels, lacing bars and related accessories as either shown on drawings, described throughout this section or as required to provide a complete and professional installation of the rack mounted equipment items required for this subsystem.

Provide a complete equipment rack assembly within AV Room 213C as shown on drawings and as described throughout this section. Equipment racks will house the following items:

- Multi-Purpose Room Amplifiers
- Multi-Purpose Room Signal Processors
- Multi-Purpose Room AV Matrix
- Multi-Purpose Room Touch Panel
- Owner Furnished Network Switch
- Audio Monitor Panel for all Rooms Served From the Rack Room
- Electrical Power Distribution for all AV devices
- Blank and Vent Panels as shown/required
- Rack Shelves as shown on drawings or as described
- Rear Rack Rails
- Horizontal Cable Lacing Bars
- Vertical Cable Lacing Bars

The AV Room 213C Racks shall also house Matrix Switching, Signal Processing and amplification for all rooms described above as being served by Rack Room 213C.

Provide 24 Strand Fiber Optic AV Network Cable System as shown on Drawing AV-46.

Provide a rack mounted Audio Monitor panel providing audible and visual monitor capabilities for all amplifier inputs.

W. Media Corner

Provide four complete video display systems as described herein, within Part 2 of this section and as shown on drawings.

Provide four 32” displays, mounts, cables and related accessories as described herein, within Part 2 of this section and as shown on drawings. Displays shall be installed by the AV contractor onto furniture systems that will be furnished and installed by others.
The AV contractor shall provide four cable cubby devices (one for each display) as described herein, within Part 2 of this section and as shown on drawings.

Provide one Digital signage player including factory service agreements as described herein, within Part 2 of this section and as shown on drawings.

Provide one 1 x 4 DVI Video distribution amplifier and cabling as described herein, within Part 2 of this section, as shown on drawings and as required to connect the outputs of the above described video distribution amplifier to each of the four Media Corner displays.

Provide surface mount raceway if required to conceal video cabling that runs between the Media Corner furniture.

Provide four complete headphone amplification/distribution systems as described herein, within Part 2 of this section and as shown on drawings. Headphone distribution equipment shall be mounted under the table surface of each media corner furniture station.

Provide four media controllers as shown in Part 2 of this section and as shown on drawings.

The AV contractor shall carefully coordinate the AV equipment requirements and installation with the college’s furniture vendor and other trades.

1.4 substitutions / or equal

It is intended that the Contractor will provide materials and labor as necessary for the completion of the Audio Video Systems project and said contractor shall furnish all materials and labor in compliance with this specification.

It shall be understood and agreed by the contractor that the systems herein described, shall be complete in every detail necessary to supply complete, working systems implemented in a professional, workmanlike manner commensurate with professional broadcast quality.

The specification text as well as any drawings provided with the bidding documents are detailed only to the extent necessary to define the design intent and anticipated performance requirements.

Equipment not mentioned herein nor shown on drawings, but necessary to meet the defined performance requirements shall be provided without claim for additional payment.

Drawings pertaining to this specification shall be considered part of this specification and shall be part of the contract documents. The Contractor will provide complete and operable systems including all labor and materials required for all assemblies and sub-assemblies either specified or implied within this document.

A. All functions and features specified herein are to be provided by the contractor.

Where specific manufacturer's names and model numbers are specified, such
identification is to identify the expected performance parameters and to functionally define the specific product requirement.

The contractor may submit alternative “Equivalent” products for approval but they must meet the requirements of this specification and Division1, Section 01300 – Submittals and Substitutions. Where a contractor intends to provide “Equivalent” goods other than those specifically identified, such "equivalent" items must be clearly identified in the Post Award Initial Submittal. “Equivalent” items included in the Post Award Initial Submittal must include written certification from the manufacturer of the “equivalent” item stating the equivalency of each and every substituted item relative to the specified items in regard to features, function, performance and future expansion capability.

Contractors wishing to provide "equivalent" products for specified devices may be required to demonstrate the equivalency of the proposed substitute items to the owner at the contractor’s expense. Such proof of equivalency, in addition to the manufacturer's letter as noted above, may include the following:

1. An on-site, side-by-side demonstration of both the specified and proposed substitute items.

2. A formal bipartisan, laboratory test report comparing the technical performance of each and every proposed substitute, versus specified item.

Such test reports for Audio Video System components, will include a spreadsheet comparison of all critical distortion, power, frequency response, noise and dynamic range measurements.

All comparison tests for Audio Video System components will be performed following the established AES and/or ICIA defined, testing procedures.

The responsibility of proving the equivalency of substitute products with respect to the specified products shall lie solely with the contractor.

All costs associated with providing information or performing the above outlined tests and comparisons required to confirm the equivalency of substitute products will be at the sole expense of the contractor. Such costs may include but are not limited to:

* Independent laboratory tests

* Cost of equipment items for demonstration of specified and proposed substitute items

* Contractor incurred travel costs and miscellaneous expenses

* Professional Services Fees (architects, engineers and consultants) charged to the owner as a result of time charged to participating in the review of proposed substitute items.

1.5 REFERENCES
All work included in this specification is to be performed within the guidelines of the following standards:

A. NEC (National Electric Code).
B. ASTM (American Society of Tests and Measurements).
C. IEEE (Institute of Electrical and Electronic Engineers).
D. AES (Audio Engineering Society).
E. NAB (National Association of Broadcasters)
F. InfoComm (International Communications Industry Association)
G. ADA (Americans with Disabilities Act)
H. ANSI (American National Standards Institute)

1.6 DEFINITION OF TERMS

A. The term "Contractor" or "Audio Video Systems Contractor", refers to the Audio Video System contractor who has been awarded the contract for providing the goods and services specified and defined within this specification section.

B. The term "or equal" when mentioned after a specified product or device will mean that the contractor may provide a functional and technical equivalent product in place of the specified item or device. Determination of equivalent models or products will be at discretion of the owner following the guidelines defined in paragraph 1.4 above.

C. The term "Work By Others" shall mean: Any work required by the project but not required of the contractor or subcontractor responsible for this section. Assignment of and Execution of, "Work by Others" as defined within this section shall be the responsibility of the owner, the owner’s general contractor or the project electrical contractor.

D. The term "Furnish" shall mean: Supply the referenced device, item or system including all applicable warranties to the owner.

E. The term “Install” shall mean: Deliver the referenced item to the project, physically install the item including all terminations, mounting or other labor necessary to successfully integrate the referenced device, item or system into the project including all applicable warranties.

F. The term “Provide” shall mean: Furnish and Install the referenced device, item or system.

G. The term AV System, Audio Video System or Audio and Video Systems shall mean the complete low voltage systems as defined within this section including audio equipment, video equipment, control system equipment, digital conversion equipment and related items that are described herein, mentioned herein, shown on the referenced AV drawing set or as necessary to fulfill the design intent.

H. The term ETCP shall mean Entertainment Technician Certified Program. ETCP is an independent certification program provided to the theatrical industry as described at [www.etcp.plasa.org](http://www.etcp.plasa.org).
I. The term CTS shall mean Certified Technology Specialist. The CTS certification program is ANSI certified, industry recognized certification program developed and administered by InfoComm International that confirms an individual’s general knowledge of AV products, systems and generally accepted practices of the AV industry.

J. The term CTS-I shall mean Certified Technology Specialist with Installation Specialty. The CTS-I certification program is ANSI certified, industry recognized certification program developed and administered by InfoComm International that confirms an individual’s specific knowledge and experience with respect to the installation and implementation processes, technical requirements and best practices associated with the installation and implementation of AV systems typical of those described within this section.

K. The term CTS-D shall mean Certified Technology Specialist with Design Specialty. The CTS-D certification program is ANSI certified, industry recognized certification program developed and administered by InfoComm International an individual’s specific knowledge and experience with respect to the engineering, design, installation and implementation processes, technical requirements and best practices associated with the implementation of AV systems typical of those described within this section including the professional services and related integrities required to assure that a system of the type defined within this section is properly coordinated with all members of the project team and respective trade groups serving the project.

1.7 SUBMITTALS

A. Post Award

1. Unit Price and Sound System Cost Information

The contractor’s initial submittal shall include a complete Unit Price schedule identifying all system components, labor, miscellaneous materials, project management services, engineering services, programming services, warranty, field labor, in-house labor including unit price and extended price for each, a subtotal of equipment and material costs, a subtotal for all labor and services as well as a lump sum price for the overall scope of work for the covered AV systems.

Acceptable format for this submission is provided at the kick-off meeting.

2. Bill of Material and Product Data Sheets

Complete bill of material including all material, component devices and equipment required for complete and operable systems. The bill of material will contain the following information for each item listed:

a. Quantity
b. Description
c. Manufacturer's name and model number
The material list shall include all material, component devices and equipment required for complete and operable systems and services to be provided by the AV contractor.

Product Data Sheets

Provide a complete set of product data sheets for all equipment, devices, hardware and related items that will be provided. The Data Sheets shall be presented in electronic .pdf file format referenced to the above noted Bill of Material Sheet.

3. Shop Drawings

a. Engineering documentation identifying any and all proposed variances from the specified system layout.

b. AV Plan Drawings, Device, Cable and Related Legends

Provide Device legend information for all field installed AV equipment items. Device Legend information shall include the following:

- Device ID
- Device Name
- Device Description
- Manufacturer Name
- Manufacturer Model Number
- Back Box Description
- Back Box Dimension
- Back Box Height
- Device Weight
- Device Location
- Heat Load Information
- Electrical Load Information
- Clear Definition of Work Required By Others
- Conduit and Related Rough-in Requirements
- Cable Pull Information
- Device Color Information
- Applicable Notes

Provide scaled device location drawings showing all wall and floor mounted AV system devices located in floor plan.

Provide scaled device location drawings showing all ceiling mounted AV system devices within a properly coordinated ceiling plan.

c. Section and Elevation Details
Provide scaled and properly dimensioned section and elevation details showing all video displays, projection screens, projector lifts, wall mounted speakers systems, suspended speaker systems, video cameras, microphones, control equipment/user interfaces and related AV system devices.

Projection system details shall include projection light paths coordinated with lighting devices, ceiling soffits and related information as necessary to properly coordinate the projection systems with mechanical devices, electrical devices as well as the planned construction finishes.

d. AV Plate and Panel Drawings

Provide scaled drawings identifying all AV connection plates, panels and related devices. Plate and Panel drawings shall include:

- Plate Dimension
- Detailed view of each required connector
- Lettering Requirements
- Plate/Panel Material and Finish
- Plate Color
- Lettering Color
- Connector Colors

Any other information required for successful manufacture/fabrication of the plate and panel devices for the project.

e. Single Line Diagrams

Provide single line drawings for each of the following disciplines:

- Audio
- Video
- AV Control, Network and Data Connections
- Electrical

Single line diagrams shall indicate each and every AV equipment item, signal flow, input connection information, output connection information, bus connection information, port information, audio impedance/level information, signal type, cable numbering and related circuit information for all AV equipment devices as well as the following information:

- Location reference for each device shown in single line.

- Cable system details including all input plates, panels and connectors.
Indicate device, panel and plate locations coordinated with the riser and block diagrams.

Organized cable numbering system for all system cables. Include cable schedules following the cable designations indicated on the schematic and functional diagrams. Cable schedules will be provided for field wiring, inner-rack and inter-rack terminals.

AV Control and Network diagrams shall indicate all interconnections between the AV system, building network devices, telephone equipment devices and any other connections associated with equipment being provided by others.

f. Equipment Rack Details

Provide properly scaled front and rear rack elevation details for all equipment rack assemblies. Equipment rack layouts shall include all front and rear mounted devices, including device name and number coordinated with the single line diagrams. Show all blank, vent, tie line and custom fabricated panels.

Show overall dimensions of each rack assembly including height, depth, width and weight.

Show scaled labeling details for each rack mounted equipment item.

Identify each equipment rack by make and model.

Provide EIA rack spacing reference adjacent to all rack elevation details such that rack locations and heights for all rack mounted devices can be easily identified by way of their vertical position in the rack.

Provide scaled, properly dimensioned details relevant to cable entry, ladder trays, cable management, back-boxes and appurtenances associated with the physical installation of each AV equipment rack.

Provide electrical connection information.

Show all vertically mounted electrical distribution devices within each rack assembly.

g. Suspended Device Drawings

Provide mechanical drawings depicting weights, scaled dimensions and related information required for fabrication, assembly and installation for all products covered by this section that will be fabricated, assembled and/or installed on the premises.
suspended from walls, ceilings or other overhead installation conditions.

Suspended device drawings must be prepared, signed and sealed by a properly qualified engineering professional with demonstrable experience on projects of similar type and scope, or prepared, signed and sealed by an ETCP certified Theatrical Rigging Contractor.

h. AV Network Device Ledger

Provide a well-organized ledger sheet presented in 8.5” x 11” format that clearly describes all AV devices requiring connection to any network, network switch, LAN, WAN or Wireless network connection.

At a minimum, the AV Network Ledger Sheet shall include the following information for each and every network connected device:

1. Device Name and ID #
2. Manufacturer Name
3. Model
4. MAC Address (if not available, leave space blank)
5. IP Address (if not available, leave space blank)
6. Switch ID
7. Port ID
8. Device Location

10. Name and contact information of the CTS-D and CTS-I certified staff members who will be assigned to this project.

11. Submit completed project experience for the individual who will be responsible for preparing the DSP system program. DSP programmer for this project must be capable of demonstrating the successful completion of a minimum of three DSP system designs. Provide project names, locations and contact information for three recent DSP projects.

12. Submit completed project experience for the individual who will be responsible for preparing the AV control system programming. AV Control System programmer for this project must be capable of demonstrating the successful completion of a minimum of three AV Control System programs of similar size and scope to this project. Provide project names, locations and contact information for three recent AV Control System projects.

13. Name, contact information and project resume, of the staff member or members who will be responsible for final set-up and testing of the specified Audio Video Systems (see paragraph 1.6.E below).

The contractor will be authorized to use the specification “AV” drawing files for the purpose of preparing the required submittal and as-built documentation.
These drawing files and related title blocks may be modified by the contractor in their preparation of shop drawings, to reflect the as-built conditions and to identify the contractor as a participant and responsible installing contractor for the project. No other use or re-use of the specification drawings in whole or part, will be allowed without the expressed written consent of the drawing author.

Unless specifically agreed to in writing by the owner and the drawing author, the contents of the AV drawing files shall not be re-used, copied or otherwise implemented by the contractor, its employees or subcontractors for any other project, proposal, report, article or other form of publication.

If the contractor chooses to use the specification AV drawing files, the contractor shall clearly identify any changes, modifications or adjustments made to the drawings. The contractor shall clearly identify the original author of each drawing with notations of revisions including the name of the person making the revision, date of revisions and purpose of each revision.

D. Control System Submission, Presentation and Coordination

Within 120 Days of contract award or no less than 120 days prior to the scheduled completion of the project, the AV contractor shall fulfill the following presentation and coordination requirements relative to the AV Control System programming:

1. Graphical User Interface Design

   Provide graphical representation of all user interface screens, button panels, touch screens to be provided to the system users and technical operators.

   These layouts shall be provided in .pdf file format.

   Screen layouts shall be presented in 1” = 1” scale.

   All layouts shall be presented in color.

   Touch screens that include hard button controls adjacent to the touch screen device, shall be presented with an accurate screen shot of the touch screen surface with hard button devices shown to the proper scale and placement.

   User interfaces consisting of only hard button controls shall be presented in 1” = 1” scale.

2. AV Control System Presentation

   The AV contractor and its approved AV Control System Programmer will be required to provide a formal presentation of the user interface presentation described in paragraph 1.7.D.1 above. The AV Control System presentation will occur in the presence of the owner, the architect and the AV consultant.
During the presentation, the AV contractor shall take detailed notes relating to comments, questions and requested changes made by the owner, the architect and AV consultant.

Following the Presentation Meeting, the AV contractor shall revise the hard copy control system presentation as discussed and agreed during the presentation meeting and re-submit the updated presentation in a timely manner.

3. AV Control System Demonstration and Final Adjustments

Once the AV system has reached substantial completion and the AV system is in a functional operating condition, the AV contractor shall be required to provide a formal demonstration of the AV control system to the owner, architect and AV consultant.

During the demonstration, the AV contractor shall take detailed notes relating to comments, questions and requested changes/adjustments to the layouts, logic and related operations of the control system made by the owner, the architect and AV consultant.

Following the Control System Demonstration, the AV contractor shall revise the control system programming as discussed and agreed during the demonstration and revise the programming in a timely manner and as required to maintain the project completion schedule.

E. As-Built Documentation

Upon completion of the systems installation and prior to formal acceptance of the Audio Video Systems by the Owner, the Contractor will submit "As-Built" versions of the shop drawing set as well as other documentation covered within this section. Refer to Division 1 Section 01340 project Record Documents.

F. Contract Close-out

At the time of formal acceptance of the systems by the Audio Video System Consultant and the owner, the contractor will provide three copies of the following:

1. A minimum 2 page, 8.5” x 11” Simplified Audio Video System Instruction Manual for each subsystem. This document shall be prepared specifically for this project and shall provide the non-technical user with a step-by-step set of instructions defining all steps necessary to activate, connect and otherwise operate the specified Audio Video System. These instructions shall at a minimum, cover the following topics:

   a. System Turn On
   b. Display System Use
   c. Audio System Use
2. Owner/operator manuals for each Audio Video Systems component as supplied by the component manufacturers. Said manuals shall be provided, three hole punched and mounted in a three ring binder. The contents shall be organized with an alphabetized cover sheet and alphabetized tabs for each of the equipment items. The binder shall be turned over to a representative of the owner upon completion and acceptance of the systems installation.

Binder shall be provided with clear identification of its purpose and content.

3. One set of system functional diagrams shall be provided for each system, laminated and mounted adjacent to each equipment rack assembly. These laminated drawings shall be either xerographic or plotted original drawings. Diazo, blue-line or black-line copies will not be acceptable for these specific documents.

