

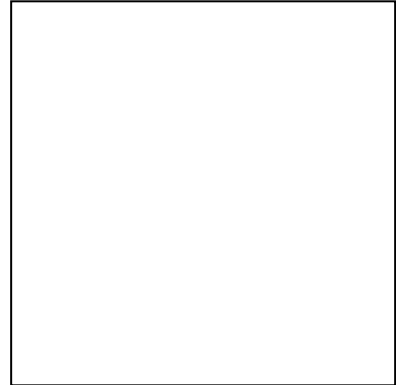
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**SEALS PAGE**

1.1 DESIGN PROFESSIONALS OF RECORD

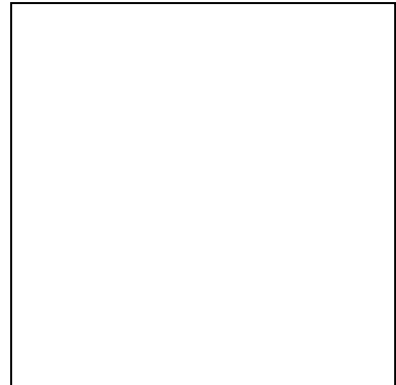
**Architect:**

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Tevebaugh Associates, Inc.  
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Wilmington, DE 19806  
302-984-1400  
DE License No.: S5-7202



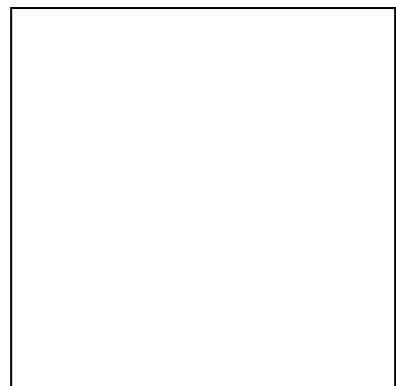
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Wilmington, DE 19808  
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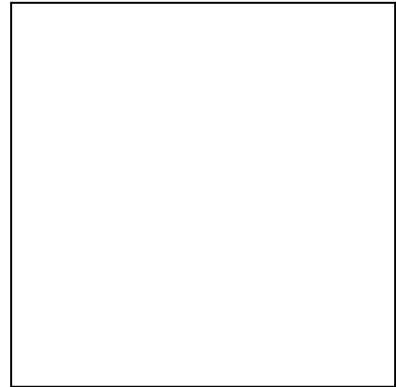
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 Sections listed without any annotation are anticipated future sections.

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### INVITATION TO BID

Public notice is hereby given that sealed bids for Delaware Technical Community College Contract No. #DTCC\_22C900404-CYD

Wilmington Courtyard Renovation located at Orlando J. George Campus in Wilmington, DE. Bids will be received at Wilmington Campus Conference room A until 3PM local time on 08/10, 2022, at which time they will be publicly opened and read aloud. Bidder bears the risk of late delivery. Any bids received after the stated time will be returned unopened.

Project involves The project includes the demolition of the existing courtyard including hardscape and softscape areas, the New courtyard construction as well as some minor renovations including a new sliding door leading to the main lobby connecting the courtyard as well as a new metal stair leading to the lower courtyard (adjacent to the main courtyard).

A Pre-Bid Meeting will be held at Wilmington Campus Conference room A (location) on 07/18/2022 (date) at 3PM (time) local time for the purpose of establishing the listing of subcontractors and to answer questions. **ATTENDANCE AT THIS MEETING IS NOT MANDATORY.**

Sealed bids shall be addressed to the Delaware Technical Community College, \_\_\_\_\_.  
The outer envelope should clearly indicate: "**DTCC CONTRACT NO. #DTCC 22C900404-CYD SEALED BID - DO NOT OPEN.**"

Contract documents may be obtained at the office of TEVEBAUGH ARCHITECTURE OFFICE: 2 MILL RD., SUITE 210 WILMINGTON, DE. 19806 at no cost.

Construction documents will be available for review at the following locations: TEVEBAUGH ARCHITECTURE OFFICE: 2 MILL RD., SUITE 210 WILMINGTON, DE. 19806;

Bidders will not be subject to discrimination on the basis of race, creed, color, sex, sexual orientation, gender identity or national origin in consideration of this award, and Minority Business Enterprises, Disadvantaged Business Enterprises, Women-Owned Business Enterprises and Veteran-Owned Business Enterprises will be afforded full opportunity to submit bids on this contract. Each bid must be accompanied by a bid security equivalent to ten percent of the bid amount and all additive alternates. The successful bidder must post a performance bond and payment bond in a sum equal to 100 percent of the contract price upon execution of the contract. The Owner reserves the right to reject any or all bids and to waive any informalities therein. The Owner may extend the time and place for the opening of the bids from that described in the advertisement, with not less than two calendar days notice by certified delivery, facsimile machine or other electronic means to those bidders receiving plans.

**END OF SECTION**

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## **GENERAL REQUIREMENTS**

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ARTICLE 1: GENERAL

1.1 CONTRACT DOCUMENTS

1.1.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary and what is required by one shall be as binding as if required by all. Performance by the Contractor shall be required to an extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.

1.1.2 Work including material purchases shall not begin until the Contractor is in receipt of a bonafide State of Delaware Purchase Order. Any work performed or material purchases prior to the issuance of the Purchase Order is done at the Contractor's own risk and cost.

1.2 EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS

1.2.1 For Public Works Projects financed in whole or in part by state appropriation the Contractor agrees that during the performance of this contract:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, sex, color, sexual orientation, gender identity or national origin. The Contractor will take positive steps to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, sex, color, sexual orientation, gender identity or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, 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 contracting agency setting forth this nondiscrimination clause.

2. The Contractor 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 race, creed, sex, color, sexual orientation, gender identity or national origin."

ARTICLE 2: OWNER

(NO ADDITIONAL GENERAL REQUIREMENTS – SEE SUPPLEMENTARY GENERAL CONDITIONS)

ARTICLE 3: CONTRACTOR

3.1 Schedule of Values: The successful Bidder shall within twenty (20) days after receiving notice to proceed with the work, furnish to the Owner a complete schedule of values on the various items comprising the work.