4. As-Built Drawings printed to the project sheet size.

5. As-Built drawings printed 18” x 24” Sheets.

6. USB Thumb Drives with the following files provided in an organized file folder format:

   Shop Drawings in dwg. format
   Shop Drawings in pdf format
   Un-Compiled Control System Programming
   All software files provided by the equipment manufacturers
   Equipment Owner/User/Maintenance Manuals in pdf format

1.8 QUALITY ASSURANCE

A. All qualification requirements of this paragraph must be met by the bidding contractor. If the bidding contractor will require the services of a qualified subcontractor in order to fulfill the specified qualification requirements, the qualified sub-contractor must be clearly identified in the bid response (refer to the Bid proposal Forms). All submittal requirements must be provided on the qualified vendor/subcontractor’s letterhead.

B. All subcontractors to be used by the contractor shall be identified within the bid proposal form.

C. The contractor shall provide qualified, industry certified staff members for all technical work associated with the work of this section.

At least one InfoComm International/ANSI Certified Technical Specialist with Design Specialty (CTS-D), certified staff member must be provided by the contractor. The certified (CTS-D) staff member must be engaged in the project throughout all phases of design, integration and testing. The designated CTS-D staff member shall be responsible for the following:
1. Review and approval including signature of all shop drawings, submittals and documentation prepared by the contractor.

2. Review and approval of any scope of work associated with any change order, work modification or field work order. All change orders must be reviewed and approved by the project CTS-D prior to final submission of such change orders to the owner, general contractor or architect.

3. Review, approve and/or preparation of all Request For Information or similar documents submitted by the contractor.

4. Resolution of any technical, trade, scope of work or similar disputes that may arise throughout the course of the project.

5. Attendance at meetings with the owner, architect, general contractor or electrical contractor.

6. Site inspection and approval of all work including shop fabricated items, field installed devices and the overall system installation prior to demonstration to the owner.

7. All demonstration to, and training of, the owner.

8. Review and approval of all as-built submissions including owner manuals.

The following items may be performed by either a CTS-D or CTS-I InfoComm/ANSI Certified or equivalently qualified staff member:

9. Field verification of all work by others including but not limited to:
   a. System Grounding
   b. Electrical Systems
   c. Rigging
   d. Millwork
   e. Mechanical Systems
   f. Cabling Systems

10. Supervision of Field Terminations

11. Fabrication, terminations and preliminary testing of pre-fabricated equipment rack assemblies.

All other contractor staff members performing technician level work specified within this section but not identified in items 1 through 11 above, must be minimally certified as an InfoComm/ANSI Certified Technical Specialist (CTS).

Qualified contractors who do not participate in InfoComm/ANSI Certification and training, yet otherwise maintain personnel qualified to fulfill the intent of these specifications must provide the following information for review and approval by the project architect:

Brower Student Center Addition and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931
Personal resume of, including project references for six projects of similar size and scope and itemized list of technical capabilities of the staff member who will be responsible for the successful integration of the specified systems and all items defined above under items 1 through 8.

Said individual must maintain a minimum of five-years, experience in audio video systems integration, a bachelor's degree in electrical engineering from a fully accredited college or university and must be prepared to readily demonstrate capabilities equivalent to those of an InfoComm International CTS-D certified individual.

Personal resume of, including project references for six projects of similar size and scope and itemized list of technical capabilities of the staff member who will be responsible for the successful integration of the specified systems and all items defined above under items 9 through 11. Said individual must maintain a minimum of four years of experience in sound, video and television systems integration, an Associate’s Degree in electrical-electronic engineering technology from a fully accredited college or university and must be prepared to readily demonstrate capabilities equivalent to those of an InfoComm/ANSI certified CTS-I individual.

C. The contractor will be required to attend a minimum of two pre-installation conferences with the owner's representative. The intent of these conferences will be to review the contractor's submittals and to review the proposed methods of implementation and to coordinate the Audio and Video System installation with the work of other trades.

The contractor shall be responsible for providing coordination documentation that will insure that the owner's staff or designated contractors can properly provide electrical power to the Audio Equipment Rack as well as sufficient physical space for the Audio Equipment Rack.

The Audio and Video System contractor shall be responsible for reviewing all Audio and Video System work that will be provided by others. The review of work by others must be provided in a timely and well-coordinated manner. Any discrepancies found by the Audio and Video System contractor must be clearly and concisely identified in writing and provided to the owner within five days of the date of review.

D. The Audio Video System contractor shall inspect and verify all work performed by the project electrical contractor as necessary to insure that all work including, device installation, power receptacles, cable pulls, etc, are performed in compliance with these specifications.

E. Audio and Video System final set-up shall be accomplished by a qualified Audio Video System technician or engineer who has been trained in the procedures and methods necessary for successful Audio Video System installation. The contractor must provide a qualified Audio Video System technician during the test and adjustment phase of the project.

F. All materials shall be new and shall conform to applicable provisions of Underwriters Laboratories and the American Standards Association.

Brower Student Center Addition and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931
G. Safety Certifications as required to meet local code and as required for obtaining the owner’s Certificate of Occupancy, are the responsibility of the contractor.

H. Prior to the owner and/or the owners consultant review of the installed AV systems, the AV contractor’s CTS-D certified staff member shall perform an initial review of the system’s completeness and readiness for demonstration to the owner and/or the owners AV System consultant.

The AV Contractor’s review shall be performed using the “Standard Guide for Audiovisual Systems Performance Verification Checklist” as published by InfoComm International. All relevant elements of that checklist shall be verified, noted and submitted by the AV contractor for the owner’s review, prior to demonstration of the system condition or training of owner personnel.

I. The AV Contractor shall not be authorized to proceed with placing equipment orders prior to processing/approval of AV contractor shop drawings and related submittals and/or receipt of approval to proceed with such orders by the project architect. No AV equipment items shall be ordered sooner than 6 months prior to the date that such equipment is required for installation.

1.9 DELIVERY, HANDLING AND STORAGE

A. Packing and Shipping

1. All items delivered to the job-site shall be properly packaged and sealed.

2. All items shall be delivered to the job-site via contractor vehicles. All shipments shall be properly and adequately protected. Equipment racks are not to be delivered to the job-site, unprotected and unpacked. No Audio Video equipment shall be delivered to the project site by way of common carrier, postal delivery, UPS, FED Ex or similar delivery services.

B. Acceptance at Job-Site

1. All deliveries of specified components are to be received on the job site by the contractor.

C. Storage and Protection

1. The contractor will be required to maintain adequate fire and theft protection for all specified items of equipment through the duration of the project.

Upon written notice by the contractor to the owner, the owner may provide a secured area for equipment storage for a limited period of time during the installation.

The schedule of time where such secured areas will be required, must be identified by the contractor and submitted to the owner at least three weeks prior to the required delivery of equipment.
Although the owner may provide the aforementioned secured areas, responsibility of equipment protection and liability for fire and theft damage shall remain with the contractor.

1.10 SCOPE OF WORK

All labor, equipment, apparatus, and wiring devices, as required to provide the systems with broadcast quality in excellent working order, as specified herein, and as specified by relevant drawings, including:

A. Submission of drawings for approval by the owner's representative prior to fabrication and installation.

B. Furnish and Install all AV System related cabling.

4. Prefabrication of the specified equipment rack assemblies prior to delivery and installation of the rack assembly on-site.

D. Provide, mount and terminate all AV devices defined within this section.

E. Verification of dimensions and conditions at the job site.

F. Coordination of electrical and physical requirements.

G. Installation of all specified materials in accordance with these specifications, manufacturer's recommendations and all applicable code requirements.

H. Initial tests and adjustments of the systems as well as final equalization and alignment of the systems.

i. Training as defined in part 3 of this section.

J. Maintenance services and warranty repair service for one year following acceptance of the systems.

K. Provision of As-Built and Contract Closeout Documentation.

L. Provide all labor on-site as required to install the specified components and systems. On-site labor shall be performed in harmony with all other trades and trade jurisdictions working on the project site.

M. Provide all technical support and programming as necessary to insure that the specified Digital Signal Processing System has been properly programmed to provide the features and functions as specified herein. The DSP programming must be provided by a qualified individual with significant and demonstrable experience with the specified or equivalent, DSP system.

N. Provide all programming, development, software and design work as required to provide a complete and fully functional control system and user control interface as described throughout this section and shown on drawings. Control system interface
design and implementation shall be coordinated with the owner, the project architect and AV consultant as described throughout this section.

O. Provide all technical support and programming services as required to provide a complete touch screen, remote control system as shown on the project drawings and as described throughout this section.

P. Deliver all portable items of equipment that are subject to a “furnish” only condition to the project site. Hand over such items to the owner’s representative with complete, proof of delivery documentation, warranty information and related ownership documentation.

P. The owner will pay for all necessary permits and inspections. The contractor must observe any requirements stipulated therein. See Division 0 General Conditions for further information regarding permits.

Q. Conform in all applicable local regulations and codes.

R. Comply with federal, state and local labor regulations and applicable union regulations.

S. Provide all labor in harmony with other trades and in compliance with any local trade agreements that may be applicable to the project.

T. Provide all Video Projector devices as specified within this section.

U. Provide miscellaneous AV cable assemblies as necessary to connect the specified devices to plates, panels and related devices.

V. Proof of Performance Demonstration

Following substantial completion of the AV system installation and following the contractor’s effort to confirm that all systems have been installed and tested for compliance with the specified requirements, the AV contractor shall provide a complete system demonstration where all features, functions and system capabilities are demonstrated to the owner, the construction manager and their AV consultant.

The AV contractor’s proof of performance demonstration shall be presented by the staff member who fulfills the requirements defined in paragraph 1.8.B.1 through 1.8.B.8 above. See also paragraph 1.8.H above.

X. Furnish and Install all AV System Plates, Panels and Connectors including AV connector plates for Floor Boxes.

Y. Furnish and Install all “J” Hooks and related cable mounting accessories as required for successful installation of the AV cabling in compliance with the installation standards defined within this section and as described within Section 27 10 00.

Z. Furnish and Install the Fiber Optic cabling, supports and related infrastructure for the AV network as shown on the AV drawings.
AA. Provide technical support services as required to successfully prepare, install and activate the AV network devices shown on the AV drawing set and as described in this section. This requirement shall include factory support and certification as necessary to insure proper operation of the AV network.

BB. Provide coordination with TCNJ Network Staff with regard to interfacing the AV network with the building/campus network including IP addresses, router profiles, access policies, passwords and related matters.

Also see the device legends shown throughout the AV drawing set for further reference in regard to the scope of work associated with each AV device.

1.11 RELATED WORK

The following items of work will be provided by either the project general contractor, the project electrical contractor or the owner:

A. Electrical receptacles, breakers, panels, disconnects and related accessories as shown on the AV and Electrical drawings.

B. Conduit, Back boxes and Junction boxes as required for the AV Systems.

C. Data Network Infrastructure

D. CATV Cabling.


Also refer to the AV drawing set legends and scope related notes.

1.12 PERFORMANCE REQUIREMENTS

Prior to formal acceptance by the owner, the specified systems will be tested in accordance with the procedures and requirements as outlined in section 3 of this document. The results of all systems tests and measurements shall be documented by the Audio Video Systems Contractor as specified and defined in Part 3 of this Section.

End of Part 1
PART TWO - PRODUCT SPECIFICATIONS

2.1 GENERAL

A. Manufactured Products

1. All equipment provided by contractor shall be "brand new".
2. Demonstration models or previously used equipment will not be acceptable.
3. Equipment that was specified as current but rendered obsolete by a manufacturer shall be identified by contractor in contractor's bid response.
4. Owner reserves the right to accept a substitute item as the closest replacement item at the expense of the contractor if not notified in advance of the obsolescence of the specified item.
5. Technical specifications for each item may or may not be identified within this document. Contractor shall be advised that in lieu of exact technical or functional specifications provided for each item, the technical and functional specifications of each item shall be implied by the specific make and model number identified herein.
6. The products listed within this section including manufacturer names and model numbers provide a definition of features, capabilities and quality required for each specified item. The contractor may submit alternative, equivalent product models for approval as defined in paragraph 1.4 of this section and Division 1, Section 01300 – Submittals and Substitutions.

B. Custom Fabricated Items

All custom fabricated items are subject to the owner and engineer's approval of the contractor's shop drawings, samples or prototype submissions for the custom fabricated items. Custom fabricated items are to provide a professionally fabricated, "made to order" appearance.

2.2 MATERIALS

The material requirements for the Audio Video System are defined by the following material list and the project drawings. Quantities shown within the specification text are provided as a convenience to the bidding contractors. Contractor shall be responsible for providing all materials in the quantities required to fulfill the intent of the specified system, as defined within this document and as shown on the system design drawings. If a discrepancy exists between the drawings and text specification, the contractor shall provide the greater quantity, as example:

If the drawings show 4 speaker assemblies and the specification text defines a quantity of 3 of the same speakers, the contractor shall provide 4 speaker assemblies.

or

If the drawings show 3 speaker assemblies and the specification text defines a quantity of 4 of the same speakers, the contractor shall provide 4 speaker assemblies.

The contractor is responsible for providing all equipment and devices shown on the drawings regardless of whether such devices are identified within the specification text. Refer also to

Brower Student Center Addition and Renovation
Audio Video Systems Installation Project
The College of New Jersey
KSS Project #21931
paragraph 1.02 of this specification for further detail of the functional requirements of the specified system. Materials defined within paragraph 1.02 are required regardless of identification within this paragraph or shown on drawings.

### Lobby 101A

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEC</td>
<td>1</td>
<td>V652-AVT</td>
<td>65&quot; LED 1080p Display</td>
</tr>
<tr>
<td>Chief</td>
<td>1</td>
<td>LTMU</td>
<td>Universal Flat Panel Tilting Wall Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>1</td>
<td>FCA102</td>
<td>FUSION Secure CPU/Media Player Adapter</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>AXIS-TV-CPA</td>
<td>Digital Signage Player</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>AXIS-TV-IMW</td>
<td>Implementation Support</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>AXIS TV-SMX</td>
<td>Software Maintenance</td>
</tr>
<tr>
<td>Extron</td>
<td>1</td>
<td>26-662-06</td>
<td>6' DVI to DVI Cable/6' DVID SL Ultra Cable</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>TSW-750</td>
<td>7&quot; Touch Panel</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-37-i</td>
<td>PMP, Mic Paging Plate</td>
</tr>
<tr>
<td>Shure</td>
<td>1</td>
<td>MX418D/C</td>
<td>Paging Mic</td>
</tr>
<tr>
<td>JBL</td>
<td>1</td>
<td>Control 45 C/T</td>
<td>Type S2, Ceiling Speaker, White</td>
</tr>
<tr>
<td>AV Contractor</td>
<td>1</td>
<td>Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
</tr>
</tbody>
</table>

### Box Office 104

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEC</td>
<td>1</td>
<td>V551-AVT</td>
<td>55&quot; LED 1080p Display</td>
</tr>
<tr>
<td>Chief</td>
<td>1</td>
<td>LTMU</td>
<td>Universal Flat Panel Tilting Portrait Wall Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>1</td>
<td>FCA102</td>
<td>FUSION Secure CPU/Media Player Adapter</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>Axis-TV-CPA</td>
<td>Digital Signage Player</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>AXIS-TV-IMW</td>
<td>Implementation Support</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>AXIS TV-SMX</td>
<td>Software Maintenance</td>
</tr>
<tr>
<td>Extron</td>
<td>1</td>
<td>26-662-06</td>
<td>6' DVI to DVI Cable/6' DVID SL Ultra Cable</td>
</tr>
<tr>
<td>AV Contractor</td>
<td>1</td>
<td>Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
</tr>
</tbody>
</table>

### Restaurant 129

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEC</td>
<td>3</td>
<td>V652-AVT</td>
<td>65&quot; LED 1080p Display</td>
</tr>
<tr>
<td>Chief</td>
<td>3</td>
<td>LCM1U</td>
<td>Universal Flat Panel Tilting Ceiling Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>3</td>
<td>CMA110</td>
<td>Pipe Flange</td>
</tr>
<tr>
<td>Chief</td>
<td>3</td>
<td>CMS-xxxx</td>
<td>Fixed Pipe, verify length needed in field</td>
</tr>
<tr>
<td>Tannoy</td>
<td>8</td>
<td>DI8 DCT</td>
<td>Type-3, 2 Way Wall Mount Speaker, Black</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>TSW-750</td>
<td>7&quot; Touch Panel</td>
</tr>
<tr>
<td>RDL</td>
<td>1</td>
<td>TX-J2</td>
<td>Stereo Unbal to Mono Balanced Trnsfrmr</td>
</tr>
<tr>
<td>AV Contractor</td>
<td>1</td>
<td>Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
</tr>
</tbody>
</table>
# Stage AV System