3.2 Subcontracts: Upon approval of Subcontractors, the Contractor shall award their Subcontracts as soon as possible after the signing of their own contract and see that all material, their own and those of their Subcontractors, are promptly ordered so that the work will not be delayed by failure of materials to arrive on time.

3.3 Before commencing any work or construction, the General Contractor is to consult with the Owner as to matters in connection with access to the site and the allocation of Ground Areas for the various features of hauling, storage, etc.

3.4 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions.

3.5 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

3.6 The Contractor warrants to the Owner that materials and equipment furnished will be new and of good quality, unless otherwise permitted, and that the work will be free from defects and in conformance with the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved, may be considered defective. If required by the Owner, the Contractor shall furnish evidence as to the kind and quality of materials and equipment provided.

3.7 Unless otherwise provided, the Contractor shall pay all sales, consumer, use and other similar taxes, and shall secure and pay for required permits, fees, licenses, and inspections necessary for proper execution of the Work.

3.8 The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on performance of the Work. The Contractor shall promptly notify the Owner if the Drawings and Specifications are observed to be at variance therewith.

3.9 The Contractor shall be responsible to the Owner for the acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under contract with the Contractor.

3.10 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work the Contractor shall remove from and about the Project all waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials. The Contractor shall be responsible for returning all damaged areas to their original conditions.

### 3.11 STATE LICENSE AND TAX REQUIREMENTS

3.11.1 Each Contractor and Subcontractor shall be licensed to do business in the State of Delaware and shall pay all fees and taxes due under State laws. In conformance with Section 2503, Chapter 25, Title 30, Delaware Code, "the Contractor shall furnish the Delaware Department of Finance within ten (10) days after entering into any contract with a contractor or subcontractor not a resident of this State, a statement of total value of such contract or contracts together with the names and addresses of the contracting parties."

3.12 The Contractor shall comply with all requirements set forth in Section 6962, Chapter 69, Title 29 of the Delaware Code.

3.13 During the contract Work, the Contractor and each Subcontractor, shall implement an Employee Drug Testing Program in accordance with OMB Regulation 4104 - "Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on "Large Public Works Projects". "Large Public

Works" is based upon the current threshold required for bidding Public Works as set by the Purchasing and Contracting Advisory Council.

ARTICLE 4: ADMINISTRATION OF THE CONTRACT

4.1 CONTRACT SURETY

4.1.1 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

4.1.2 All bonds will be required as follows unless specifically waived elsewhere in the Bidding Documents.

4.1.3 Contents of Performance Bonds – The bond shall be in the form approved by the Office of Management and Budget. The bond shall be conditioned upon the faithful compliance and performance by the successful bidder of each and every term and condition of the contract and the proposal, plans, specifications, and bid documents thereof. Each term and condition shall be met at the time and in the manner prescribed by the Contract, Bid documents and the specifications, including the payment in full to every person furnishing materiel or performing labor in the performance of the Contract, of all sums of money due the person for such labor and materiel. (The bond shall also contain the successful bidder's guarantee to indemnify and save harmless the State and the agency from all costs, damages and expenses growing out of or by reason of the Contract in accordance with the Contract.)

4.1.4 Invoking a Performance Bond – The agency may, when it considers that the interest of the State so requires, cause judgement to be confessed upon the bond.

4.1.5 Within twenty (20) days after the date of notice of award of contract, the Bidder to whom the award is made shall furnish a Performance Bond and Labor and Material Payment Bond, each equal to the full amount of the Contract price to guarantee the faithful performance of all terms, covenants and conditions of the same. The bonds are to be issued by an acceptable Bonding Company licensed to do business in the State of Delaware and shall be issued in duplicate.

4.1.6 Performance and Payment Bonds shall be maintained in full force (warranty bond) for a period of two (2) years after the date of the Certificate for Final Payment. The Performance Bond shall guarantee the satisfactory completion of the Project and that the Contractor will make good any faults or defects in his work which may develop during the period of said guarantees as a result of improper or defective workmanship, material or apparatus, whether furnished by themselves or their Sub-Contractors. The Payment Bond shall guarantee that the Contractor shall pay in full all persons, firms or corporations who furnish labor or material or both labor and material for, or on account of, the work included herein. The bonds shall be paid for by this Contractor. The Owner shall have the right to demand that the proof parties signing the bonds are duly authorized to do so.

4.2 FAILURE TO COMPLY WITH CONTRACT

4.2.1 If any firm entering into a contract with the State, or Agency that neglects or refuses to perform or fails to comply with the terms thereof, the Agency which signed the Contract may terminate the Contract and proceed to award a new contract in accordance with this Chapter 69, Title 29 of the Delaware Code or may require the Surety on the Performance Bond to complete the Contract in accordance with the terms of the Performance Bond. Nothing herein shall preclude the Agency from pursuing additional remedies as otherwise provided by law.

4.3 CONTRACT INSURANCE AND CONTRACT LIABILITY

4.3.1 In addition to the bond requirements stated in the Bid Documents, each successful Bidder shall purchase adequate insurance for the performance of the Contract and, by submission of a Bid, agrees to indemnify and save harmless and to defend all legal or equitable actions brought against the State, any Agency, officer and/or employee of the State, for and from all claims of liability which is or may be the result of the successful Bidder's actions during the performance of the Contract.

4.3.2 The purchase or nonpurchase of such insurance or the involvement of the successful Bidder in any legal or equitable defense of any action brought against the successful Bidder based upon work performed pursuant to the Contract will not waive any defense which the State, its agencies and their respective officers, employees and agents might otherwise have against such claims, specifically including the defense of sovereign immunity, where applicable, and by the terms of this section, the State and all agencies, officers and employees thereof shall not be financially responsible for the consequences of work performed, pursuant to said contract.

#### 4.4 RIGHT TO AUDIT RECORDS

4.4.1 The Owner shall have the right to audit the books and records of a Contractor or any Subcontractor under any Contract or Subcontract to the extent that the books and records relate to the performance of the Contract or Subcontract.

4.4.2 Said books and records shall be maintained by the Contractor for a period of seven (7) years from the date of final payment under the Prime Contract and by the Subcontractor for a period of seven (7) years from the date of final payment under the Subcontract.