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCF</td>
<td>2</td>
<td>13000240</td>
<td>TTL11-A-B Powered Column Speaker</td>
</tr>
<tr>
<td>RCF</td>
<td>2</td>
<td>13000272</td>
<td>TTS 36-A Powered Subwoofer</td>
</tr>
<tr>
<td>dB Technologies</td>
<td>4</td>
<td>FLEXSYS F10</td>
<td>Active Speaker 10&quot; / 1&quot; 400 Watt, Stage Monitor</td>
</tr>
<tr>
<td>dB Technologies</td>
<td>4</td>
<td>TC-F10</td>
<td>Tour Cover</td>
</tr>
<tr>
<td>ProCo</td>
<td>4</td>
<td>EC10-10</td>
<td>XLR Female-XLR Male/IEC Powercon Combo 10'</td>
</tr>
<tr>
<td>ProCo</td>
<td>4</td>
<td>EC9-25</td>
<td>XLR Female-XLR Male/IEC Powercon Combo 25'</td>
</tr>
<tr>
<td>ProCo</td>
<td>2</td>
<td>EC9-50</td>
<td>XLR Female-XLR Male/IEC Powercon Combo 50'</td>
</tr>
<tr>
<td>Allen &amp; Heath</td>
<td>1</td>
<td>QU-32</td>
<td>30 In / 24 Out Digital Mixer</td>
</tr>
<tr>
<td>Shure</td>
<td>2</td>
<td>UR4D+</td>
<td>Dual Channel Diversity Receiver</td>
</tr>
<tr>
<td>Shure</td>
<td>4</td>
<td>UR2/SM58</td>
<td>Wireless Handheld Mic Transmitter</td>
</tr>
<tr>
<td>Shure</td>
<td>1</td>
<td>UA844SWB</td>
<td>Antenna Distribution System</td>
</tr>
<tr>
<td>Shure</td>
<td>4</td>
<td>SM58</td>
<td>Dynamic Handheld Microphone</td>
</tr>
<tr>
<td>Shure</td>
<td>8</td>
<td>SM57</td>
<td>Instrument Microphone</td>
</tr>
<tr>
<td>Shure</td>
<td>6</td>
<td>SM86</td>
<td>Condenser Handheld Microphone</td>
</tr>
<tr>
<td>Atlas Sound</td>
<td>16</td>
<td>MS20E</td>
<td>Large Base/Standard Post Mic Stands (Black)</td>
</tr>
<tr>
<td>Atlas Sound</td>
<td>16</td>
<td>PB15EB</td>
<td>Telescoping Boom Arms</td>
</tr>
<tr>
<td>Atlas Sound</td>
<td>6</td>
<td>DSSE</td>
<td>Large Base/Short Post Mic Stands (Black)</td>
</tr>
<tr>
<td>HDX</td>
<td>1</td>
<td>207585</td>
<td>Cable Storage Bin</td>
</tr>
<tr>
<td>BTX</td>
<td>2</td>
<td>YA-J9512</td>
<td>Stereo 3.5mm Plug to (2) RCA Plugs, 12'</td>
</tr>
<tr>
<td>BTX</td>
<td>4</td>
<td>CA-9072</td>
<td>RCA Female to 1/4&quot; Mono Male Adapter</td>
</tr>
<tr>
<td>BTX</td>
<td>4</td>
<td>YA-XLRPSTRS10</td>
<td>XLR (m)- 1/4&quot; Stereo (m) Assy, 10'</td>
</tr>
<tr>
<td>Furman</td>
<td>1</td>
<td>PM Pro Plus Series 2</td>
<td>Eight Outlet Power Strip</td>
</tr>
<tr>
<td>MAP</td>
<td>1</td>
<td>UD4</td>
<td>4RU Drawer</td>
</tr>
<tr>
<td>SKB</td>
<td>1</td>
<td>1SKB-R8W</td>
<td>8U Roto Rolling Rack, Wireless Mic Case</td>
</tr>
<tr>
<td>SKB</td>
<td>1</td>
<td>3i-2015-MC24</td>
<td>24 Mic Waterproof Case</td>
</tr>
<tr>
<td>Harbor Freight</td>
<td>7</td>
<td>41446</td>
<td>25 ft. x 14 Gauge Outdoor Extension Cord</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>6</td>
<td>PL1-420-WH</td>
<td>(2) Hubbell® 5352 20A duplex receptacles</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>6</td>
<td>NAC3-515P-25</td>
<td>IEC to Powercon Cable, 25'</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>4</td>
<td>DIR</td>
<td>Direct Box</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>MT4FM25SS</td>
<td>4 Channel Audio Snake, 25'</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>2</td>
<td>ME80NR30</td>
<td>8 Channel Audio Stagebox Snake, 30'</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>2</td>
<td>MT16MF20SS</td>
<td>16 Channel Audio Fanout Snake, 20'</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>32</td>
<td>MIC25</td>
<td>Professional Mic Cable, 25'</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-37-J</td>
<td>TFP-1, Active Speaker Plate</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-37-K</td>
<td>TFP-2, Active Speaker Plate</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-37-L</td>
<td>TFP-3, Active Woofer Plate</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-37-M</td>
<td>TFP-4, Active Woofer Plate</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-37-A</td>
<td>TFP-5, Front of House I/O Plate</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-37-B</td>
<td>TFP-6, Stage Mic/Line Plate</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-39-A</td>
<td>TFP-7, Stage Mic/Line Plate</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-xx-x</td>
<td>Portable Mic Rack Audio Disconnect Panel</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-xx-x</td>
<td>Portable Mic Rack AC Power Disconnect Panel</td>
</tr>
<tr>
<td>Custom</td>
<td>1</td>
<td>&quot;SLP&quot; Lighting Pipe</td>
<td>Schedule 40 Painted Black 1.5&quot; Dia 14' long</td>
</tr>
<tr>
<td>Elation</td>
<td>8</td>
<td>OPT776</td>
<td>OPTI QA PAR Programmable LED Fixture</td>
</tr>
<tr>
<td>Elation</td>
<td>4</td>
<td>RAY047</td>
<td>Rayzor Q7 Small format moving head light</td>
</tr>
</tbody>
</table>
### Elation

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elation</td>
<td>4</td>
<td>RAY047-GFH</td>
<td>Diffusion Holder for Rayzor Q7</td>
</tr>
<tr>
<td>Elation</td>
<td>4</td>
<td>RAY047-SNOOT</td>
<td>Soot for Rayzor Q7</td>
</tr>
<tr>
<td>Elation</td>
<td>2</td>
<td>OPTO BRANCH 4</td>
<td>4 Way DMX Distributor</td>
</tr>
<tr>
<td>Elation</td>
<td>1</td>
<td>Show Designer-1</td>
<td>Intelligent Lighting Controller</td>
</tr>
<tr>
<td>Elation</td>
<td>12</td>
<td>Dual Head Pro Clamp</td>
<td>Swivel Clamp Assembly</td>
</tr>
<tr>
<td>Elation</td>
<td>12</td>
<td>Safety Cable</td>
<td>Aircraft grade safety cable for LED Fixture</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>12</td>
<td>DMX Cable 6ft</td>
<td>6ft DMX cable</td>
</tr>
<tr>
<td>AV Contractor</td>
<td>1</td>
<td>Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
</tr>
</tbody>
</table>

### E. Lobby Lnge130

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEC</td>
<td>4</td>
<td>V652-AVT</td>
<td>65&quot; LED 1080p Display</td>
</tr>
<tr>
<td>NEC</td>
<td>1</td>
<td>V551-AVT</td>
<td>55&quot; LED 1080p Display</td>
</tr>
<tr>
<td>Chief</td>
<td>4</td>
<td>LTMU</td>
<td>Universal Flat Panel Tilting Wall Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>2</td>
<td>LTAPU</td>
<td>Universal Flat Panel Tilting Portrait Wall Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>2</td>
<td>FCA102</td>
<td>FUSION Secure CPU/Media Player Adapter</td>
</tr>
<tr>
<td>Visix</td>
<td>2</td>
<td>Axis-TV-CPA</td>
<td>Digital Signage Player</td>
</tr>
<tr>
<td>Visix</td>
<td>2</td>
<td>AXIS-TV-IMW</td>
<td>Implementation Support</td>
</tr>
<tr>
<td>Visix</td>
<td>2</td>
<td>AXIS-TV-SMX</td>
<td>Software Maintenance</td>
</tr>
<tr>
<td>Extron</td>
<td>2</td>
<td>26-662-06</td>
<td>6' DVI to DVI Cable/6' DVID SL Ultra Cable</td>
</tr>
<tr>
<td>JBL</td>
<td>16</td>
<td>Control 65 P/T</td>
<td>Type S1, Pendant Speaker, Black</td>
</tr>
<tr>
<td>Tannoy</td>
<td>1</td>
<td>VLS15</td>
<td>Type SC6, Passive Column Array Speaker</td>
</tr>
<tr>
<td>C2G</td>
<td>6</td>
<td>04018</td>
<td>6' Orange UTP Patch Cable</td>
</tr>
<tr>
<td>AV Contractor</td>
<td>1</td>
<td>Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
</tr>
</tbody>
</table>

### F. Lounge 102

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEC</td>
<td>1</td>
<td>X554UN-TMX4P</td>
<td>55&quot; Ultra-Narrow Bezel TileMatrix Video Wall</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>DM-TX-200-C-2G</td>
<td>DM Wall Transmitter</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>DM-RMC-4K-100-C</td>
<td>DM 4K Reciever</td>
</tr>
<tr>
<td>Extron</td>
<td>1</td>
<td>26-663-06</td>
<td>6' HDMI Cable</td>
</tr>
<tr>
<td>Extron</td>
<td>1</td>
<td>26-566-02</td>
<td>6' VGA w/ Audio Cable</td>
</tr>
<tr>
<td>StarTech</td>
<td>1</td>
<td>HDMI2DP</td>
<td>HDMI to DisplayPort Adapter</td>
</tr>
<tr>
<td>Tannoy</td>
<td>2</td>
<td>VLS15</td>
<td>Type SC6, Passive Column Array Speaker</td>
</tr>
<tr>
<td>C2G</td>
<td>1</td>
<td>04018</td>
<td>6' Orange UTP Patch Cable</td>
</tr>
<tr>
<td>AV Contractor</td>
<td>1</td>
<td>Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
</tr>
</tbody>
</table>

### G. Dining/Servery & Dining 120

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEC</td>
<td>10</td>
<td>V652-AVT</td>
<td>65&quot; LED 1080p Display</td>
</tr>
<tr>
<td>Chief</td>
<td>7</td>
<td>FCA102</td>
<td>FUSION Secure CPU/Media Player Adapter</td>
</tr>
<tr>
<td>Chief</td>
<td>7</td>
<td>LCM1U</td>
<td>Universal Flat Panel Tilting Ceiling Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>7</td>
<td>CMA110</td>
<td>Pipe Flange</td>
</tr>
</tbody>
</table>
Chief                  7  CMS-xxxx     Fixed Pipe, verify length needed in field
Chief                  3  LTMU        Universal Flat Panel Tilting Wall Mount
Visix                  7  Axis-TV-CPA   Digital Signage Player
Visix                  7  AXIS-TV-IMW  Implementation Support
Visix                  7  AXIS TV-SMX  Software Maintenance
Extron                 7  26-662-06  6’ DVI to DVI Cable, 6’ DVID SL Ultra Cable
Tannoy                 5  VLS15       Type SC6, Passive Column Array Speaker
JBL                    21 Control 65 P/T Type S1, Pendant Speaker, Black
JBL                    16 Control 45 C/T Type S2, Ceiling Speaker, White
C2G                    15 04018      6’ Orange UTP Patch Cable
AV Contractor          14 Miscellaneous Cable, Connectors and Hardware

H. AV Closet 130C

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSS</td>
<td>1</td>
<td>BLU-806</td>
<td>Signal Processor with BLU link and Dante™</td>
</tr>
<tr>
<td>BSS</td>
<td>3</td>
<td>BLU-CARD-IN</td>
<td>Analog Audio Input Card</td>
</tr>
<tr>
<td>BSS</td>
<td>1</td>
<td>BLU-CARD-OUT</td>
<td>Analog Audio Output Card</td>
</tr>
<tr>
<td>RDL</td>
<td>3</td>
<td>TX-J2</td>
<td>Stereo Unbal to Mono Balanced Tmsfrmr</td>
</tr>
<tr>
<td>Crown</td>
<td>1</td>
<td>DC2:300N</td>
<td>DriveCore Networked Power Amplifier</td>
</tr>
<tr>
<td>Crown</td>
<td>1</td>
<td>DC4:600N</td>
<td>DriveCore Networked Power Amplifier</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>CP3</td>
<td>3-Series Control System®</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>TSW-750</td>
<td>7” Touch Panel</td>
</tr>
<tr>
<td>Furman</td>
<td>2</td>
<td>PM Pro Plus Series 2</td>
<td>Eight Outlet Power Strip</td>
</tr>
<tr>
<td>TOA</td>
<td>1</td>
<td>MP1216</td>
<td>Audio Monitor Panel</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>WRK-44SA-27</td>
<td>44RU Stand Alone Rack Enclosure</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>CBS-WRK-27</td>
<td>Inner Castor Base</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>MW-10FT-FC</td>
<td>Fan Top w/ Controller, 550 CFM</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>MPR-8A</td>
<td>72” MPR Raceway</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>4</td>
<td>M-20A</td>
<td>20A Duplex MPR Module</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>T-80X6</td>
<td>80” Tails, Connector On One End</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>J-12X6</td>
<td>12” Jumper, Pre-Terminated</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>UPS-2200R-8</td>
<td>UPS</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>2</td>
<td>U-1</td>
<td>One Space Rack Shelf</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>20</td>
<td>HBL-1</td>
<td>One Space Blank Panel</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>AFACE4</td>
<td>Custom Rack Mount for Crestron TSW-1050</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-39-B</td>
<td>Audio Tie Line Panel</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>1</td>
<td>Summit X460-G2-24i-GE4</td>
<td>24 port GB non PoE Switch (Audio)</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>1</td>
<td>Summit X460-G2-24p-GE4</td>
<td>24 port GB PoE Switch (Control)</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>2</td>
<td>10051H</td>
<td>1000BASE-SX SFP Uplink Module</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5R1UM-F03</td>
<td>OPT-X Rack-Mnt 1RU accepts 3 adapter plates</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5F100-2QL</td>
<td>LC Adapter Plate (for MM)</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5F100-2LC</td>
<td>SC Adapter Plate (for SM)</td>
</tr>
<tr>
<td>C2G</td>
<td>8</td>
<td>04018</td>
<td>6’ Orange UTP Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>2</td>
<td>00998</td>
<td>2m MM Fiber LC-LC Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>2</td>
<td>34914</td>
<td>2m SM Fiber SC-LC Patch Cable</td>
</tr>
</tbody>
</table>
**Game Rm 106**

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEC</td>
<td>2</td>
<td>V652-AVT</td>
<td>65&quot; LED 1080p Display</td>
</tr>
<tr>
<td>Chief</td>
<td>2</td>
<td>LTMU</td>
<td>Universal Flat Panel Tilting Wall Mount</td>
</tr>
<tr>
<td>Extron</td>
<td>8</td>
<td>26-663-06</td>
<td>6' HDMI Cable</td>
</tr>
<tr>
<td>FSR</td>
<td>2</td>
<td>DP-PCB-H15M</td>
<td>50’ Plenum Digital Ribbon HDMI Cable</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>HD-MD4X1-4K-E</td>
<td>4x1 4K HDMI® Switcher</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>RMC-3</td>
<td>3-Series® Room Media Controller</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>TSW-750</td>
<td>7&quot; Touch Panel</td>
</tr>
<tr>
<td>Crown</td>
<td>1</td>
<td>DC2-600N</td>
<td>DriveCore Networked Power Amplifier</td>
</tr>
<tr>
<td>JBL</td>
<td>9</td>
<td>Control 65 P/T</td>
<td>Type S1, Pendant Speaker, Black</td>
</tr>
<tr>
<td>JBL</td>
<td>4</td>
<td>Control 60 PS/T</td>
<td>Type SW1, Pendant Subwoofer, Black</td>
</tr>
<tr>
<td>BSS</td>
<td>1</td>
<td>BLU-806</td>
<td>Signal Processor with BLU link and Dante™</td>
</tr>
<tr>
<td>BSS</td>
<td>1</td>
<td>BLU-CARD-IN</td>
<td>Analog Audio Input Card</td>
</tr>
<tr>
<td>BSS</td>
<td>1</td>
<td>BLU-CARD-OUT</td>
<td>Analog Audio Output Card</td>
</tr>
<tr>
<td>Furman</td>
<td>2</td>
<td>PM Pro Plus Series 2</td>
<td>Eight Outlet Power Strip</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>2</td>
<td>SRSR-4-14</td>
<td>14 Space Credenza Rack</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>2</td>
<td>BR-1</td>
<td>One Space Grommeted Panel</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>8</td>
<td>U-1</td>
<td>One Space Rack Shelf</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>8</td>
<td>HBL-1</td>
<td>One Space Blank Panel</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-39-D</td>
<td>Audio Tie Line Panel</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>1</td>
<td>Summit X460-G2-24p-GE4</td>
<td>24 port GB PoE Switch (Control)</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>1</td>
<td>Summit X460-G2-24i10GE4</td>
<td>24 port GB Switch (Audio)</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>2</td>
<td>10051H</td>
<td>1000BASE-SX SFP Uplink Module</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5R1UM-F03</td>
<td>OPT-X Rack-Mnt 1RU accepts 3 adapter plates</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5F100-2QL</td>
<td>LC Adapter Plate (for MM)</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5F100-2LC</td>
<td>SC Adapter Plate (for SM)</td>
</tr>
<tr>
<td>C2G</td>
<td>5</td>
<td>04018</td>
<td>6’ Orange UTP Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>1</td>
<td>00998</td>
<td>2m MM Fiber LC-LC Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>1</td>
<td>34914</td>
<td>2m SM Fiber SC-LC Patch Cable</td>
</tr>
<tr>
<td>AV Contractor</td>
<td>1</td>
<td>Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
</tr>
</tbody>
</table>