### ARTICLE 5: SUBCONTRACTORS

#### 5.1 SUBCONTRACTING REQUIREMENTS

5.1.1 All contracts for the construction, reconstruction, alteration or repair of any public building (not a road, street or highway) shall be subject to the following provisions:

1. A contract shall be awarded only to a Bidder whose Bid is accompanied by a statement containing, for each Subcontractor category, the name and address (city or town and State only – street number and P.O. Box addresses not required) of the subcontractor whose services the Bidder intends to use in performing the Work and providing the material for such Subcontractor category.

2. A Bid will not be accepted nor will an award of any Contract be made to any Bidder which, as the Prime Contractor, has listed itself as the Subcontractor for any Subcontractor unless:

A. It has been established to the satisfaction of the awarding Agency that the Bidder has customarily performed the specialty work of such Subcontractor category by artisans regularly employed by the Bidder's firm;

B. That the Bidder is duly licensed by the State to engage in such specialty work, if the State requires licenses; and

C. That the Bidder is recognized in the industry as a bona fide Subcontractor or Contractor in such specialty work and Subcontractor category.

5.1.2 The decision of the awarding Agency as to whether a Bidder who list itself as the Subcontractor for a Subcontractor category shall be final and binding upon all Bidders, and no action of any nature shall lie against any awarding agency or its employees or officers because of its decision in this regard.

5.1.3 After such a Contract has been awarded, the successful Bidder shall not substitute another Subcontractor for any Subcontractor whose name was set forth in the statement which accompanied the Bid without the written consent of the awarding Agency.

5.1.4 No Agency shall consent to any substitution of Subcontractors unless the Agency is satisfied that the Subcontractor whose name is on the Bidders accompanying statement:

- A. Is unqualified to perform the work required;
- B. Has failed to execute a timely reasonable Subcontract;
- C. Has defaulted in the performance on the portion of the work covered by the Subcontract; or
- D. Is no longer engaged in such business.

5.1.5 Should a Bidder be awarded a contract, such successful Bidder shall provide to the agency the taxpayer identification license numbers of such subcontractors. Such numbers shall be provided on the later of the date on which such subcontractor is required to be identified or the time the contract is executed. The successful Bidder shall provide to the agency to which it is contracting, within 30 days of entering into such public works contract, copies of all Delaware Business licenses of subcontractors and/or independent contractors that will perform work for such public works contract. However, if a subcontractor or independent contractor is hired or contracted more than 20 days after the Bidder entered the public works contract the Delaware Business license of such subcontractor or independent contractor shall be provided to the agency within 10 days of being contracted or hired.

5.1.6 The Contractor may employ additional Subcontractors on the jobsite only after submitting a copy of the Subcontractor's Employee Drug Testing Program to the Owner for approval. A Contractor or Subcontractor shall not commence work until the Owner has concluded its review and determined that the submitted Employee Drug Testing Program complies with OMB Regulation 4104.

## 5.2 PENALTY FOR SUBSTITUTION OF SUBCONTRACTORS

5.2.1 Should the Contractor fail to utilize any or all of the Subcontractors in the Contractor's Bid statement in the performance of the Work on the public bidding, the Contractor shall be penalized in the amount of (project specific amount\*). The Agency may determine to deduct payments of the penalty from the Contractor or have the amount paid directly to the Agency. Any penalty amount assessed against the Contractor may be remitted or refunded, in whole or in part, by the Agency awarding the Contract, only if it is established to the satisfaction of the Agency that the Subcontractor in question has defaulted or is no longer engaged in such business. No claim for the remission or refund of any penalty shall be granted unless an application is filed within one year after the liability of the successful Bidder accrues. All penalty amounts assessed and not refunded or remitted to the contractor shall be reverted to the State.

\*one (1) percent of contract amount not to exceed \$10,000

## 5.3 ASBESTOS ABATEMENT

5.3.1 The selection of any Contractor to perform asbestos abatement for State-funded projects shall be approved by the Office of Management and Budget, Division of Facilities Management pursuant to Chapter 78 of Title 16.

## 5.4 STANDARDS OF CONSTRUCTION FOR THE PROTECTION OF THE PHYSICALLY HANDICAPPED

GENERAL REQUIREMENTS  
00 21 13 - 6

TEVEBAUGH ARCHITECTURE  
TA PROJECT NO. 21038



5.4.1 All Contracts shall conform with the standard established by the Delaware Architectural Accessibility Board unless otherwise exempted by the Board.

## 5.5 CONTRACT PERFORMANCE

5.5.1 Any firm entering into a Public Works Contract that neglects or refuses to perform or fails to comply with its terms, the Agency may terminate the Contract and proceed to award a new Contract or may require the Surety on the Performance Bond to complete the Contract in accordance with the terms of the Performance Bond.

## ARTICLE 6: CONSTRUCTION BY OWNER OR SEPARATE CONTRACTORS

6.1 The Owner reserves the right to simultaneously perform other construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other Projects at the same site.

6.2 The Contractor shall afford the Owner and other Contractors reasonable opportunity for access and storage of materials and equipment, and for the performance of their activities, and shall connect and coordinate their activities with other forces as required by the Contract Documents.

## ARTICLE 7: CHANGES IN THE WORK

7.1 The Owner, without invalidating the Contract, may order changes in the Work consisting of Additions, Deletions, Modifications or Substitutions, with the Contract Sum and Contract completion date being adjusted accordingly. Such changes in the Work shall be authorized by written Change Order signed by the Professional, as the duly authorized agent, the Contractor and the Owner.

7.2 The Contract Sum and Contract Completion Date shall be adjusted only by a fully executed Change Order.

7.3 The additional cost, or credit to the Owner resulting from a change in the Work shall be by mutual agreement of the Owner, Contractor and the Architect. In all cases, this cost or credit shall be based on the 'DPE' wages required and the "invoice price" of the materials/equipment needed.

7.3.1 "DPE" shall be defined to mean "direct personnel expense". Direct payroll expense includes prevailing wage rates plus a maximum multiplier of 1.35 times DPE. For example, if the prevailing wage rate is \$50/hour, the DPE would be \$67.50/hour (50 x 1.35).