**Meeting Room 103**

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epson</td>
<td>1</td>
<td>G6450WUNL</td>
<td>PowerLite Pro WUXGA 3LCD Projector</td>
</tr>
<tr>
<td>Epson</td>
<td>1</td>
<td>ELPLS06</td>
<td>1.26-2.30 Standard Throw Lens</td>
</tr>
<tr>
<td>Chief</td>
<td>1</td>
<td>RPMA298</td>
<td>RPA Elite Custom Ceiling Projector Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>1</td>
<td>CMS06009W</td>
<td>6-9&quot; Adjustable Extension Column, White</td>
</tr>
<tr>
<td>FSR</td>
<td>1</td>
<td>CB22P</td>
<td>2' by 2' Ceiling Box w/ Pole Adapter</td>
</tr>
<tr>
<td>Draper</td>
<td>1</td>
<td>See Quote # 486363</td>
<td>ACCESS V TECVISION 113&quot;Diag16:10Screen</td>
</tr>
<tr>
<td>VENDOR</td>
<td>QTY</td>
<td>MODEL</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>----------</td>
<td>-----</td>
<td>-----------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Epson</td>
<td>1</td>
<td>G6450WUNL</td>
<td>PowerLite Pro WUXGA 3LCD Projector</td>
</tr>
<tr>
<td>Epson</td>
<td>1</td>
<td>ELPLS06</td>
<td>1.26-2.30 Standard Throw Lens</td>
</tr>
<tr>
<td>Chief</td>
<td>1</td>
<td>RPMA298</td>
<td>RPA Elite Custom Ceiling Projector Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>1</td>
<td>CMS006009W</td>
<td>6-9” Adjustable Extension Column, White</td>
</tr>
<tr>
<td>FSR</td>
<td>1</td>
<td>CB22P</td>
<td>2’ by 2’ Ceiling Box w/ Pole Adapter</td>
</tr>
<tr>
<td>Draper</td>
<td>1</td>
<td>See Quote # 486363</td>
<td>ACCESS V TECVISION113”Diag16:10Screen</td>
</tr>
<tr>
<td>Extron</td>
<td>6</td>
<td>26-663-06</td>
<td>6’ HDMI Cable</td>
</tr>
<tr>
<td>Extron</td>
<td>2</td>
<td>26-566-02</td>
<td>6’ VGA w/ Audio Cable</td>
</tr>
<tr>
<td>Gyration</td>
<td>1</td>
<td>GYM5600LKNA</td>
<td>Wireless Mouse/Keyboard</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>HD-DA2-4K-E</td>
<td>1x2 4K HDMI DA</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>DM-TX-200-C-2G</td>
<td>DM Wall Transmitter</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>DM-RMC-4K-100-C</td>
<td>DM 4K Receiver</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>DMPS3-4K-150-C</td>
<td>3-Series® 4K DM™ Presentation System 150</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>DMPS3-200-C</td>
<td>3-Series® DM™ Presentation System 200</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>TSW-750</td>
<td>7” Touch Panel</td>
</tr>
<tr>
<td>Tannoy</td>
<td>2</td>
<td>VLS15</td>
<td>Type SC6, Passive Column Array Speaker</td>
</tr>
<tr>
<td>Crown</td>
<td>2</td>
<td>DC 2:300</td>
<td>DriveCore Power Amplifier</td>
</tr>
<tr>
<td>Apple</td>
<td>1</td>
<td>MD199LL/A</td>
<td>3rd Generation AppleTV</td>
</tr>
<tr>
<td>Aurora</td>
<td>5</td>
<td>V-Tune Pro HD 4K</td>
<td>HDTV Tuner Box</td>
</tr>
<tr>
<td>Furman</td>
<td>2</td>
<td>PM Pro Plus Series 2</td>
<td>Eight Outlet Power Strip</td>
</tr>
<tr>
<td>Toner</td>
<td>1</td>
<td>DSU-8</td>
<td>8-Way Splitter</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>WRK-44SA-27</td>
<td>44RU Stand Alone Rack Enclosure</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>CBS-WRK-27</td>
<td>Inner Castor Base</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>MW-10FT-FC</td>
<td>Fan Top w/ Controller, 550 CFM</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>U-1</td>
<td>One Space Rack Shelf</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>10</td>
<td>HBL-1</td>
<td>One Space Blank Panel</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-39-C</td>
<td>Audio Tie Line Panel</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>Connect Room</td>
<td>Meeting Room Scheduling Digital Sign</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>AXIS-TV-IMW</td>
<td>Implementation Support</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>AXIS-TV-SMM</td>
<td>Software Maintenance</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>1</td>
<td>Summit X460-G2-24p-GE4</td>
<td>24 port GB PoE Switch (Control)</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>1</td>
<td>10051H</td>
<td>1000BASE-SX SFP Uplink Module</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5R1UM-F03</td>
<td>OPT-X Rack-Mnt 1RU accepts 3 adapter plates</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5F100-2QL</td>
<td>LC Adapter Plate (for MM)</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5F100-2LC</td>
<td>SC Adapter Plate (for SM)</td>
</tr>
<tr>
<td>C2G</td>
<td>2</td>
<td>04018</td>
<td>6’ Orange UTP Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>2</td>
<td>04022</td>
<td>15’ Orange UTP Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>1</td>
<td>00998</td>
<td>2m MM Fiber LC-LC Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>1</td>
<td>34914</td>
<td>2m SM Fiber SC-LC Patch Cable</td>
</tr>
<tr>
<td>AV Contractor</td>
<td>1</td>
<td>Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
</tr>
</tbody>
</table>

K. Meeting Room 121

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epson</td>
<td>1</td>
<td>G6450WUNL</td>
<td>PowerLite Pro WUXGA 3LCD Projector</td>
</tr>
<tr>
<td>Epson</td>
<td>1</td>
<td>ELPLS06</td>
<td>1.26-2.30 Standard Throw Lens</td>
</tr>
<tr>
<td>Chief</td>
<td>1</td>
<td>RPMA298</td>
<td>RPA Elite Custom Ceiling Projector Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>1</td>
<td>CMS006009W</td>
<td>6-9” Adjustable Extension Column, White</td>
</tr>
<tr>
<td>FSR</td>
<td>1</td>
<td>CB22P</td>
<td>2’ by 2’ Ceiling Box w/ Pole Adapter</td>
</tr>
<tr>
<td>Draper</td>
<td>1</td>
<td>See Quote # 486363</td>
<td>ACCESS V TECVISION113”Diag16:10Screen</td>
</tr>
<tr>
<td>Extron</td>
<td>6</td>
<td>26-663-06</td>
<td>6’ HDMI Cable</td>
</tr>
<tr>
<td>Extron</td>
<td>2</td>
<td>26-566-02</td>
<td>6’ VGA w/ Audio Cable</td>
</tr>
<tr>
<td>Gyration</td>
<td>1</td>
<td>GYM5600LKNA</td>
<td>Wireless Mouse/Keyboard</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>HD-DA2-4K-E</td>
<td>1x2 4K HDMI DA</td>
</tr>
<tr>
<td>VENDOR</td>
<td>QTY</td>
<td>MODEL</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>----------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>NEC</td>
<td>3</td>
<td>V652-AVT</td>
<td>65&quot; LED 1080p Display</td>
</tr>
<tr>
<td>Chief</td>
<td>3</td>
<td>LTMU</td>
<td>Universal Flat Panel Tilting Wall Mount</td>
</tr>
<tr>
<td>Visix</td>
<td>3</td>
<td>Axis-TV-CPA</td>
<td>Digital Signage Player</td>
</tr>
<tr>
<td>Visix</td>
<td>3</td>
<td>AXIS-TV-IMW</td>
<td>Implementation Support</td>
</tr>
<tr>
<td>Extron</td>
<td>3</td>
<td>26-662-06</td>
<td>6’ DVI to DVI Cable/6’ DVID SL Ultra Cable</td>
</tr>
<tr>
<td>Extron</td>
<td>6</td>
<td>26-663-06</td>
<td>6’ HDMI Cable</td>
</tr>
<tr>
<td>Extron</td>
<td>2</td>
<td>26-566-02</td>
<td>6’ VGA w/ Audio Cable</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>HD-RX3-C-B</td>
<td>4K HDMI® over HDBaseT® Receiver, Black</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>DM-TX-200-C-2G</td>
<td>DM Wall Transmitter</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>DM-RMC-4K-100-C</td>
<td>DM 4K Reciever</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>TSW-750</td>
<td>7” Touch Panel</td>
</tr>
<tr>
<td>Tannoy</td>
<td>2</td>
<td>VLS15</td>
<td>Type SC6, Passive Column Array Speaker</td>
</tr>
<tr>
<td>Crown</td>
<td>1</td>
<td>DC 2:300</td>
<td>DriveCore Power Amplifier</td>
</tr>
<tr>
<td>Apple</td>
<td>1</td>
<td>MD199LL/A</td>
<td>3rd Generation AppleTV</td>
</tr>
<tr>
<td>Aurora</td>
<td>1</td>
<td>V-Tune Pro HD 4K</td>
<td>HDTV Tuner Box</td>
</tr>
<tr>
<td>Furman</td>
<td>1</td>
<td>PM Pro Plus Series 2</td>
<td>Eight Outlet Power Strip</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>WRK-24SA-27</td>
<td>24RU Stand Alone Rack Enclosure</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>CBS-WRK-27</td>
<td>Inner Castor Base</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>MW-10FT-FC</td>
<td>Fan Top w/ Controller, 550 CFM</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>U-1</td>
<td>One Space Rack Shelf</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>10</td>
<td>HBL-1</td>
<td>One Space Blank Panel</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-39-C</td>
<td>Audio Tie Line Panel</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>Connect Room</td>
<td>Meeting Room Scheduling Digital Sign</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>AXIS-TV-IMW</td>
<td>Implementation Support</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>AXIS-TV-SMM</td>
<td>Software Maintenance</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>1</td>
<td>Sumitx460-G2-24p-GE4</td>
<td>24 port GB PoE Switch (Control)</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5R1UM-F03</td>
<td>OPT-X Rack-Mnt 1RU accepts 3 adapter plates</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5F100-2QL</td>
<td>LC Adapter Plate (for MM)</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5F100-2LC</td>
<td>SC Adapter Plate (for SM)</td>
</tr>
<tr>
<td>C2G</td>
<td>2</td>
<td>04018</td>
<td>6’ Orange UTP Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>2</td>
<td>04022</td>
<td>15’ Orange UTP Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>1</td>
<td>00998</td>
<td>2m MM Fiber LC-LC Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>1</td>
<td>34914</td>
<td>2m SM Fiber SC-LC Patch Cable</td>
</tr>
<tr>
<td>AV Contractor</td>
<td>1</td>
<td>Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
</tr>
</tbody>
</table>

L. Pre-Function Area
### Event Room

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epson</td>
<td>4</td>
<td>G6450WUNL</td>
<td>PowerLite Pro WUXGA 3LCD Projector</td>
</tr>
<tr>
<td>Epson</td>
<td>4</td>
<td>ELPLS06</td>
<td>1.26-2.30 Standard Throw Lens</td>
</tr>
<tr>
<td>Chief</td>
<td>4</td>
<td>RPMA298</td>
<td>RPA Elite Custom Ceiling Projector Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>4</td>
<td>CMS06009W</td>
<td>6-9” Adjustable Extension Column, White</td>
</tr>
<tr>
<td>FSR</td>
<td>2</td>
<td>CB22P</td>
<td>2’ by 2’ Ceiling Box w/ Pole Adapter</td>
</tr>
<tr>
<td>Draper</td>
<td>2</td>
<td>See Quote # 486363</td>
<td>ACCESS XL VTECVISION 226”Diag16:10 Scrn</td>
</tr>
<tr>
<td>Draper</td>
<td>2</td>
<td>See Quote # 486363</td>
<td>ACCESS XL VTECVISION 226”Diag16:10 Scrn</td>
</tr>
<tr>
<td>Extron</td>
<td>14</td>
<td>26-663-06</td>
<td>6’ HDMI Cable</td>
</tr>
<tr>
<td>Extron</td>
<td>8</td>
<td>26-566-02</td>
<td>6’ VGA w/ Audio Cable</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>HD-TX3-C-B</td>
<td>4K HDMI® over HDBaseT® Transmitter, Black</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>DM-TX-200-C-2G</td>
<td>DM Wall Transmitter</td>
</tr>
<tr>
<td>Crestron</td>
<td>4</td>
<td>DM-RMC-4K-SCALER-C</td>
<td>4K Digital Video DM Scaler Receiver</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>TSW-1050</td>
<td>10” Touch Panel</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>TSW-750</td>
<td>7” Touch Panel (Lectern)</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>TSW-750-TTK-B-S</td>
<td>Tabletop Kit for TSW-750</td>
</tr>
<tr>
<td>JBL</td>
<td>17</td>
<td>Control 322 C/T</td>
<td>Type S7, Ceiling Speaker</td>
</tr>
<tr>
<td>JBL</td>
<td>17</td>
<td>MTC-300BB12</td>
<td>Type S7, Backcan</td>
</tr>
<tr>
<td>JBL</td>
<td>17</td>
<td>MTC-300SG12</td>
<td>Type S7, Grill Assembly</td>
</tr>
<tr>
<td>JBL</td>
<td>10</td>
<td>Control 312C/S</td>
<td>Type CW2, Ceiling Subwoofer</td>
</tr>
<tr>
<td>JBL</td>
<td>10</td>
<td>MTC-300BB12</td>
<td>Type CW2, Backcan</td>
</tr>
<tr>
<td>JBL</td>
<td>10</td>
<td>MTC-300SG12</td>
<td>Type CW2, Grill Assembly</td>
</tr>
<tr>
<td>JBL</td>
<td>2</td>
<td>CBT 70J</td>
<td>Type SC3, Passive Column Speaker</td>
</tr>
<tr>
<td>JBL</td>
<td>2</td>
<td>CBT 70E</td>
<td>Type SC3, Passive Column Extension Speaker</td>
</tr>
<tr>
<td>Vaddio</td>
<td>2</td>
<td>999-6855-000</td>
<td>Wallview Pro Z330 PTZ HD Camera</td>
</tr>
<tr>
<td>Sony</td>
<td>1</td>
<td>BDPS3200</td>
<td>Smart Wi-Fi Built-In Blu-ray Player</td>
</tr>
<tr>
<td>Shure</td>
<td>2</td>
<td>MX418D/C</td>
<td>18’ Desktop Gooseneck Microphone</td>
</tr>
<tr>
<td>Shure</td>
<td>4</td>
<td>SM58</td>
<td>Dynamic Handheld Microphone</td>
</tr>
<tr>
<td>Shure</td>
<td>4</td>
<td>SM86</td>
<td>Condenser Handheld Microphone</td>
</tr>
<tr>
<td>Atlas Sound</td>
<td>8</td>
<td>MS20E</td>
<td>Large Base/Standard Post Mic Stands (Black)</td>
</tr>
<tr>
<td>Atlas Sound</td>
<td>8</td>
<td>PB15EB</td>
<td>Telescoping Boom Arms</td>
</tr>
<tr>
<td>Allen &amp; Heath</td>
<td>1</td>
<td>QU-16</td>
<td>16 Channel Digital Mixer</td>
</tr>
<tr>
<td>SKB</td>
<td>1</td>
<td>1SKB19-R1400</td>
<td>Digital Mixer Case</td>
</tr>
<tr>
<td>HDX</td>
<td>1</td>
<td>207585</td>
<td>Cable Storage Bin</td>
</tr>
<tr>
<td>BTX</td>
<td>2</td>
<td>YA-J9512</td>
<td>Stereo 3.5mm Plug to (2) RCA Plugs, 12’</td>
</tr>
<tr>
<td>BTX</td>
<td>4</td>
<td>CA-9072</td>
<td>RCA Female to 1/4” Mono Male Adapter</td>
</tr>
<tr>
<td>BTX</td>
<td>4</td>
<td>YA-XLRPSTORS10</td>
<td>XLR (m)- ¼“ Stereo (m) Assy, 10’</td>
</tr>
<tr>
<td>BTX</td>
<td>6</td>
<td>BEL-C601100002</td>
<td>UTP Patch Cables, 2’</td>
</tr>
<tr>
<td>Harbor Freight</td>
<td>4</td>
<td>41446</td>
<td>25 ft. x 14 Gauge Outdoor Extension Cord</td>
</tr>
<tr>
<td>Visix</td>
<td>2</td>
<td>Connect Room</td>
<td>Meeting Room Scheduling Digital Sign</td>
</tr>
<tr>
<td>Visix</td>
<td>2</td>
<td>AXIS-TV-IMW</td>
<td>Implementation Support</td>
</tr>
<tr>
<td>Visix</td>
<td>2</td>
<td>AXIS-TV-SMM</td>
<td>Software Maintenance</td>
</tr>
<tr>
<td>Wolfvision</td>
<td>1</td>
<td>VZ-9.4F</td>
<td>Desktop Visualizer</td>
</tr>
</tbody>
</table>
N. Equipment Rm 117