7.3.2 "Invoice price" of materials/equipment shall be defined to mean the actual cost of materials and/or equipment that is paid by the Contractor, (or subcontractor), to a material distributor, direct factory vendor, store, material provider, or equipment leasing entity. Rates for equipment that is leased and/or owned by the Contractor or subcontractor(s) shall not exceed those listed in the latest version of the "Means Building Construction Cost Data" publication.

7.3.3 In addition to the above, the General Contractor is allowed a fifteen percent (15%) markup for overhead and profit for additional work performed by the General Contractor's own forces. For additional subcontractor work, the Subcontractor is allowed a fifteen (15) percent overhead and profit on change order work above and beyond the direct costs stated previously. To this amount, the General Contractor will be allowed a mark-up not exceeding seven and one half percent (7.5%) on the subcontractors work. These mark-ups shall include all costs including, but not limited to: overhead, profit, bonds, insurance, supervision, etc. No markup is permitted on the work of the subcontractors subcontractor. No additional

costs shall be allowed for changes related to the Contractor's onsite superintendent/staff, or project manager, unless a change in the work changes the project duration and is identified by the CPM schedule. There will be no other costs associated with the change order.

#### ARTICLE 8: TIME

8.1 Time limits, if any, are as stated in the Project Manual. By executing the Agreement, the Contractor confirms that the stipulated limits are reasonable, and that the Work will be completed within the anticipated time frame.

8.2 If progress of the Work is delayed at any time by changes ordered by the Owner, by labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions, unavoidable casualties or other causes beyond the Contractor's control, the Contract Time shall be extended for such reasonable time as the Owner may determine.

8.3 Any extension of time beyond the date fixed for completion of the construction and acceptance of any part of the Work called for by the Contract, or the occupancy of the building by the Owner, in whole or in part, previous to the completion shall not be deemed a waiver by the Owner of his right to annul or terminate the Contract for abandonment or delay in the matter provided for, nor relieve the Contractor of full responsibility.

#### 8.4 SUSPENSION AND DEBARMENT

8.4.1 Per Section 6962(d)(14), Title 29, Delaware Code, "Any Contractor who fails to perform a public works contract or complete a public works project within the time schedule established by the Agency in the Invitation To Bid, may be subject to Suspension or Debarment for one or more of the following reasons: a) failure to supply the adequate labor supply ratio for the project; b) inadequate financial resources; or, c) poor performance on the Project."

8.4.2 "Upon such failure for any of the above stated reasons, the Agency that contracted for the public works project may petition the Director of the Office of Management and Budget for Suspension or Debarment of the Contractor. The Agency shall send a copy of the petition to the Contractor within three (3) working days of filing with the Director. If the Director concludes that the petition has merit, the Director shall schedule and hold a hearing to determine whether to suspend the Contractor, debar the Contractor or deny the petition. The Agency shall have the burden of proving, by a preponderance of the evidence, that the Contractor failed to perform or complete the public works project within the time schedule established by the Agency and failed to do so for one or more of the following reasons: a) failure to supply the adequate labor supply ratio for the project; b) inadequate financial resources; or, c) poor performance on the project. Upon a finding in favor of the Agency, the Director may suspend a Contractor from Bidding on any project funded, in whole or in part, with public funds for up to 1 year for a first offense, up to 3 years for a second offense and permanently debar the Contractor for a third offense. The Director shall issue a written decision and shall send a copy to the Contractor and the Agency. Such decision may be appealed to the Superior Court within thirty (30) days for a review on the record."

#### 8.5 RETAINAGE

8.5.1 Per Section 6962(d)(5) a.3, Title 29, Delaware Code: The Agency may at the beginning of each public works project establish a time schedule for the completion of the project. If the project is delayed beyond the completion date due to the Contractor's failure to meet their responsibilities, the Agency may forfeit, at its discretion, all or part of the Contractor's retainage.

8.5.2 This forfeiture of retainage also applies to the timely completion of the punchlist. A punchlist will only be prepared upon the mutual agreement of the Owner, Architect and Contractor. Once the punchlist is prepared, all three parties will by mutual agreement, establish a schedule for its completion. Should completion of the punchlist be delayed beyond the established date due to the Contractor's failure to meet their responsibilities, the Agency may hold permanently, at its discretion, all or part of the Contractor's retainage.

## ARTICLE 9: PAYMENTS AND COMPLETION

### 9.1 APPLICATION FOR PAYMENT

9.1.1 Applications for payment shall be made upon AIA Document G702. There will be a five percent (5%) retainage on all Contractor's monthly invoices until completion of the project. This retainage may become payable upon receipt of all required closeout documentation, provided all other requirements of the Contract Documents have been met.

9.1.2 A date will be fixed for the taking of the monthly account of work done. Upon receipt of Contractor's itemized application for payment, such application will be audited, modified, if found necessary, and approved for the amount. Statement shall be submitted to the Owner.

9.1.3 Section 6516, Title 29 of the Delaware Code annualized interest is not to exceed 12% per annum beginning thirty (30) days after the "presentment" (as opposed to the date) of the invoice.

### 9.2 PARTIAL PAYMENTS

9.2.1 Any public works Contract executed by any Agency may provide for partial payments at the option of the Owner with respect to materials placed along or upon the sites or stored at secured locations, which are suitable for use in the performance of the contract.

9.2.2 When approved by the agency, partial payment may include the values of tested and acceptable materials of a nonperishable or noncontaminative nature which have been produced or furnished for incorporation as a permanent part of the work yet to be completed, provided acceptable provisions have been made for storage.

9.2.2.1 Any allowance made for materials on hand will not exceed the delivered cost of the materials as verified by invoices furnished by the Contractor, nor will it exceed the contract bid price for the material complete in place.

9.2.3 If requested by the Agency, receipted bills from all Contractors, Subcontractors, and material, men, etc., for the previous payment must accompany each application for payment. Following such a request, no payment will be made until these receipted bills have been received by the Owner.

### 9.3 SUBSTANTIAL COMPLETION

9.3.1 When the building has been made suitable for occupancy, but still requires small items of miscellaneous work, the Owner will determine the date when the project has been substantially completed.

9.3.2 If, after the Work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and without terminating the Contract, the Owner may make payment of

the balance due for the portion of the Work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment that it shall not constitute a waiver of claims.

9.3.3 On projects where commissioning is included, the commissioning work as defined in the specifications must be complete prior to the issuance of substantial completion.

#### 9.4 FINAL PAYMENT

9.4.1 Final payment, including the five percent (5%) retainage if determined appropriate, shall be made within thirty (30) days after the Work is fully completed and the Contract fully performed and provided that the Contractor has submitted the following closeout documentation (in addition to any other documentation required elsewhere in the Contract Documents):

9.4.1.1 Evidence satisfactory to the Owner that all payrolls, material bills, and other indebtedness connected with the work have been paid,

9.4.1.2 An acceptable RELEASE OF LIENS,

9.4.1.3 Copies of all applicable warranties,

9.4.1.4 As-built drawings,

9.4.1.5 Operations and Maintenance Manuals,

9.4.1.6 Instruction Manuals,

9.4.1.7 Consent of Surety to final payment.

9.4.1.8 The Owner reserves the right to retain payments, or parts thereof, for its protection until the foregoing conditions have been complied with, defective work corrected and all unsatisfactory conditions remedied.

#### ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY

10.1 The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take all reasonable precautions to prevent damage, injury or loss to: workers, persons nearby who may be affected, the Work, materials and equipment to be incorporated, and existing property at the site or adjacent thereto. The Contractor shall give notices and comply with applicable laws ordinances, rules regulations, and lawful orders of public authorities bearing on the safety of persons and property and their protection from injury, damage, or loss. The Contractor shall promptly remedy damage and loss to property at the site caused in whole or in part by the Contractor, a Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable.

10.2 The Contractor shall notify the Owner in the event any existing hazardous material such as lead, PCBs, asbestos, etc. is encountered on the project. The Owner will arrange with a qualified specialist for the identification, testing, removal, handling and protection against exposure or environmental pollution, to comply with applicable regulation laws and ordinances. The Contractor and Architect will not be required to participate in or to perform this operation. Upon completion of this work, the Owner will notify the Contractor and Architect in writing the area has been cleared and approved by the authorities in order for the work to proceed. The Contractor shall attach documentation from the authorities of said approval.

10.3 As required in the Hazardous Chemical Information Act of June 1984, all vendors supplying any materials that may be defined as hazardous, must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it has a warning caution on the label relating to a potential physical or health hazard, if it is known to be present in the work place, and if employees may be exposed under normal conditions or in any foreseeable emergency situation. Material Safety Data Sheets must be provided directly to the Owner along with the shipping slips that include those products.

10.4 The Contractor shall certify to the Owner that materials incorporated into the Work are free of all asbestos. This certification may be in the form of Material Safety Data Sheet (MSDS) provided by the product manufacturer for the materials used in construction, as specified or as provided by the Contractor.

#### ARTICLE 11: INSURANCE AND BONDS

11.1 The Contractor shall carry all insurance required by law, such as Unemployment Insurance, etc. The Contractor shall carry such insurance coverage as they desire on their own property such as a field office, storage sheds or other structures erected upon the project site that belong to them and for their own use. The Subcontractors involved with this project shall carry whatever insurance protection they consider necessary to cover the loss of any of their personal property, etc.

11.2 Upon being awarded the Contract, the Contractor shall obtain a minimum of two (2) copies of all required insurance certificates called for herein, and submit one (1) copy of each certificate, to the Owner, within 20 days of contract award.

11.3 Bodily Injury Liability and Property Damage Liability Insurance shall, in addition to the coverage included herein, include coverage for injury to or destruction of any property arising out of the collapse of or structural injury to any building or structure due to demolition work and evidence of these coverages shall be filed with and approved by the Owner.

11.4 The Contractor's Property Damage Liability Insurance shall, in addition to the coverage noted herein, include coverage on all real and personal property in their care, custody and control damaged in any way by the Contractor or their Subcontractors during the entire construction period on this project.

11.5 Builders Risk (including Standard Extended Coverage Insurance) on the existing building during the entire construction period, may be provided by the Contractor under this contract. The Owner shall insure the existing building and all of its contents and all this new alteration work under this contract during entire construction period for the full insurable value of the entire work at the site. Note, however, that the Contractor and their Subcontractors shall be responsible for insuring building materials (installed and stored) and their tools and equipment whenever in use on the project, against fire damage, theft, vandalism, etc.

11.6 Certificates of the insurance company or companies stating the amount and type of coverage, terms of policies, etc., shall be furnished to the Owner, within 20 days of contract award.

11.7 The Contractor shall, at their own expense, (in addition to the above) carry the following forms of insurance:

11.7.1 Contractor's Contractual Liability Insurance

Minimum coverage to be:

TEVEBAUGH ARCHITECTURE  
TA PROJECT NO. 21038

GENERAL REQUIREMENTS  
00 21 13 - 11

Bodily Injury	\$500,000 \$1,000,000 \$1,000,000	for each person for each occurrence aggregate
Property Damage	\$500,000 \$1,000,000	for each occurrence aggregate

11.7.2 Contractor's Protective Liability Insurance

Minimum coverage to be:

Bodily Injury	\$500,000 \$1,000,000 \$1,000,000	for each person for each occurrence aggregate
Property Damage	\$500,000 \$500,000	for each occurrence aggregate

11.7.3 Automobile Liability Insurance

Minimum coverage to be:

Bodily Injury	\$1,000,000 \$1,000,000	for each person for each occurrence
Property Damage	\$500,000	per accident

11.7.4 Prime Contractor's and Subcontractors' policies shall include contingent and contractual liability coverage in the same minimum amounts as 11.7.1 above.

11.7.5 Workmen's Compensation (including Employer's Liability):

11.7.5.1 Minimum Limit on employer's liability to be as required by law.

11.7.5.2 Minimum Limit for all employees working at one site.

11.7.6 Certificates of Insurance must be filed with the Owner guaranteeing fifteen (15) days prior notice of cancellation, non-renewal, or any change in coverages and limits of liability shown as included on certificates.