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSS</td>
<td>2</td>
<td>BLU-806</td>
<td>Signal Processor with BLU link and Dante™</td>
</tr>
<tr>
<td>BSS</td>
<td>3</td>
<td>BLU-120</td>
<td>I/O Expander with BLU link</td>
</tr>
<tr>
<td>BSS</td>
<td>18</td>
<td>BLU-CARD-IN</td>
<td>Analog Audio Input Card</td>
</tr>
<tr>
<td>BSS</td>
<td>1</td>
<td>BLU-CARD-OUT</td>
<td>Analog Audio Output Card</td>
</tr>
<tr>
<td>Shure</td>
<td>2</td>
<td>ULXD4Q</td>
<td>Quad Channel Diversity Receiver</td>
</tr>
<tr>
<td>Shure</td>
<td>8</td>
<td>ULXD2/SM58</td>
<td>Handheld Wireless Microphone Transmitter</td>
</tr>
<tr>
<td>Shure</td>
<td>4</td>
<td>UA221</td>
<td>Passive Antenna Splitter/Combiner Kit</td>
</tr>
<tr>
<td>Shure</td>
<td>6</td>
<td>UA8</td>
<td>1/2 Wave Antenna</td>
</tr>
<tr>
<td>Extron</td>
<td>8</td>
<td>26-663-06</td>
<td>6' HDMI Cable</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>DM-MD16X16</td>
<td>16 X 16 DM Matrix Frame</td>
</tr>
<tr>
<td>Crestron</td>
<td>10</td>
<td>DMC-4K-C</td>
<td>4K DigitalMedia 8G+™ Input Card</td>
</tr>
<tr>
<td>Crestron</td>
<td>6</td>
<td>DMC-4K-HD</td>
<td>4K HDMI Input Card</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>DMC-4K-CO-HD</td>
<td>4K 2-Channel DigitalMedia 8G+Output Card</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>DMC-4K-HDO</td>
<td>4K 2-Channel HDMI Output Card</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>DMC-STRO</td>
<td>Streaming Output Card for DM® Switchers</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>DM-PSU-16</td>
<td>16 Port DM Power Supply</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>DMP33-300-C</td>
<td>3-Series® DM™ Presentation System 300</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>HD-TX3-C-B</td>
<td>4K HDMI® over HDBaseT® Transmitter, Black</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>PRO3</td>
<td>3-Series Control System®</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>C3-RY-16</td>
<td>Relay Card</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>TSW-1050</td>
<td>10&quot; Touch Panel</td>
</tr>
<tr>
<td>Gyration</td>
<td>2</td>
<td>GYM5600LKNA</td>
<td>Wireless Mouse/Keyboard</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>HD-DA2-4K-E</td>
<td>1x2 4K HDMI DA</td>
</tr>
<tr>
<td>TOA</td>
<td>2</td>
<td>MP1216</td>
<td>Audio Monitor Panel</td>
</tr>
<tr>
<td>Apple</td>
<td>3</td>
<td>MD199LL/A</td>
<td>3rd Generation AppleTV</td>
</tr>
<tr>
<td>Aurora</td>
<td>2</td>
<td>V-Tune Pro HD 4K</td>
<td>HDTV Tuner Box</td>
</tr>
<tr>
<td>Crown</td>
<td>2</td>
<td>DC4:1250N</td>
<td>DriveCore Networked Power Amplifier</td>
</tr>
<tr>
<td>Crown</td>
<td>2</td>
<td>DC8:600N</td>
<td>DriveCore Networked Power Amplifier</td>
</tr>
<tr>
<td>Furman</td>
<td>9</td>
<td>PM Pro Plus Series 2</td>
<td>Eight Outlet Power Strip</td>
</tr>
<tr>
<td>VENDOR</td>
<td>QTY</td>
<td>MODEL</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----</td>
<td>----------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>4</td>
<td>WRK-44-32</td>
<td>44RU Gangable Rack Enclosure</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>SPN-44-312</td>
<td>Side Panels</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>4</td>
<td>MW-10FT-FC</td>
<td>Fan Top w/ Controller, 550 CFM</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>MPR-3A</td>
<td>32&quot; MPR Raceway</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>MPR-8A</td>
<td>72&quot; MPR Raceway</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>6</td>
<td>M-20A</td>
<td>20A Duplex MPR Module</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>T-80X6</td>
<td>80&quot; Tails, Connector On One End</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>2</td>
<td>J-12X6</td>
<td>12&quot; Jumper, Pre-Terminated</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>2</td>
<td>UPS-2200R-8</td>
<td>UPS</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>2</td>
<td>U-1</td>
<td>One Space Rack Shelf</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>AFACE4</td>
<td>Custom Rack Mount for Crestron TSW-1050</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>6</td>
<td>MK41.5</td>
<td>Balanced Audio Patch Cables, 1.5'</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-40-B</td>
<td>Audio Rack Mount for Crestron TSW-1050</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-40-A</td>
<td>UTP Tie Line Panel</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>2</td>
<td>PCDI</td>
<td>AV Direct Box</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>2</td>
<td>DIR</td>
<td>Production Audio Direct Box</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>MT4FM25SS</td>
<td>4 Channel Audio Snake, 25'</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>ME80NR30</td>
<td>8 Channel Audio Stagebox Snake, 30'</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>24</td>
<td>MIC25</td>
<td>Professional Mic Cable, 25'</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>1</td>
<td>Summit X460-G224p10GE4</td>
<td>24 port GB PoE Switch (Control)</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>1</td>
<td>Summit X460-G2-24t10GE4</td>
<td>24 port GB Switch (Audio)</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>8</td>
<td>10051H</td>
<td>1000BASE-SX SFP Uplink Module</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5R4UM-F12</td>
<td>OPT-X Rack-Mnt 4RU accepts 12 adapter plates</td>
</tr>
<tr>
<td>Leviton</td>
<td>6</td>
<td>5F100-2QL</td>
<td>LC Adapter Plate (for MM)</td>
</tr>
<tr>
<td>Leviton</td>
<td>6</td>
<td>5F100-2LC</td>
<td>SC Adapter Plate (for SM)</td>
</tr>
<tr>
<td>C2G</td>
<td>38</td>
<td>04018</td>
<td>6' Orange UTP Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>5</td>
<td>04022</td>
<td>15' Orange UTP Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>8</td>
<td>00998</td>
<td>2m MM Fiber LC-LC Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>8</td>
<td>34914</td>
<td>2m SM Fiber SC-LC Patch Cable</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>3</td>
<td>PPA 457 PRO</td>
<td>Personal PA® ProFM AssistiveListeningSystem</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>24</td>
<td>PPA R37</td>
<td>Beltpack Receivers</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>24</td>
<td>EAR 013</td>
<td>Single Mini Earbuds</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>8</td>
<td>NKL 001</td>
<td>Neckloops</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>56</td>
<td>BAT 001-2</td>
<td>AA Alkaline Batteries</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>2</td>
<td>IDP 008</td>
<td>Wall Plaque</td>
</tr>
<tr>
<td>Telex</td>
<td>1</td>
<td>MS-4002</td>
<td>4 Channel Master Station</td>
</tr>
<tr>
<td>Telex</td>
<td>1</td>
<td>PS-4001</td>
<td>4 Channel Power Supply</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>EMS Option</td>
<td>by Dean Evans &amp; Associates</td>
</tr>
<tr>
<td>AV Contractor</td>
<td>1</td>
<td>Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
</tr>
</tbody>
</table>

### O. Student Org Lounge 229

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEC</td>
<td>1</td>
<td>V551-AVT</td>
<td>55&quot; LED 1080p Display</td>
</tr>
<tr>
<td>Chief</td>
<td>1</td>
<td>LTMU</td>
<td>Universal Flat Panel Tilting Wall Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>1</td>
<td>FCA102</td>
<td>FUSION Secure CPU/Media Player Adapter</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>Axis-TV-CPA</td>
<td>Digital Signage Player</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>AXIS-TV-IMW</td>
<td>Implementation Support</td>
</tr>
</tbody>
</table>

Floor Plan

- [Floor Plan Image](image-url)
### Q. VP Student Affairs
**Conference Room 214E**

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEC</td>
<td>1</td>
<td>V652-AVT</td>
<td>65” LED 1080p Display</td>
</tr>
<tr>
<td>Chief</td>
<td>1</td>
<td>LTMU</td>
<td>Universal Flat Panel Tilting Wall Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>1</td>
<td>FCA102</td>
<td>FUSION Secure CPU/Media Player Adapter</td>
</tr>
<tr>
<td>Apple</td>
<td>1</td>
<td>MD199LL/A</td>
<td>3rd Generation AppleTV</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>MPC-M10-B-T</td>
<td>Media Presentation Controller™ M10, Black</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>IRP2</td>
<td>IR Emitter Probe</td>
</tr>
<tr>
<td>Extron</td>
<td>1</td>
<td>26-663-06</td>
<td>6’ HDMI Cable</td>
</tr>
<tr>
<td>Extron</td>
<td>1</td>
<td>26-566-02</td>
<td>6’ VGA w/ Audio Cable</td>
</tr>
<tr>
<td>Extron</td>
<td>1</td>
<td>26-650-25</td>
<td>25’ HDMI Cable</td>
</tr>
<tr>
<td>Extron</td>
<td>1</td>
<td>26-533-04</td>
<td>25’ VGA M to 5 BNC M Cable</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-35-E</td>
<td>AVP6 HDMI/VGA Input Plate</td>
</tr>
<tr>
<td>C2G</td>
<td>2</td>
<td>04018</td>
<td>6’ Orange UTP Patch Cable</td>
</tr>
<tr>
<td>AV Contractor</td>
<td>1</td>
<td>Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
</tr>
</tbody>
</table>

### R. Small Meeting
**Rooms 202 and 204**

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEC</td>
<td>2</td>
<td>V652-AVT</td>
<td>65” LED 1080p Display</td>
</tr>
<tr>
<td>Chief</td>
<td>2</td>
<td>LTMU</td>
<td>Universal Flat Panel Tilting Wall Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>2</td>
<td>FCA102</td>
<td>FUSION Secure CPU/Media Player Adapter</td>
</tr>
<tr>
<td>Apple</td>
<td>2</td>
<td>MD199LL/A</td>
<td>3rd Generation AppleTV</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>MPC-M10-B-T</td>
<td>Media Presentation Controller™ M10, Black</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>IRP2</td>
<td>IR Emitter Probe</td>
</tr>
<tr>
<td>Extron</td>
<td>4</td>
<td>26-663-06</td>
<td>6’ HDMI Cable</td>
</tr>
<tr>
<td>Extron</td>
<td>2</td>
<td>26-566-02</td>
<td>6’ VGA w/ Audio Cable</td>
</tr>
<tr>
<td>Extron</td>
<td>2</td>
<td>26-650-25</td>
<td>25’ HDMI Cable</td>
</tr>
<tr>
<td>Extron</td>
<td>2</td>
<td>26-533-04</td>
<td>25’ VGA M to 5 BNC M Cable</td>
</tr>
<tr>
<td>Visix</td>
<td>2</td>
<td>Connect Room</td>
<td>Meeting Room Scheduling Digital Sign</td>
</tr>
<tr>
<td>Visix</td>
<td>2</td>
<td>AXIS-TV-IMW</td>
<td>Implementation Support</td>
</tr>
<tr>
<td>Visix</td>
<td>2</td>
<td>AXIS-TV-SMM</td>
<td>Software Maintenance</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>2</td>
<td>KMK-376-AV-35-E</td>
<td>AVP6 HDMI/VGA Input Plate</td>
</tr>
<tr>
<td>C2G</td>
<td>4</td>
<td>04018</td>
<td>6’ Orange UTP Patch Cable</td>
</tr>
<tr>
<td>AV Contractor</td>
<td>1</td>
<td>Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
</tr>
</tbody>
</table>

### S. Leadership Training
**Room 231**

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epson</td>
<td>1</td>
<td>G6450WUNL</td>
<td>PowerLite Pro WUXGA 3LCD Projector</td>
</tr>
<tr>
<td>VENDOR</td>
<td>QTY</td>
<td>MODEL</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>-------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Epson</td>
<td>2</td>
<td>G6450WUNL</td>
<td>PowerLite Pro WUXGA 3LCD Projector</td>
</tr>
<tr>
<td>Epson</td>
<td>2</td>
<td>ELPLS06</td>
<td>1.26-2.30 Standard Throw Lens</td>
</tr>
<tr>
<td>Chief</td>
<td>2</td>
<td>RPMA298</td>
<td>RPA Elite Custom Ceiling Projector Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>2</td>
<td>CMS006009W</td>
<td>6-9&quot; Adjustable Extension Column, White</td>
</tr>
<tr>
<td>FSR</td>
<td>2</td>
<td>CB22P</td>
<td>2' by 2' Ceiling Box w/ Pole Adapter</td>
</tr>
<tr>
<td>Draper</td>
<td>2</td>
<td>See Quote # 486363</td>
<td>ACCESS VTECVISION 113&quot; Diag 16:10 Screen</td>
</tr>
<tr>
<td>Extron</td>
<td>6</td>
<td>26-663-06</td>
<td>6' HDMI Cable</td>
</tr>
<tr>
<td>Extron</td>
<td>2</td>
<td>26-566-02</td>
<td>6' VGA w/ Audio Cable</td>
</tr>
<tr>
<td>Gyration</td>
<td>1</td>
<td>GYM5600LKNA</td>
<td>Wireless Mouse/Keyboard</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>HD-DA2-4K-E</td>
<td>1x2 4K HDMI DA</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>DM-TX-200-C-2G</td>
<td>DM Wall Transmitter</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>DM-RMC-4K-100-C</td>
<td>DM 4K Receiver</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>DMPS3-4K-150-C</td>
<td>3-Series® 4K DM™ Presentation System 150</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>TSW-750</td>
<td>7&quot; Touch Panel</td>
</tr>
<tr>
<td>Apple</td>
<td>1</td>
<td>MD199LL/A</td>
<td>3rd Generation AppleTV</td>
</tr>
<tr>
<td>Aurora</td>
<td>1</td>
<td>V-Tune Pro HD 4K</td>
<td>HDTV Tuner Box</td>
</tr>
<tr>
<td>JBL</td>
<td>7</td>
<td>Control 45 C/T</td>
<td>Type S2, Ceiling Speaker, White</td>
</tr>
<tr>
<td>Crown</td>
<td>1</td>
<td>DC 2:300</td>
<td>DriveCore Power Amplifier</td>
</tr>
<tr>
<td>Furman</td>
<td>1</td>
<td>PM Pro Plus Series 2</td>
<td>Eight Outlet Power Strip</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>WRK-24SA-27</td>
<td>44RU Stand Alone Rack Enclosure</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>CBS-WRK-27</td>
<td>Inner Castor Base</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>MW-10FT-FC</td>
<td>Fan Top w/ Controller, 550 CFM</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>U-1</td>
<td>One Space Rack Shelf</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>10</td>
<td>HBL-1</td>
<td>One Space Blank Panel</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-37-F</td>
<td>FB2, Floor Box Input Plates</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>Connect Room</td>
<td>Meeting Room Scheduling Digital Sign</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>AXIS-TV-IMW</td>
<td>Implementation Support</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>AXIS-TV-SMM</td>
<td>Software Maintenance</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>1</td>
<td>Summit X460-G2-24pGE4</td>
<td>24 port GB PoE Switch (Control)</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>1</td>
<td>10051H</td>
<td>1000BASE-SX SFP Uplink Module</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5R1UM-F03</td>
<td>OPT-X Rack-Mnt 1RU accepts 3 adapter plates</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5F100-2QL</td>
<td>LC Adapter Plate (for MM)</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5F100-2LC</td>
<td>SC Adapter Plate (for SM)</td>
</tr>
<tr>
<td>C2G</td>
<td>2</td>
<td>04018</td>
<td>6' Orange UTP Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>1</td>
<td>00998</td>
<td>2m MM Fiber LC-LC Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>1</td>
<td>34914</td>
<td>2m SM Fiber SC-LC Patch Cable</td>
</tr>
<tr>
<td>AV Contractor</td>
<td>1</td>
<td>Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
</tr>
</tbody>
</table>

### T. Large Meeting Rooms 203 and 205

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epson</td>
<td>2</td>
<td>G6450WUNL</td>
<td>PowerLite Pro WUXGA 3LCD Projector</td>
</tr>
<tr>
<td>Epson</td>
<td>2</td>
<td>ELPLS06</td>
<td>1.26-2.30 Standard Throw Lens</td>
</tr>
<tr>
<td>Chief</td>
<td>2</td>
<td>RPMA298</td>
<td>RPA Elite Custom Ceiling Projector Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>2</td>
<td>CMS006009W</td>
<td>6-9&quot; Adjustable Extension Column, White</td>
</tr>
<tr>
<td>FSR</td>
<td>2</td>
<td>CB22P</td>
<td>2' by 2' Ceiling Box w/ Pole Adapter</td>
</tr>
<tr>
<td>Draper</td>
<td>2</td>
<td>See Quote # 486363</td>
<td>ACCESS VTECVISION 113&quot; Diag 16:10 Screen</td>
</tr>
<tr>
<td>Extron</td>
<td>6</td>
<td>26-663-06</td>
<td>6' HDMI Cable</td>
</tr>
<tr>
<td>Extron</td>
<td>4</td>
<td>26-566-02</td>
<td>6' VGA w/ Audio Cable</td>
</tr>
</tbody>
</table>

Brower Student Center Addition and Renovation  
Audio Video Systems Installation Project  
The College of New Jersey  
KSS Project #21931
<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gyration</td>
<td>2</td>
<td>GYM5600LKNA</td>
<td>Wireless Mouse/Keyboard</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>HD-DA2-4K-E</td>
<td>1x2 4K HDMI DA</td>
</tr>
<tr>
<td>Crestron</td>
<td>4</td>
<td>DM-TX-200-C-2G</td>
<td>DM Wall Transmitter</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>DM-RMC-4K-100-C</td>
<td>DM 4K Receiver</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>TSW-750</td>
<td>7&quot; Touch Panel</td>
</tr>
<tr>
<td>JBL</td>
<td>16</td>
<td>Control 45 C/T</td>
<td>Type S2, Ceiling Speaker, White</td>
</tr>
<tr>
<td>Visix</td>
<td>2</td>
<td>Connect Room</td>
<td>Meeting Room Scheduling Digital Sign</td>
</tr>
<tr>
<td>Visix</td>
<td>2</td>
<td>AXIS-TV-IMW</td>
<td>Implementation Support</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>AXIS-TV-SMM</td>
<td>Software Maintenance</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-35-F</td>
<td>AVP7-1, Large Meeting AV Input Plates</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-36-A</td>
<td>AVP7-2, Large Meeting AV Input Plates</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-36-B</td>
<td>AVP7-3, Large Meeting AV Input Plates</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-36-C</td>
<td>AVP7-4, Large Meeting AV Input Plates</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>2</td>
<td>PPA 457 PRO</td>
<td>Personal PA® ProFM Assist Listening System</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>8</td>
<td>PPA R37</td>
<td>Beltpack Receivers</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>4</td>
<td>NKL 001</td>
<td>Neckloops</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>8</td>
<td>EAR 013</td>
<td>Single Mini Earbuds</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>20</td>
<td>BAT 001-2</td>
<td>AA Alkaline Batteries</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>2</td>
<td>IDP 008</td>
<td>Wall Plaque</td>
</tr>
<tr>
<td>AV Contractor</td>
<td>1</td>
<td>Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
</tr>
</tbody>
</table>