11.7.7 Social Security Liability

11.7.7.1 With respect to all persons at any time employed by or on the payroll of the Contractor or performing any work for or on their behalf, or in connection with or arising out of the Contractor's business, the Contractor shall accept full and exclusive liability for the payment of any and all contributions or taxes or unemployment insurance, or old age retirement benefits, pensions or annuities now or hereafter imposed by the Government of the United States and the State or political subdivision thereof, whether the same be measured by wages, salaries or other remuneration paid to such persons or otherwise.

11.7.7.2 Upon request, the Contractor shall furnish Owner such information on payrolls or employment records as may be necessary to enable it to fully comply with the law imposing the aforesaid contributions or taxes.

11.7.7.3 If the Owner is required by law to and does pay any and/or all of the aforesaid contributions or taxes, the Contractor shall forthwith reimburse the Owner for the entire amount so paid by the Owner.

## ARTICLE 12: UNCOVERING AND CORRECTION OF WORK

12.1 The Contractor shall promptly correct Work rejected by the Owner or failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed, and shall correct any Work found to be not in accordance with the requirements of the Contract Documents within a period of two years from the date of Substantial Completion, or by terms of an applicable special warranty required by the Contract Documents. The provisions of this Article apply to work done by Subcontractors as well as to Work done by direct employees of the Contractor.

12.2 At any time during the progress of the work, or in any case where the nature of the defects shall be such that it is not expedient to have them corrected, the Owner, at their option, shall have the right to deduct such sum, or sums, of money from the amount of the contract as they consider justified to adjust the difference in value between the defective work and that required under contract including any damage to the structure.

## ARTICLE 13: MISCELLANEOUS PROVISIONS

### 13.1 CUTTING AND PATCHING

13.1.1 The Contractor shall be responsible for all cutting and patching. The Contractor shall coordinate the work of the various trades involved.

### 13.2 DIMENSIONS

13.2.1 All dimensions shown shall be verified by the Contractor by actual measurements at the project site. Any discrepancies between the drawings and specifications and the existing conditions shall be referred to the Owner for adjustment before any work affected thereby has been performed.

### 13.3 LABORATORY TESTS

13.3.1 Any specified laboratory tests of material and finished articles to be incorporated in the work shall be made by bureaus, laboratories or agencies approved by the Owner and reports of such tests shall be submitted to the Owner. The cost of the testing shall be paid for by the Contractor.

13.3.2 The Contractor shall furnish all sample materials required for these tests and shall deliver same without charge to the testing laboratory or other designated agency when and where directed by the Owner.

### 13.4 ARCHAEOLOGICAL EVIDENCE

13.4.1 Whenever, in the course of construction, any archaeological evidence is encountered on the surface or below the surface of the ground, the Contractor shall notify the authorities of the State Historic Preservation Office and suspend work in the immediate area for a reasonable time to permit those

authorities, or persons designated by them, to examine the area and ensure the proper removal of the archaeological evidence for suitable preservation by the Division of Historical and Cultural Affairs.

#### 13.5 GLASS REPLACEMENT AND CLEANING

13.5.1 The General Contractor shall replace without expense to the Owner all glass broken during the construction of the project. If job conditions warrant, at completion of the job the General Contractor shall have all glass cleaned and polished.

#### 13.6 WARRANTY

13.6.1 For a period of two (2) years from the date of substantial completion, as evidenced by the date of final acceptance of the work, the contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect of equipment, material or workmanship performed by the contractor or any of his subcontractors or suppliers. However, manufacturer's warranties and guarantees, if for a period longer than two (2) years, shall take precedence over the above warranties. The contractor shall remedy, at his own expense, any such failure to conform or any such defect. The protection of this warranty shall be included in the Contractor's Performance Bond.

### ARTICLE 14: TERMINATION OF CONTRACT

14.1 If the Contractor defaults or persistently fails or neglects to carry out the Work in accordance with the Contract Documents or fails to perform a provision of the Contract, the Owner, after seven days written notice to the Contractor, may make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor. Alternatively, at the Owner's option, and the Owner may terminate the Contract and take possession of the site and of all materials, equipment, tools, and machinery thereon owned by the Contractor and may finish the Work by whatever method the Owner may deem expedient. If the costs of finishing the Work exceed any unpaid compensation due the Contractor, the Contractor shall pay the difference to the Owner.


14.2 "If the continuation of this Agreement is contingent upon the appropriation of adequate state, or federal funds, this Agreement may be terminated on the date beginning on the first fiscal year for which funds are not appropriated or at the exhaustion of the appropriation. The Owner may terminate this Agreement by providing written notice to the parties of such non-appropriation. All payment obligations of the Owner will cease upon the date of termination. Notwithstanding the foregoing, the Owner agrees that it will use its best efforts to obtain approval of necessary funds to continue the Agreement by taking appropriate action to request adequate funds to continue the Agreement."

### END OF SECTION





**LEGEND:**

 APPROXIMATE TEST BORING LOCATION



**TETRA TECH**

**FIGURE 1**

**APPROXIMATE TEST BORING LOCATIONS  
DELTECH WILMINGTON DELAWARE CAMPUS**

# FIELD DESCRIPTION AND LOGGING SYSTEM FOR SOIL EXPLORATION

## GRANULAR SOILS

(Sand, Gravel & Combinations)

<u>Density</u>	<u>N (blows)*</u>
Very Loose	5 or less
Loose	6 to 10
Medium Dense	11 to 30
Dense	31 to 50
Very Dense	51 or more

### Particle Size Identification

Boulders	8 in. diameter or more
Cobbles	3 to 8 in. diameter
Gravel	Coarse (C) 3 in. to ¾ in. sieve
	Fine (F) ¾ in. to No. 4 sieve
Sand	Coarse (C) No. 4 to No. 10 sieve (4.75mm-2.00mm)
	Medium (M) No. 10 to No. 40 sieve (2.00mm – 0.425mm)
	Fine (F) No. 40 to No. 200 sieve (0.425 – 0.074mm)
Silt/Clay	Less Than a No. 200 sieve (<0.074mm)

### Relative Proportions

<u>Description Term</u>	<u>Percent</u>
Trace	1 - 10
Little	11 - 20
Some	21 - 35
And	36 - 50

## COHESIVE SOILS

(Silt, Clay & Combinations)

<u>Consistency</u>	<u>N (blows)*</u>
Very Soft	3 or less
Soft	4 to 5
Medium Stiff	6 to 10
Stiff	11 to 15
Very Stiff	16 to 30
Hard	31 or more

### Plasticity

<u>Degree of Plasticity</u>	<u>Plasticity Index</u>
None to Slight	0 - 4
Slight	5 - 7
Medium	8 - 22
High to Very High	> 22

## ROCK

(Rock Cores)

<u>Rock Quality Designation (RQD), %</u>	<u>Rock Quality Description</u>
0-25	Very Poor
25-50	Poor
50-75	Fair
75-90	Good
90-100	Excellent

**RQD:** Rock Quality Designation

**TCR:** Total Core Recovery

**SCR:** Solid Core Recovery

**\*N - Standard Penetration Resistance.** Driving a 2.0" O.D., 1-3/8" I.D. sampler a distance of 18 inches into undisturbed soil with a 140 pound hammer free falling a distance of 30.0 inches. The number of hammer blows to drive the sampler through each 6 inch interval is recorded; the number of blows required to drive the sampler through the final 12 inch interval is termed the Standard Penetration Resistance (SPR) N-value. For example, blow counts of 6/8/9 (through three 6-inch intervals) results in an SPR N-value of 17 (8+9).

**Groundwater** observations were made at the times indicated. Groundwater elevations fluctuate throughout a given year, depending on actual field porosity and variations in seasonal and annual precipitation.

**TETRA TECH**

240 Continental Drive, Suite 200  
Newark, Delaware 19713  
302.738.7551  
fax: 302.454.5988

**TEST BORING LOG**

Project Name:	DelTech Borings	Project No.:	103IS6926
Project Location:	N. Shipley Street and W. 4th Street, Wilmington, DE	Page 1 of 1	
Boring No.:	SB-01	Dates(s) Drilled:	03/20/20
Surface Elev.:		Inspector:	S. MCCOY
Drilling Contractor:	CGC	Drilling Method:	SPT - ASTM D1586
		Driller:	M. LYONS
		Groundwater Depth (ft):	27.7
		Total Depth (ft):	71.0

Sample No.	Sample Depth (ft)		Strata Depth (ft)		Recov. (ft)	Strata (USCS)	Description of Materials	6" Increment Blows *				N	
	From	To	From	To									
			0.0	0.3			TOPSOIL (4")						
1	1.0	3.0	0.3		16	SM	YELLOW BROWN FINE TO MEDIUM SAND WITH A LITTLE SILT.	3	4	5	12	9	
2	3.0	5.0			14		YELLOW BROWN FINE TO MEDIUM SAND WITH A LITTLE SILT, TRACE FINE GRAVEL.	12	15	14	12	29	
3	8.0	10.0			0		NO RECOVERY. SAME PER AUGER SPOILS.	3	2	2	2	4	
4	13.0	15.0			14		YELLOW BROWN FINE TO MEDIUM SAND WITH A LITTLE SILT, TRACE FINE GRAVEL.	5	5	5	7	10	
5	18.0	20.0	16.5		16	CL	REDDISH BROWN TO BROWN SILTY CLAY WITH SOME FINE TO MEDIUM SAND.	5	2	3	6	5	
6	23.0	25.0			18		REDDISH BROWN TO BROWN SILTY CLAY WITH A LITTLE FINE TO MEDIUM SAND.	4	6	8	11	14	
7	28.0	30.0	26.5		12	SC	REDDISH BROWN FINE TO MEDIUM SAND WITH A LITTLE TO SOME SILTY CLAY.	11	20	21	22	41	
8	33.0	35.0			12		REDDISH BROWN, GRAY, TAN FINE TO MEDIUM SAND AND SILTY CLAY.	5	6	5	11	11	
9	38.0	40.0			12		REDDISH BROWN, GRAY, TAN, BROWN FINE TO MEDIUM SAND WITH A LITTLE SILTY CLAY.	8	19	20	16	39	
10	43.0	45.0			16		RED, WHITE, TAN, BROWN FINE TO MEDIUM SAND AND SILTY CLAY.	7	8	11	20	19	
11	48.0	50.0			16	CL	RED, WHITE, TAN, BROWN FINE TO MEDIUM SAND AND SILTY CLAY.	10	13	13	10	26	
12	53.0	55.0	51.5		12		VARI-COLORED (RED, WHITE, TAN, BROWN) SILTY CLAY WITH A LITTLE FINE SAND.	9	9	10	9	19	
13	58.0	60.0			20	CL	VARI-COLORED (RED, WHITE, TAN, BROWN) SILTY CLAY WITH SOME FINE SAND.	9	14	19	24	33	
14	63.0	64.3	61.5		16		DECOMPOSED ROCK: HIGHLY WEATHERED TO A LIGHT GRAY AND WHITE SILTY CLAY AND FINE TO MEDIUM SAND.	20	44	50/4"		>50	
15	68.0	70.0			22	CL/SC	SAME.	21	21	40	45	61	
							AUGER REFUSAL AT 71'.						

## Notes/Comments:

Pocket Penetrometer Testing

S6: 1.75 TSF  
S12: 2.25 TSF  
S13: 2.25 TSF

\* Number of blows of 140 lb. Hammer dropped 30 in. required to drive 2 in. split-spoon sampler in 6 in. increments.

N: Number of blows to drive spoon from 6" to 18" interval.