U. **Multi-Purpose**  

<table>
<thead>
<tr>
<th>Room 213A and 213B</th>
</tr>
</thead>
<tbody>
<tr>
<td>VENDOR</td>
</tr>
<tr>
<td>Epson</td>
</tr>
<tr>
<td>Epson</td>
</tr>
<tr>
<td>Chief</td>
</tr>
<tr>
<td>Chief</td>
</tr>
<tr>
<td>FSR</td>
</tr>
<tr>
<td>Draper</td>
</tr>
<tr>
<td>Extron</td>
</tr>
<tr>
<td>Extron</td>
</tr>
<tr>
<td>JBL</td>
</tr>
<tr>
<td>Crestron</td>
</tr>
<tr>
<td>Crestron</td>
</tr>
<tr>
<td>Crestron</td>
</tr>
<tr>
<td>Crestron</td>
</tr>
<tr>
<td>Crestron</td>
</tr>
<tr>
<td>Visix</td>
</tr>
<tr>
<td>Visix</td>
</tr>
<tr>
<td>Visix</td>
</tr>
<tr>
<td>Whirlwind</td>
</tr>
<tr>
<td>Whirlwind</td>
</tr>
<tr>
<td>Whirlwind</td>
</tr>
<tr>
<td>Whirlwind</td>
</tr>
<tr>
<td>Whirlwind</td>
</tr>
<tr>
<td>Whirlwind</td>
</tr>
<tr>
<td>Whirlwind</td>
</tr>
<tr>
<td>VENDOR</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>Whirlwind</td>
</tr>
<tr>
<td>Whirlwind</td>
</tr>
<tr>
<td>Whirlwind</td>
</tr>
<tr>
<td>C2G</td>
</tr>
<tr>
<td>AV Contractor</td>
</tr>
</tbody>
</table>

V. AV Equipment

Room 213C

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crestron</td>
<td>1</td>
<td>DM-MD16X16</td>
<td>16 X 16 DM Matrix Frame</td>
</tr>
<tr>
<td>Crestron</td>
<td>6</td>
<td>DMC-4K-C</td>
<td>4K DigitalMedia 8G+™ Input Card</td>
</tr>
<tr>
<td>Crestron</td>
<td>6</td>
<td>DMC-4K-HD</td>
<td>4K HDMI Input Card</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>DMC-4K-CO-HD</td>
<td>4K 2-Channel DigitalMedia 8G+™ Output Card</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>DM-PSU-8</td>
<td>8 Port DM Power Supply</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>DMPS3-4K-150-C</td>
<td>3-Series® 4K DM™ Presentation System 150</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>CP3</td>
<td>3-Series Control System®</td>
</tr>
<tr>
<td>Crestron</td>
<td>1</td>
<td>TSW-1050</td>
<td>10” Touch Panel</td>
</tr>
<tr>
<td>Crestron</td>
<td>2</td>
<td>HD-DA2-4K-E</td>
<td>1x2 4K HDMI DA</td>
</tr>
<tr>
<td>Gyration</td>
<td>2</td>
<td>GYM5600LKNA</td>
<td>Wireless Mouse/Keyboard</td>
</tr>
<tr>
<td>Extron</td>
<td>12</td>
<td>26-663-06</td>
<td>6' HDMI Cable</td>
</tr>
<tr>
<td>BSS</td>
<td>2</td>
<td>BLU-806</td>
<td>Signal Processor with BLU link and Dante™</td>
</tr>
<tr>
<td>BSS</td>
<td>2</td>
<td>BLU-120</td>
<td>I/O Expander with BLU link</td>
</tr>
<tr>
<td>BSS</td>
<td>1</td>
<td>BLU-BOB1</td>
<td>Output Expander with BLU link</td>
</tr>
<tr>
<td>BSS</td>
<td>15</td>
<td>BLU-CARD-IN</td>
<td>Analog Audio Input Card</td>
</tr>
<tr>
<td>BSS</td>
<td>1</td>
<td>BLU-CARD-OUT</td>
<td>Analog Audio Output Card</td>
</tr>
<tr>
<td>Crown</td>
<td>1</td>
<td>DC4:300N</td>
<td>DriveCore Networked Power Amplifier</td>
</tr>
<tr>
<td>Crown</td>
<td>1</td>
<td>DC4:600N</td>
<td>DriveCore Networked Power Amplifier</td>
</tr>
<tr>
<td>Apple</td>
<td>4</td>
<td>MD199LL/A</td>
<td>3rd Generation AppleTV</td>
</tr>
<tr>
<td>Aurora</td>
<td>4</td>
<td>V-Tune Pro HD 4K</td>
<td>HDTV Tuner Box</td>
</tr>
<tr>
<td>Shure</td>
<td>1</td>
<td>ULXD4Q</td>
<td>Quad Channel Diversity Receiver</td>
</tr>
<tr>
<td>Shure</td>
<td>4</td>
<td>ULX2D2/SM58</td>
<td>Handheld Wireless Microphone Transmitter</td>
</tr>
<tr>
<td>Shure</td>
<td>1</td>
<td>UA221</td>
<td>Passive Antenna Splitter/Combiner Kit</td>
</tr>
<tr>
<td>Shure</td>
<td>2</td>
<td>MX418D/C</td>
<td>18' Desktop Gooseneck Microphone</td>
</tr>
<tr>
<td>Shure</td>
<td>4</td>
<td>SM58</td>
<td>Dynamic Handheld Microphone</td>
</tr>
<tr>
<td>Shure</td>
<td>4</td>
<td>SM86</td>
<td>Condenser Handheld Microphone</td>
</tr>
<tr>
<td>Atlas Sound</td>
<td>8</td>
<td>MS20E</td>
<td>Large Base/Standard Post Mic Stands (Black)</td>
</tr>
<tr>
<td>Atlas Sound</td>
<td>8</td>
<td>PB15EB</td>
<td>Telescoping Boom Arms</td>
</tr>
<tr>
<td>HDX</td>
<td>1</td>
<td>207585</td>
<td>Cable Storage Bin</td>
</tr>
<tr>
<td>BTX</td>
<td>2</td>
<td>YA-J9512</td>
<td>Stereo 3.5mm Plug to (2) RCA Plugs, 12'</td>
</tr>
<tr>
<td>BTX</td>
<td>4</td>
<td>CA-9072</td>
<td>RCA Female to 1/4&quot; Mono Male Adapter</td>
</tr>
<tr>
<td>BTX</td>
<td>4</td>
<td>YA-XLRPSTRS10</td>
<td>XLR (m)- 1/4&quot; Stereo (m) Assy,10'</td>
</tr>
<tr>
<td>BTX</td>
<td>6</td>
<td>BEL-C601100002</td>
<td>UTP Patch Cables, 2'</td>
</tr>
<tr>
<td>Harbor Freight</td>
<td>4</td>
<td>41446</td>
<td>25 ft. x 14 Gauge Outdoor Extension Cord</td>
</tr>
<tr>
<td>Furman</td>
<td>9</td>
<td>PMPro Plus Series 2</td>
<td>Eight Outlet Power Strip</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>4</td>
<td>WRK-44-32</td>
<td>44RU Gangable Rack Enclosure</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>SPN-44-312</td>
<td>Side Panels</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>4</td>
<td>MW-10FT-FC</td>
<td>Fan Top w/ Controller, 550 CFM</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>2</td>
<td>MPR-8A</td>
<td>72&quot; MPR Raceway</td>
</tr>
<tr>
<td>VENDOR</td>
<td>QTY</td>
<td>MODEL</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>--------------</td>
<td>-----</td>
<td>-------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>6</td>
<td>M-20A</td>
<td>20A Double Duplex MPR Module</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>T-80X6</td>
<td>80” Tails, Connector On One End</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>2</td>
<td>J-12X6</td>
<td>12” Jumper, Pre-Terminated</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>2</td>
<td>UPS-2200R-8</td>
<td>UPS</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>2</td>
<td>U-1</td>
<td>One Space Rack Shelf</td>
</tr>
<tr>
<td>Middle Atlantic</td>
<td>1</td>
<td>AFACE4</td>
<td>Custom Rack Mount for Crestron TSW-1050</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>6</td>
<td>MK41.5</td>
<td>Balanced Audio Patch Cables, 1.5'</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-40-D</td>
<td>Audio Tie Line Panel</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>1</td>
<td>KMK-376-AV-xx-x</td>
<td>UTP Tie Line Panel</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>2</td>
<td>PCDI</td>
<td>AV Direct Box</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>2</td>
<td>DIR</td>
<td>Production Audio Direct Box</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>24</td>
<td>MIC25</td>
<td>Professional Mic Cable, 25'</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>2</td>
<td>KMK-376-AV-36-G</td>
<td>ALS, Assisted Listening Antenna Plate</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>1</td>
<td>Summit X460-G2-24t-GE4</td>
<td>24 port GB non PoE Switch (Audio)</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>1</td>
<td>Summit X460-G2-24p-GE4</td>
<td>24 port GB PoE Switch (Control)</td>
</tr>
<tr>
<td>Extreme Networks</td>
<td>2</td>
<td>10051H</td>
<td>1000BASE-SX SFP Uplink Module</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5R1UM-F03</td>
<td>OPT-X Rack-Mnt 1RU accepts 3 adapter plates</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5F100-2QL</td>
<td>LC Adapter Plate (for MM)</td>
</tr>
<tr>
<td>Leviton</td>
<td>1</td>
<td>5F100-2LC</td>
<td>SC Adapter Plate (for SM)</td>
</tr>
<tr>
<td>C2G</td>
<td>23</td>
<td>04018</td>
<td>6’ Orange UTP Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>8</td>
<td>04022</td>
<td>15’ Orange UTP Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>2</td>
<td>00998</td>
<td>2m MM Fiber LC-LC Patch Cable</td>
</tr>
<tr>
<td>C2G</td>
<td>2</td>
<td>34914</td>
<td>2m SM Fiber SC-LC Patch Cable</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>2</td>
<td>PPA 457 PRO</td>
<td>Personal PA® ProFM Assistive Listening System</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>24</td>
<td>PPA R37</td>
<td>Beltpack Receivers</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>8</td>
<td>NKL 001</td>
<td>Neckloops</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>24</td>
<td>EAR 013</td>
<td>Single Mini Earbuds</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>56</td>
<td>BAT 001-2</td>
<td>AA Alkaline Batteries</td>
</tr>
<tr>
<td>Williams Sound</td>
<td>2</td>
<td>IDP 008</td>
<td>Wall Plaque</td>
</tr>
<tr>
<td>AV Contractor</td>
<td>1</td>
<td>Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
</tr>
</tbody>
</table>

W. Media Corner

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>QTY</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEC</td>
<td>4</td>
<td>V323-AVT</td>
<td>32” LED 1080p Display</td>
</tr>
<tr>
<td>Chief</td>
<td>4</td>
<td>MTMU</td>
<td>Universal Flat Panel Tilting Wall Mount</td>
</tr>
<tr>
<td>Chief</td>
<td>1</td>
<td>FCA102</td>
<td>FUSION Secure CPU/Media Player Adapter</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>Axis-TV-CPA</td>
<td>Digital Signage Player</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>AXIS-TV-IMW</td>
<td>Implementation Support</td>
</tr>
<tr>
<td>Visix</td>
<td>1</td>
<td>AXIS TV-SMX</td>
<td>Software Maintenance</td>
</tr>
<tr>
<td>Extron</td>
<td>4</td>
<td>26-650-12</td>
<td>12’ HDMI Cables</td>
</tr>
<tr>
<td>Extron</td>
<td>4</td>
<td>26-663-06</td>
<td>6’ HDMI Cables</td>
</tr>
<tr>
<td>Extron</td>
<td>4</td>
<td>26-491-03</td>
<td>12’ M-F VGA w/ Audio Cables</td>
</tr>
<tr>
<td>Extron</td>
<td>4</td>
<td>26-566-02</td>
<td>6’ M-M VGA w/ Audio Cables</td>
</tr>
<tr>
<td>Extron</td>
<td>2</td>
<td>26-662-06</td>
<td>6’ DVI to DVI Cable/6’ DVID SL Ultra Cable</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Item Code</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>Extron</td>
<td>3 26-649-50</td>
<td>50' DVI to DVI Cable</td>
<td></td>
</tr>
<tr>
<td>Extron</td>
<td>1 60-931-21</td>
<td>1x4 DVI DA Plus</td>
<td></td>
</tr>
<tr>
<td>Extron</td>
<td>4 60-1397-02</td>
<td>Cable Cubby 1200</td>
<td></td>
</tr>
<tr>
<td>Extron</td>
<td>4 60-1384-01</td>
<td>US (2) AC &amp; (2) USB Outlets Power Module</td>
<td></td>
</tr>
<tr>
<td>BTX</td>
<td>4 CA-35FFSP</td>
<td>3.5mm Stereo Barrel</td>
<td></td>
</tr>
<tr>
<td>BTX</td>
<td>4 CD-HDFF</td>
<td>HDMI female to female Adapter, Inline</td>
<td></td>
</tr>
<tr>
<td>RDL</td>
<td>16 RU-SH1</td>
<td>Stereo Headphone Amplifier</td>
<td></td>
</tr>
<tr>
<td>RDL</td>
<td>16 RU-BR1</td>
<td>Mounting Bracket for RACK-UP Series</td>
<td></td>
</tr>
<tr>
<td>RDL</td>
<td>4 EZ-HDA4B</td>
<td>1x4 Stereo Headphone Distribution Amp</td>
<td></td>
</tr>
<tr>
<td>RDL</td>
<td>4 EZ-UCB2</td>
<td>Under Counter Bracket for all EZ Product Widths</td>
<td></td>
</tr>
<tr>
<td>RDL</td>
<td>4 PS-24AS</td>
<td>24 Vdc Switching Pwr Supply, 500 mA, dc Plug</td>
<td></td>
</tr>
<tr>
<td>C2G</td>
<td>5 4018</td>
<td>6' Orange UTP Patch Cable</td>
<td></td>
</tr>
<tr>
<td>Crestron</td>
<td>4 MPC-M5-B-T</td>
<td>MPC Media Presentation Controller M5</td>
<td></td>
</tr>
<tr>
<td>AV Contractor</td>
<td>4 Miscellaneous</td>
<td>Cable, Connectors and Hardware</td>
<td></td>
</tr>
</tbody>
</table>

End of Part 2
3.1 INSTALLATION

A. General:

1. All materials and equipment are to be new and unused.
3. Fastenings and supports for all fixed equipment and components including conduit and cables, to provide a safety factor of 5 or better.
4. Installation with all precautions necessary to prevent against electromagnetic and electrostatic hum.
5. All precautions necessary to assure adequate ventilation.
6. Precautions to assure the safety of users shall be implemented as required by applicable codes.
7. Microphone and 600-ohm lines fully insulated from each other and from their conduit.
8. Lines in conduit free of any splices.
9. Wiring joints and connections made with rosin-core solder or approved mechanical connections.
10. Cables free from wiring damage.
11. All equipment installed neatly, with boxes and racks plumb, level and true to line and level.
12. Switches, connectors, jacks, receptacles, conduits, outlets and cable terminations clearly, logically, and permanently marked.
13. Moderate moves or changes as necessary to accommodate aesthetics to preserve symmetry, and for pleasing appearance without claim for additional payment.
14. Cooperation with other trades to achieve well-coordinated and satisfactory order.
15. Job shall be adequately staffed at all times.
16. Same individual in charge of work throughout execution, unless illness, loss of personnel, or other circumstances beyond the control of the contractor intervenes.
17. Job site and all equipment and materials left clean and free of marks and blemishes.
18. All work shall be provided in a manner such that the work is provided in compliance with the general requirements stated within or implied by the "Standard Guide for Audiovisual Systems Performance Verification Checklist" as published by InfoComm International.

B. Conduit and Raceway Separation

1. Separate conduits or raceways for microphone-level circuits (less than 20 DBm), line-level circuits (-20 to +30 DBm), loudspeaker circuit (+30 DBm or greater), switching and power circuits.
2. Using the following guidelines, provide minimum conduit separation between conduits carrying wiring of the different groups as follows:
90 degree crossings in close proximity are acceptable.

Should the contractors work in this regard be limited by site conditions or physical limitations beyond his control, the contractor shall notify the architect of such conditions and/or limitations prior to proceeding with the conduit/raceway installation.

As it may not be possible to fulfill these requirements at the entry/exit of enclosures, boxes and related devices, the intent of these guidelines is for the contractor to provide the stated separation wherever physically possible and specifically where the path of adjacent conduit will be parallel for distances greater than 10 feet.

3. The major groups shall never be intermixed.

C. Signal Grounding Procedures

To minimize problems resulting from improper grounding, and to achieve maximum signal to noise ratios, the following grounding procedures shall be adhered to:

1. System Grounds

A single Audio Video System ground point shall be provided at the Audio Video System breaker panel. All Audio Video System grounds shall connect directly to this ground point. Ground connections at the Audio Video System breaker panel
shall be provided and distributed by way of captive screw, copper ground lug terminals.

The Audio Video System breaker panel ground shall be connected directly to the main building service ground connection. The Audio Video System breaker panel ground connection shall be provided using an insulated copper ground wire providing a maximum of 0.1 ohms total resistance. All ground wires shall be sized as necessary to properly serve the Audio Video System load and as required to meet all applicable codes.

All Audio Video System power receptacles including those mounted within equipment rack assemblies shall be provided as isolated ground receptacles. All receptacles shall include a ground conductor tied to the Audio Video System breaker panel ground connection.

Each audio equipment rack shall include a properly sized copper ground bar. Each ground bar shall be connected to the Audio Video System breaker panel ground point. The ground bar shall be electrically common to the equipment rack chassis. Connection between the ground bar and the rack chassis shall be readily removable for testing purposes by way of a standard screw lug terminal.

Each ground bar shall provide standard lug connections allowing direct connection between individual component chassis grounds and the ground bar assembly. These equipment chassis connection points shall be used only to troubleshoot and/or resolve hum and noise problems that cannot otherwise be eliminated.

The sound contractor shall be responsible for coordinating, inspecting and confirming that the specified grounding methods have been properly implemented by the project electrical contractor and by the sound contractor’s own fabrication methods.

2. Audio Shields

All line level sound cable shields shall be grounded at one point only. Un-terminated shields shall be insulated using proper size heat-shrink and completely protected against shorting to any other conductors.

3.2 IDENTIFICATION

A. Provide permanent intelligible identification on, or adjacent to all controls, fuses, circuit breakers, patching jacks, conduit receptacles, and the like. This identification will clearly and distinctly indicate the function of the item and will be numbered or lettered to correspond with the function, circuit and use consistent with the field and shop drawings.

1. Identification of fuses and circuit breakers shall indicate protected circuitry, rating of protective device and voltage across open circuited protected device.

2. Panel surfaces shall be engraved and filled, silk screened or shall be equipped with 1/16 inch laminated plastic labels with engraved characters at least 1/4” inch
height (white characters on black background). Under no conditions will embossed plastic labels, transfer lettering (Chartpak, LetraSet, etc) or other make shift labeling be considered acceptable. Engraving and other identification requirement specifically shown on the specification drawings prevail over this paragraph.

3. Each principal element of the system shall be completely integrated with consistently identified terminal strips or blocks for all connections. These designations shall be shown on related drawings and documentation.

4. All rack mounted devices shall include an engraved laminate tag (black tag with white letters) that identifies the rack mounted device using the abbreviated nomenclature shown for that device within the project shop drawings.

3.3 AUDIO SYSTEM INITIAL TESTS AND ADJUSTMENTS

Provide all necessary equipment and perform initial tests. Adjust or modify as necessary to provide system performance conforming to specifications.

A. Impedance and Phase

1. Check each microphone line for proper phase using a phase checker or voltmeter.

2. Measure and record the impedance of all loudspeaker lines.

   a. Measure the absolute value of each loudspeaker line entering the equipment rack. Document loudspeaker impedance at the amplifier termination point at 250 Hz, 1000 & 4000 Hz.

   b. For low impedance speaker systems (16 ohms or less) all impedance readings shall be within 10% of the calculated value based on driver quantity and wiring configuration.

B. Hum and Noise Level:

1. Hum and noise of system shall be inaudible under normal operating conditions. The measured signal to noise from any microphone input to power amplifier output shall be greater than 70 dB signal to noise, and greater than 80 dB signal to noise from any line input, to power amplifier output.

   HUM AND NOISE LEVEL NOTE: All system level balancing must be completed before this test is conducted.

   a. Terminate microphone inputs with shielded 150-ohm resistor.

   b. With all equalizers switched out, and a microphone input signal of 1 KHz sine-wave at -50 dBm, adjust system gain controls for optimum signal-to-noise at full power amp output. Set gain controls for optimum signal-to-noise at full power amplifier output. Full power amplifier output
shall be determined by maximum power capacity of the loudspeakers
connected the amplifier under test.

c. At the output of each power amplifier, with all system equalizers
switched out and under the above stated conditions measure and record
the unweighted 40 Hz to 10 KHz band-width electrical hum and noise
level for each of the microphone inputs.

Each recorded noise measurement shall be referred to the associated
power amplifiers and maximum-in-system-voltage output and be
expressed and recorded in decibels of signal to noise. Signal to noise
ratio shall be 70 dB or greater. Repeat the above stated procedure with
all system equalizers switched in. Signal to noise ratio shall be 60 dB or
greater.

C. Parasitic Oscillation and RF Pick-up

1. Set-up system for normal operation.

2. Use 10 MHz or greater oscilloscope and amplified loudspeaker monitor.

3. Insure that system at all useable gain settings that the system is free of spurious
oscillation with no input signal and also with full output at 250 Hz on both sound
monitor and oscilloscope presentation.

D. Acoustical Measurements

Acoustic measurements of sound system performance shall be made using sound
system real time optimization software or hardware based equipment including, but not
limited to: dual channel analysis capable of comparing the output of the system to its
input, in both the frequency and time domain, a calibrated ANSI sound level meter, and a
calibrated measurement grade microphone on the order of an MK10, M30, or TEF05. All
interior finishes and furnishings shall be in place prior to these measurements being
taken.

Documentation of acoustical testing shall include: frequency response of the room under
normal quiet conditions with and without HVAC running (the room “fingerprint”), and
frequency response to full bandwidth pink noise for each equalization zone comparing
equalizers switched in and out.

1. Polarity:
   a. Place the test microphone on axis with each loudspeaker component
      and check for absolute polarity using a shaped waveform or by
      generating an Energy Phase Curve or Nyquist Curve for each device.
   b. Make changes as necessary.

2. Frequency Response:
a. With respect to a response which is flat from 60 Hz to 4 KHz then slopes off at 3 dB/octave from 4 KHz to 12.5 KHz, system response within + or - 4 dB with no peaks outside this range.

b. Using a Real Time Analyzer, a minimum of six (6) locations within each subsystem will be checked for compliance to the frequency response specifications stated above.

3. Coverage

a. Measurement of the loudspeaker distribution coverage using a one octave band of pink noise centered at 2 KHz, measurements taken using a calibrated sound level meter set for "slow" damping.

E. Buzzes, Rattles and Distortion

The Audio Video System shall be free of mechanical buzzes, rattling, distortion caused by loose attachments, faulty wiring, overdriven components, etc.

3.4 DIGITAL VIDEO SYSTEMS

Using an HD Pattern Signal Generator and HDCP compliance tester, verify all HDMI signal paths, inputs and displays. Verify laptop connections and resolution settings using a contractor owner laptop, a contractor owner dvd player (blu ray and 720p) as well as at least one owner furnished laptop device.

3.5 ANALOG VIDEO SYSTEMS TESTING

A. Video Circuits

Using calibrated, industry accepted test equipment such as signal generators, waveform monitor, oscilloscopes, light meters and standard source equipment, connect at each input and output point and verify that the video signal path conforms to NAB NTSC RS-170A. Verify that all video system equipment has been properly installed and is ready for use.

3.6 DEMONSTRATION AND ACCEPTANCE TESTING

General:

Upon approval of the above test report, and at a time set by the owner's representative, the contractor will demonstrate operation of each major component of the system, each microphone and line input. After demonstration, contractor shall assist as required in the following acceptance tests which will be conducted by the owner's representative:

A. Listening Tests:

May include speech intelligibility surveys and subjective listening tests by observers listening at various positions under operating conditions.
B. Equipment Tests:
   1. May include measurements of frequency response, distortion or other performance characteristics.
   2. May be performed on any item or group of items to verify conformity with specifications.

C. Additional Adjustments and Tests:

   If need for additional adjustment becomes evident during demonstration and testing, contractor's work will be continued until the system installation operates properly.

3.7 TRAINING

Provide prepared and organized training sessions for the benefit of the owner's personnel. These training sessions shall include the following:

A. Audio Video Systems Initial Training Session

Provide a qualified CTS-I or CTS-D technician / engineer who is directly familiar with the specified systems and a qualified system operator with event production experience for an initial training session with the owner’s staff. This session will include demonstration of the following AV system operations and capabilities for each and every AV system covered by this section:

   System Activation and Deactivation (On / Off).
   Walk through of AV system plate, panel and device locations, use and function.
   Overview of location and use of electrical receptacles, panel and breakers relevant to the AV system.
   Demonstration and overview of location, use, circuiting, volume controls and operation relevant to the all AV systems.
   A complete and thorough demonstration and review of the operation and use of the AV System Touch Panels, button panels and other user interface devices.
   A complete and thorough demonstration and review of the operation of audio mixing consoles implemented for the Event Center, Multi-Purpose Room and Restaurant Stage.
   A complete and thorough demonstration and review of the operation of all camera systems.
   A complete and thorough demonstration and review of the operation of all video projection systems including wired connectivity, wireless
connectivity, lamp life indicators, power up/down requirements, and any other features necessary for successful day to operation of the projection system.

Demonstration and overview of use of all wireless microphone systems.

Demonstration and overview of use of the wired microphones and related system accessories.

Demonstration and overview of use of all Assisted Listening Systems.

Demonstration and overview of use of the Production Intercom Systems including mater station, belt-packs, headphones, and wall mounted stations.

Overview of the products and purpose of the equipment provided within the equipment rack rooms, closets and credenzas.

Overview of the AV network devices including wireless access point location, network switch and related operations relevant to daily use and maintenance of the covered AV systems.

Demonstration and overview of use of portable loudspeakers.

Minimum Duration of the Initial Training Session shall be 8 hours. Provide a follow-up 8 hour session if necessary to insure that he owner’s staff is prepared to accept and operate the AV system. Total training hours shall be 16 Hours minimum.

B. Audio Video Systems Initial Event Support and Training

Provide a qualified CTS-I or CTS-D technician / engineer who is directly familiar with the specified systems and a qualified system operator with event production experience for two owner selected events to assist the owner’s staff with operation of the Restaurant Stage, Event Center and Multi-Purpose Room systems specified within this section.

Minimum hours required for this item: 16

3.8 GUARANTEE/WARRANTY

A. Labor and materials provided under this specification shall be warranted, commencing on the date of final acceptance of the installation by the owner, for a period of one year, to be free of defects and deficiencies, and to conform to the component specifications and this document as to kind, quality, function and characteristics. Defects in labor, or materials, occurring within the warranty period will be rectified by replacement or repair without charge. Paint and exterior finishes, fuses, lamps, and tubes, are excluded from this warranty, unless damage or failure is the result of defective materials or workmanship covered by warranty, or work performed under warranty in the repairing of defects.
B. Warranty service will be provided to the owner for the warranted items within 48 hours of notice to the contractor.

C. Manufacturer's warranties which will exceed the one year Contractor warranty shall be activated in the owner's name prior to system acceptance. Warranty cards and registration information shall be executed in the owner's name and forwarded to the respective manufacturers prior to final system acceptance as required to insure that factory warranty coverage is provided for the covered products that have been furnished, installed or otherwise provided under the terms of this project. Activation date for all products shall be the final completion date of the project.

3.9 MAINTENANCE AND SERVICE

A. Provide one maintenance site visit at six months following the system acceptance.

During the maintenance site visit, activate all system components and verify proper operation of controls and devices. Clean and adjust all recording and playback transports as recommended by the respective manufacturers. Repair or replace all defective materials within the scope of the above stated warranty.

B. All service calls answered and repaired by contractor within 48 hours.

C. Within 6 months of system acceptance provide a proposal for an annual maintenance and service agreement that provides system warranty service equivalent to the first year warranty requirements described in paragraph 3.8 above.

3.10 Performance Verification Checklist

The contractor shall provide all services necessary to complete the AV industry standard checklist questionnaire as defined on the following pages.

This checklist and report has been prepared using the InfoComm International Standard Guide for Audio Visual Systems Performance Verification Checklist as a basis for providing an organized report on the condition of the above noted AV system as of the dates noted above.

The InfoComm Standard Guide is intended to provide owners, consultants and integrators with a comprehensive and singular source of tests to determine if the audiovisual system achieves the client's goals or objectives and that the system performs in accordance with the best practices of the industry.

By providing this list to the audiovisual industry, InfoComm is establishing a set of commissioning guidelines to help industry professionals and their clients communicate effectively about their expectations for system performance.
Standard Guide for Audio Visual Systems Performance Verification Checklist

| Project Title: |
| Description: |
| Project Location: |
| Project Architect: |
| System Designer: |
| Date of Report: |
| Date of Site Visit/Tests: |
| AV Contractor: |
| Client: |

Contents of the Standard Audiovisual Systems Verification Tests Checklist

I AV-PH  Physical Installation
II AV-CM  Cable Management, Termination and Labeling
III AV-E  Electrical
IV AV-S  Serviceability
V AV-A  Audio Performance
VI AV-V  Video Performance
VII AV-N/AV-C  Control, Software and Networking
VIII AV-AC  Acoustical Environment
IX AV-DR  Verification and Documentation

Project Specific Notes and Reporting

Although not all segments or line items covered by the InfoComm Standard Guide may not be applicable to this specific project, all elements of the standard guide have been included in this report. In cases where a particular test or reporting element of the standard guide is not applicable to this specific project, such items will be noted as Not Applicable (N/A) or otherwise explained.

I AV-PH: Physical Installation

| AV-PH-01 | Site Inventory of AV Equipment |
| Is all equipment in shop or on site? |
| AV-PH-02 | Installation Status of AV Equipment |
| Is all rackable equipment installed? |
| AV-PH-03 | AV Rack Cleanliness |
Racks are "clean" - grease markings removed, etc.

AV-PH-04  AV Rack Blanks and Vents Installation
All blanks and vents installed in unused rack spaces?

AV-PH-05  AV Patch Bay Labeling
All patchbays labeled

AV-PH-06  AV Patch Bay Configuration
Patchbays configured with all outputs on top rows, inputs on bottom rows

AV-PH-07  AV Rack Thermal Gradient Performance
Thermal gradient inspected; all equipment operating within manufacturers' guidelines

AV-PH-08  AV Rack Protective Treatments
Small racks have carpet tiles on bottom to avoid scratching credenzas.

AV-PH-09  AV Equipment Labeling
All engraved labels permanently fastened.

AV-PH-10  AV System Cabling Verification
All peripheral equipment hooked up as per flow diagram: microphones, loudspeakers, video monitors, projectors, PC’s, USB switchers, etc.

II AV-CM: Cable Management, Termination and Labeling

AV-CM-01  AV Equipment Power Cable Management
Equipment without IEC removable power cords are not tie-wrapped to the cabinet, and there are no obstructions to the item being pulled from the front of the rack.

AV-CM-02  Verification of AV Rack Cable Installation
Tie wraps are not too tight as to deform the cable. UTP cables are laced and bound with Velcro ties.

AV-CM-03  Verification of AV Rack Cable Installation
Terminations are free from stress due to gravity acting on the cabling or cable dressing technique.
AV-CM-04  Verification of AV Rack Cable Installation
Terminations have sufficient service loop, allowing a re-termination or two without having to open a cable bundle or pathway to lay in a new cable.

AV-CM-05  Verification of AV Rack Cable Installation
Cables appropriately dressed and bundled according to cable type.

AV-CM-06  Verification of AV Rack Cable Installation
Verify cable supports are used depending on size and stiffness of cable.

AV-CM-07  Verification of AV Rack Cable Installation
Cables have appropriate separation according to signal type and level.

AV-CM-08  Verification of AV Rack Cable Installation
Verify all cables are installed with an adequate bend radius as recommended by the manufacturer and general system requirements.

AV-CM-09  AV System Cable Labeling
All cables have clearly legible, unambiguous identifying labels, and labels are oriented and positioned consistently. Labels are visible without system disassembly and are not hidden in cable bundles.

AV-CM-10  AV System Cable Labeling
All cable labels are permanent, non-slipping and according to specification.

AV-CM-11  AV Connector Verification
All terminations are in agreement with the equipment and system requirements.

AV-CM-12  AV Connector Verification
All connectors are correctly seated to its mating connector.

AV-CM-13  AV Connector Plate Labeling
All connectors on input and output plates are labeled.

AV-CM-14  AV Connector Plate Labeling
Confirm all labeling nomenclature for consistency between drawings, touch screen labels, wall plates and other labeling of connectors, connection points and devices.

III AV-E: Electrical

AV-E-01  AV System Power and Grounding
Verification Stray AC voltages on any equipment accessible to a user relative to ground?

AV-E-02  AV System Power and Grounding
Verification Neutral and isolated ground current test.

AV-E-03  AV System Power and Grounding Verification
Verify equipment is powered by correct circuits.

IV AV-S: Serviceability

AV-S-01  AV System Serviceability
Input/output panels are easily accessible.

AV-S-02  AV System Serviceability
If there are obstructions prohibiting the disconnection of terminations on the back of AV equipment, there must be sufficient cabling to permit the equipment to be pulled from the front, and disconnected there.

AV-S-03  AV System Serviceability
It is relatively easy to find proper cable termination points when removed or replaced equipment is re-installed.

AV-S-04  AV System Serviceability
Equipment can be pulled for repair or replacement without hindrance.

AV-S-05  AV System Serviceability
Equipment must be able to be serviced indefinitely; designed with the maintenance technician in mind (he or she will "own it" longer than the person who fabricated the system initially).

V AV-A: Audio Performance

All audio performance tests are made from all electronic system inputs (first physical output of source media, all I/O plates, mic inputs) to all electronic system outputs (all outputs connected to amplifier inputs, all connections to external
facilities (to other rooms, buildings or external services such as broadcast connections).

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item Title</th>
<th>Description</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>AV-A-01</td>
<td>Audio System Total Harmonic Distortion</td>
<td>Measure total harmonic distortion of the audio system. Distortion level</td>
<td>Distortion level should not exceed best practices.</td>
</tr>
<tr>
<td>AV-A-03</td>
<td>Speech Reinforcement System Electronic Frequency Response</td>
<td>Measure frequency response of the audio system for speech sound reinforcement. System frequency response should be determined for the system during design process.</td>
<td></td>
</tr>
<tr>
<td>AV-A-04</td>
<td>Audio Playback System Electronic Frequency Response</td>
<td>Measure frequency response of the audio system for program sound amplification. System frequency response should be determined for the system during design process.</td>
<td></td>
</tr>
<tr>
<td>AV-A-05</td>
<td>Audio System Latency</td>
<td>Measure latency of the audio system. Latency should not exceed design requirements of the system.</td>
<td></td>
</tr>
<tr>
<td>AV-A-07</td>
<td>Audio Level versus Background Noise Level</td>
<td>Measure background noise level during normal room operation. Measure audio system level during normal room operation. Audio level should exceed background noise level to provide for clear, intelligible amplified sound.</td>
<td></td>
</tr>
<tr>
<td>AV-A-08</td>
<td>Speech Reinforcement System Headroom</td>
<td>Measure audio system headroom. Audio system should be capable of performing above nominal operating levels without distortion.</td>
<td></td>
</tr>
<tr>
<td>AV-A-09</td>
<td>Program Loudspeaker Polarity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Program loudspeakers in the same system shall produce consistent polarity for a mono input signal in all channels.

AV-A-10  Speech Reinforcement Speaker Polarity

Speech reinforcement systems shall be polarized such that a positive acoustic pressure on a microphone results in a positive acoustic pressure at all loudspeakers.

AV-A-11  Alignment of Multiple Audio Sources

Calibrate audio system inputs so there is zero or minimal difference between any input signal level.

AV-A-12  Audio Buzz and Rattles

There shall be no audible vibration caused by improper mechanical installation. Perform buzzes and rattles test, using continuous sweep signal (from generator or test CD) pass/ fail result or which device at what frequencies.

AV-A-13  Audio System Gain Before Feedback

The speech reinforcement system shall be stable and operate without feedback.

AV-A-14  Conferencing System Microphone Sensitivity & Gain Structure Alignment

For conference systems, adjust microphone input gain to demonstrate that "standard talker," positioned at each talker position in the room, produces a 0 dBu level at the output of the output bus of the audio conference DSP device. Verify signal levels for both transmit and receive using normal speech.

AV-A-15  Audio System Equalization for Speech Intelligibility

Equalizers shall be adjusted for best intelligibility, and in accordance with the preferred acoustic level response curves. For systems with equalizers, document the “house curve” before equalization, as well as after the equalizers have been tuned, with and without microphone input filters. If requested by the Consultant, produce this documentation for systems without equalizers, as this test may apply to the preamp filter settings in cases where intelligibility can be improved.

AV-A-16  Audio System Speech Intelligibility at Listener Positions

Audio system should provide intelligible sound above background noise levels. System design should anticipate background noise levels in the listener space.

AV-A-17  Audio System Amplifier Loading
No power amplifier shall have its rated load exceeded. Record the impedance (and at what frequency) of each loudspeaker line of each power amplifier. 63, 250, and 1,000 Hz are recommended if available.

AV-A-18  Conferencing Echo Suppression Performance

For a system with conference capability, system shall perform at nominal operating levels in a full duplex mode without echo or latency.

AV-A 19  DSP Signal Path Verification

All DSP programming installed and properly passing intended signal pathways and mixes.

VI AV-V: Video Performance

AV-V-01  Video System NTSC Signal Gain

For NTSC sources, demonstrate a consistent 1 volt peak-to-peak test signal at each source shall produce 1 volt peak-to-peak to each destination. Verify at each destination using NTSC bars, peak white, and 5-step multiburst (0.5, 1.0, 2.0, 3.0, 3.58, and 4.2 MHz).

AV-V-02  Video System RGBHV Signal Gain

For RGB sources, demonstrate consistent 700 mV from each source to each destination. Observe results using a flat-field pattern signal at 1024 by 768 resolution (VESA 8). Measure peak-to-peak voltage using a 200 MHz oscilloscope at each destination when a test generator with either multi-burst or H pattern is at each source location. Adjust ‘peaking’ and ‘level’ control settings on any interface at the positions whereby the 700 mV voltages were attained.

AV-V-03  Video System Pixel Failure Tolerance

"White Purity" Test. Note number and location of stuck or lost pixels, if any.

AV-V-04  Video Camera Image

Verify camera performance and operation.

AV-V-05  NTSC Image Alignment

For NTSC sources, confirm optimum brightness, contrast, and color in displays using SMPTE source with PLUGE (Picture Line Up Generation Equipment) display.

AV-V-06  Consistency of Multiple NTSC Displays
When several NTSC displays are visible, demonstrate consistencies in displays using NTSC bars with PLUGE signal to all.

**AV-V-07**  Projected Display Physical Alignment

Verify that projected displays are focused, centered, and evenly-illuminated.

**AV-V-08**  Projected Display Physical Alignment

For projected displays, take actual measurements of image geometry to verify image is rectangular and proportional across the entire image.

**AV-V-09**  Projected Image Contrast Ratio

Measure the contrast ratio of the projected image with ambient lighting in normal operating mode.

**AV-V-10**  Projected Display Brightness Uniformity

For projected displays, using a calibrated light meter, determine the image has uniform brightness across the entire image.

**AV-V-11**  Multiple Resolution Performance of Video Displays

Display stable, properly scaled images, with no scaling-related visual artifacts when switching between, at a minimum, 1024 x 768, 1280 x 1024, 1280 x 720 sources, and/or all those specified in the performance criteria for this system.

**AV-V-12**  Image Size Relative to Furthest Viewer

Image size relative to furthest viewer: Record each, compare to recommended multiplier.

**AV-V-13**  Cable Television RF Tap Levels

Confirm TV RF levels, using the highest frequency channel of the system, with field strength meter at all system taps.

**AV-V-14**  On Screen Display Settings for Video

Displays have OSDs (on screen displays) "OFF", or as specified by the user.

**AV-V-15**  Video Standby Screen Setting

Video projector, if any, must have 'blue screen' off, or as directed by the user.

**VII AV-N / AV-C:**  Control, Software and Networking
AV-N-01 Control System IP Address Assignment

All IP-controlled equipment properly configured with IP addresses, host names, time servers, Gatekeeper addresses, network configurations, and subnets as applicable. All system connections are operational and devices communication correctly.

AV-C-02 Control System Communications

All control system programming installed and properly communicating with the equipment intended.

AV-C-03 Control System User Interface Performance

Control system user interface conforms to user or specified requirements and all pages and buttons operate as intended.

AV-C-04 Interfacing and Control of External Devices and Systems

Confirm control system functions not obvious from the control flow diagrams (i.e., lighting presets that are activated when the control system enters a videoconferencing mode)

AV-C-05 Interfacing and Control of External Devices and Systems

Confirm control system interfaces exist and are functional for devices that may be outside AV scope such as drapes, shades, screens, lights, security, life safety and HVAC.

AV-C-06 Control System Power Cycling and Recovery

The control system will restart and resume full operation following an unanticipated cycling of AC power to the control system.

VIII AV-AC: Acoustical Environment

AV-AC-01 Acoustical Ambient Noise

Record ambient noise level with room is normal operating mode, see AV-A-07.

AV-AC-02 Acoustical Ambient Noise

Document octave band ambient noise and calculate NC or RC per ASHRAE if NC was part of design criteria

AV-AC-03 AV Room Reverberation Time

Document octave band reverberation times if speech intelligibility criterion is not met.
## IX AV-DR: Verification and Documentation

<table>
<thead>
<tr>
<th>AV-DR-01</th>
<th>AV System Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>There is perfect agreement between the &quot;paper model&quot; documentation (drawings), the control system user interface (i.e., touch panel screens, push button labels, panel engravings, etc.), and the physical wiring and labeling. This includes designation strips, equipment labeling, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AV-DR-02</th>
<th>Video System Test Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Video system tested (all pathways tested, all interconnections marked as tested on drawing).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AV-DR-03</th>
<th>Audio System Test Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Audio Tested (all pathways tested, all interconnections marked as tested on drawing).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AV-DR-04</th>
<th>Control System Test Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control tested (all pathways tested, all interconnections marked as tested on drawing). Emulate closures for screens, motors, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AV-DR-05</th>
<th>AV System Commissioning Sanity Check</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sanity Check: Is there any reason why this system should NOT be turned over to the owner for use.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AV-DR-06</th>
<th>Final Commissioning Report and System Turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prepare document report, certifying the product, performance, and practices are in compliance and note any exceptions. Distribute accordingly.</td>
</tr>
</tbody>
</table>

End of Part 3
End of Section 11 70 00
SECTION 26 76 10

AV SYSTEMS ELECTRICAL AND ROUGH-IN REQUIREMENTS

PART ONE: GENERAL

1.1 RELATED DOCUMENTS

A. Stipulations

The specifications section "General Conditions" or other correspondence provided by the owner with this document and related amendments, form a part of this specification by this reference thereto and shall have the same force and effect as if printed herewith in full.

B. Audio and Video Drawings “AV”

The contract documents for this project includes set of drawings consisting of 46 sheets titled AV-01 though AV-46.

C. Specification Section 11 70 00 Audio Video Systems.

D. Specification Section 26 76 10 Electrical Rough-In Requirements for AV Systems (This Document).

E. T Series Drawings (Voice/Data/IT Infrastructure)

F. Section 27 10 00 Voice/Data/IT Infrastructure

The section 271000 Voice/Data/IT Infrastructure specification provides specifications, instructions and related information associated with the building Voice/Data/IT Infrastructure requirements.

The AV contractor is advised that certain AV equipment items on this project will interface to the building data network and therefore, coordination between the AV contractor, the voice/data/IT contractor and the college’s IT department will be required.

All AV network cabling including UTP tie lines, AV control networks and related AV devices and systems utilizing Category 6 or similar network cabling, shall be subject to the requirements specified within Section 271000 and as shown on the T series drawings for this project.

1.2 GENERAL

A. This specification covers the procurement, installation and maintenance of conduit, raceway, and power equipment as required for the Audio Video Systems defined within Section 11 70 00 of the Brower Student Center Addition and

Brower Student Center Addition and Renovation
The College of New Jersey
KSS Project #21931
Renovation at The College of New Jersey, project specifications. The objective of this section and the work defined within this section is to provide a complete conduit, backbox, raceway and electrical system as required by the project Audio Video Systems drawings.

The intent of this section is to define the products, methods and scope of services required to provide a first class, professionally installed, conduit, raceway and power system meeting the needs of the section 11 70 00 Audio Video Systems contractor.

B. This specification establishes requirements necessary to achieve the intended performance and function of the specified Audio Video Systems Rough-in Requirements. Therefore, all materials and labor that are specified are necessary to meet these requirements.

C. Provide all coordination, attention and labor as required to insure that the rough-in system installation fulfills the requirements defined herein, within section 11 70 00 and as shown on the AV series drawings.

D. All work associated with this section shall be provided in a professional workmanlike manner commensurate with all relevant industry standards and applicable code requirements. The specification text as well as any drawings provided with the bidding documents are detailed only to the extent necessary to define the design intent and anticipated performance requirements. Equipment not mentioned herein nor shown on drawings, but necessary to meet the defined requirements shall be provided without claim for additional payment.

Drawings pertaining to this specification shall be considered part of this specification and shall be part of the contract documents.

1.3. SCOPE OF WORK

All labor, equipment, apparatus, wiring devices, conduit and wireway, as required to provide the systems with a complete raceway and electrical system in excellent working order, as specified herein, and as specified by relevant drawings, including:

A. Furnish and install all conduit, raceway and related appurtenances as shown on the project Audio Video Systems and electrical systems drawings. This includes:

1. All conduit, back boxes and related items associated with AV items as shown on the AV drawing set.
2. Pull strings in all empty conduit systems.
3. Electrical conduit, back-boxes, junction boxes, receptacles and related items shown on the AV drawing set.

B. Verification of dimensions and conditions at the job site.
C. Close Coordination with the architect, general contractor and section 11 70 00 contractor.

D. Installation of all specified materials in accordance with these specifications, manufacturer's recommendations and all applicable code requirements. See Device Legends shown throughout the AV drawings wherein work required by the electrical contractor with regard to the specified Audio Video Systems is further defined.

E. Provide manpower familiar with the rough-in installation as necessary for the section 11 70 00 contractor to verify that the raceway/rough-in requirements have been fulfilled.

F. Life Safety Mute cabling and connection to Life Safety/Fire Alarm Systems if required.

G. Procure and pay for all necessary permits, licenses and inspections and observe any requirements stipulated therein.

K. Conform in all applicable trades with all local regulations and codes.

L. Comply with federal, state and local labor regulations and applicable union regulations.

Also refer to the AV drawing set legends and scope related notes.

1.4 SYSTEM DESCRIPTIONS

The Addition and Renovation project includes AV systems for the following areas:

First Floor

Lobby 101A
Box Office 104
Restaurant 129
Stage Systems
Lobby Lounge 130
Lounge 102
Dining/Servery Spaces 108 and Dining 120
AV Equipment Closet 130C
Game Room
Meeting Room 103
Meeting Room 121
Event Room Pre-Function Area
Event Room
AV Equipment Room 117

Second Floor

Student Organization Lounge 229
Dean’s Suite, Conference Room 201G
1.5 WORK BY OTHERS

The major Audio Video system components will be furnished and installed by the Section 11 70 00 Audio Video contractor. The device legends shown within the AV Drawing Set provide a detailed scope of work outline for each Audio Video device. As noted therein, the Audio Video system contractor’s scope will include:

A. Prefabrication of the specified equipment rack assemblies prior to delivery and installation of the rack assembly on-site.
B. Provide, mount and terminate all AV system devices.
C. Initial tests and adjustments of the systems as well as final equalization and alignment of the systems.
D. AV System Training as defined within Section 11 70 00.
E. Furnish and Install Projection Screens.
F. Furnish and install AV Plates, Panels and Connectors including AV connector plates for Floor Boxes.
G. Furnish and install J Hooks as required for AV System cabling.

1.6 REFERENCES

All work included in this specification is to be performed within the guidelines of the following standards:

A. National Electrical Code
B. National Electric Code Article 520
C. National Electrical Code Article 640
D. ASTM (American Society of Tests and Measurements).
E. IEEE (Institute of Electrical and Electronic Engineers).
F. AES (Audio Engineering Society).
G. NAB (National Association of Broadcasters)
H. ICIA (International Communications Industry Association)
PART TWO: PRODUCT SPECIFICATIONS

2.1 GENERAL

All required conduit and raceway devices as defined on the AV drawings.

Provide clear legible cable labels on all cables, junction boxes and cover plates provided for work covered by this section.

All conduit, raceways and electrical devices shall meet the requirements of division 26 of this project.

Provide all conduit and back-boxes as defined on AV Drawings.

Cable manufacturers are defined on the AV drawings.

Junction boxes, back boxes and related devices shall be as manufactured by Hubbel, Raco or Equivalent manufacturers. Box dimensions are defined on the AV drawing set.

End of Part 2
3.0 INSTALLATION

A. General:

1. All materials and equipment are to be new and unused.

2. Fastenings and supports for all fixed equipment and components including conduit and cables, to provide a safety factor of 5 or better.

3. Installation with all precautions necessary to prevent against electromagnetic and electrostatic hum.

4. All precautions necessary to assure adequate ventilation.

5. Precautions to assure the safety of users shall be implemented as required by applicable codes.

6. All equipment installed neatly, with boxes and racks plumb, level and true to line and level.

7. Moderate moves or changes as necessary to accommodate aesthetics to preserve symmetry, and for pleasing appearance without claim for additional payment.

8. Cooperation with other trades to achieve well-coordinated and satisfactory order.

9. Job site and all equipment and materials left clean and free of marks and blemishes.

B. Conduit and Raceway Separation

1. Separate conduits or raceways for microphone-level circuits (less than 20 dbm), line-level circuits (-20 to +30 dbm), loudspeaker circuit (+30 dbm or greater), switching and power circuits.

2. Using the following guidelines, provide minimum conduit separation between conduits carrying wiring of the different groups as follows:

<table>
<thead>
<tr>
<th></th>
<th>MIC</th>
<th>LIN</th>
<th>SPK</th>
<th>AC POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIC</td>
<td>ADJACENT</td>
<td>6 INCHES</td>
<td>12 INCHES</td>
<td>12 INCHES</td>
</tr>
<tr>
<td>LIN</td>
<td>6 INCHES</td>
<td>ADJACENT</td>
<td>12 INCHES</td>
<td>6 INCHES</td>
</tr>
<tr>
<td>SPK</td>
<td>12 INCHES</td>
<td>12 INCHES</td>
<td>ADJACENT</td>
<td>ADJACENT</td>
</tr>
<tr>
<td>AC Power</td>
<td>24 INCHES</td>
<td>12 INCHES</td>
<td>12 INCHES</td>
<td>ADJACENT</td>
</tr>
</tbody>
</table>
90 degree crossings in close proximity are acceptable.

Should the contractors work in this regard be limited by site conditions or physical limitations beyond his control, the contractor shall notify the architect of such conditions and/or limitations prior to proceeding with the conduit/raceway installation.

As it may not be possible to fulfill these requirements at the entry/exit of enclosures, boxes and related devices, the intent of these guidelines is for the contractor to provide the stated separation wherever physically possible and specifically where the path of adjacent conduit will be parallel for distances greater than 10 feet.

3.1 IDENTIFICATION

A. Provide permanent intelligible identification on, or adjacent to all controls, fuses, circuit breakers, patching jacks, conduit receptacles, and the like. This identification will clearly and distinctly indicate the function of the item and will be numbered or lettered to correspond with the function, circuit and use consistent with the field and shop drawings.

1. Identification of fuses and circuit breakers shall indicate protected circuitry, rating of protective device and voltage across open circuited protected device.

2. Panel surfaces shall be engraved and filled, silk screened or shall be equipped with 1/16 inch laminated plastic labels with engraved characters at least 3/32" inch height (white characters on black background). Under no conditions will embossed plastic labels, transfer lettering (Chartpak, LetraSet, etc) or other make shift labeling be considered acceptable. Engraving and other identification requirement specifically shown on the specification drawings prevail over this paragraph.
3.2 GUARANTEE

A. Labor and materials provided under this specification shall be warranted, commencing on the date of final acceptance of the installation by the owner, for a period of one year, to be free of defects and deficiencies, and to conform to the component specifications and this document as to kind, quality, function and characteristics. Defects in labor, or materials, occurring within the warranty period will be rectified by replacement or repair without charge. Paint and exterior finishes, fuses, lamps, and tubes, are excluded from this warranty, unless damage or failure is the result of defective materials or workmanship covered by warranty, or work performed under warranty in the repairing of defects.

B. Warranty service will be provided to the owner for the warranted items within 48 hours of notice to the contractor.