**TETRA TECH**

240 Continental Drive, Suite 200  
 Newark, Delaware 19713  
 302.738.7551  
 fax: 302.454.5988

**TEST BORING LOG**

Project Name:	DelTech Borings	Project No.:	103IS6926
Project Location:	N. Shipley Street and W. 4th Street, Wilmington, DE	Page 1 of 1	
Boring No.:	SB-02	Dates(s) Drilled:	03/19/20
Surface Elev.:		Inspector:	S. MCCOY
Drilling Contractor:	CGC	Drilling Method:	SPT - ASTM D1586
		Driller:	J. BLEMMINGS
		Groundwater Depth (ft):	21.5
		Total Depth (ft):	66.0

Sample No.	Sample Depth (ft)		Strata Depth (ft)		Recov. (ft)	Strata (USCS)	Description of Materials	6" Increment Blows *				N	
	From	To	From	To									
			0.0	0.3			TOPSOIL (3")						
1	1.0	3.0	0.3		16	CL	ORANGE BROWN AND RED SILTY CLAY WITH SOME FINE SAND.	3	4	4	5	8	
2	3.0	5.0		6.5	18	CL	ORANGE BROWN AND RED SILTY CLAY WITH SOME FINE SAND.	6	5	7	6	12	
3	8.0	10.0	6.5		16	SC	REDDISH BROWN TO BROWN FINE TO MEDIUM SAND AND SILTY CLAY.	5	6	6	5	12	
4	13.0	15.0	11.5		18	CL	REDDISH BROWN, GRAY, BROWN, TAN SILTY CLAY WITH A LITTLE FINE TO MEDIUM SAND.	3	5	8	7	13	
5	18.0	20.0	19.0		16	SC	REDDISH BROWN, GRAY, BROWN, TAN FINE TO MEDIUM SAND WITH SOME SILTY CLAY.	19	20	14	10	34	
6	23.0	25.0		29.0	12	SC	YELLOW BROWN FINE TO MEDIUM SAND WITH A LITTLE TO SOME SILTY CLAY.	2	4	4	5	8	
7	28.0	30.0	29.0		16	CL	REDDISH BROWN, GRAY, TAN SILTY CLAY WITH A LITTLE FINE SAND.	3	3	4	6	7	
8	33.0	35.0	31.5		12	SC	TAN TO LIGHT GRAY FINE TO MEDIUM SAND WITH SOME SILTY CLAY.	3	7	10	12	17	
9	38.0	40.0	37.5		16	CL	MARbled RED AND ORANGE BROWN SILTY CLAY, LAYERED WITH FINE TO MEDIUM SAND LENSES.	6	7	10	10	17	
10	43.0	45.0			18	CL	VARI-COLORED (RED, GRAY, ORANGE BROWN, TAN) SILTY CLAY WITH A LITTLE TO SOME FINE TO MEDIUM SAND.	10	10	13	16	23	
11	48.0	50.0		51.5	16	CL	VARI-COLORED (RED, GRAY, ORANGE BROWN, TAN) SILTY CLAY WITH A LITTLE TO SOME FINE TO MEDIUM SAND.	9	18	22	23	40	
12	53.0	55.0	51.5		16	SC	GRAY FINE TO MEDIUM SAND WITH A LITTLE SILTY CLAY, TRACE FINE TO COARSE GRAVEL (ANGULAR).	9	18	40	44	58	
13	58.0	58.3	58.0	58.3	3		FRACTURED /DECOMPOSED ROCK.	50/3"				>50	
							AUGER REFUSAL AT 61 FEET.						
							<u>ROCK CORE</u>						
Run 1	61.0	66.0	61.0				ROCK CORE. 80% RECOVERY. 10% RQD.						
				66.0			GRAY HIGHLY WEATHERED AND DECOMPOSED COARSE-GRAINED GNEISS.						

Notes/Comments:

Pocket Penetrometer Testing

S1: 1.5 TSF      S11: > 4 TSF  
 S2: 1.5 TSF  
 S7: 2.25 TSF  
 S9: 2.5 TSF  
 S10: 3.0 TSF

\* Number of blows of 140 lb. Hammer dropped 30 in. required to drive 2 in. split-spoon sampler in 6 in. increments.

N: Number of blows to drive spoon from 6" to 18" interval.

## **SECTION 00 40 00**

### **PROCUREMENT FORMS AND SUPPLEMENTS**

#### **1.1 ADMINISTRATIVE FORMS**

- A. Administrative Forms: Additional administrative forms are specified in Division 01 General Requirements.
- B. Copies of AIA standard forms may be obtained from the American Institute of Architects; <http://www.aia.org/contractdocs/purchase/index.htm>; [docspurchases@aia.org](mailto:docspurchases@aia.org); (800) 942-7732.
- C. 00 41 00 Bid Forms:
  - 1. 00 41 13 Bid Form, included in the Project Manual, and includes the following:
    - i Allowances
    - ii Alternates
    - iii Unit Prices
    - iv Sub-Contractor List
    - v Non-Collusion Statement
    - vi Affidavit of Employee Drug Testing Program
- D. 00 40 00 Procurement Forms:
  - 1. 00 43 13 Bid Bond Form, included in the Project Manual.
  - 2. 00 63 73 Allowance Authorization Form, included in the Project Manual

**END OF SECTION**

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300 N. ORANGE ST. WILMINGTON, DE. 19801  
DTCC WILMINGTON COURTYARD RENOVATION  
#DTCC\_22C900404-CYD

**BID FORM**

**For Bids Due:** 08/10/2022

**To:** Delaware Technical Community College  
Charles L. Terry Jr. 100 Campus Drive  
Dover, Delaware 19904-1383  
\_\_\_\_\_  
\_\_\_\_\_

**Name of Bidder:** \_\_\_\_\_  
**Taxpayer ID No.:** \_\_\_\_\_  
**(Other License Nos.):** \_\_\_\_\_

**Phone No.:** (        ) \_\_\_\_\_ - \_\_\_\_\_      **Fax No.:** (        ) \_\_\_\_\_ - \_\_\_\_\_

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

\$ \_\_\_\_\_  
(\$ \_\_\_\_\_ )

**ALTERNATES**

Alternate prices conform to applicable project specification section. Refer to specifications for a complete description of the following Alternates. An "ADD" or "DEDUCT" amount is indicated by the crossed out part that does not apply.

ALTERNATE No. 1: POURED-IN-PLACE CONCRETE AS PER DETAIL 1/L300 AND SPEC SECTION 32 13 13, IN LIEU OF HERRINGBONE PAVER FIELD, PAVER 'A'.

Add/Deduct: \_\_\_\_\_  
(\$ \_\_\_\_\_ )

ALTERNATE No. 2: EXISTING FENCE AND GATES ALONG SHIPLEY TO REMAIN. PROPOSED LOW BRICK WALL (DETAIL 3/L302), EGRESS GATE, AND FENCE (DETAIL 6/L303) TO BE OMITTED FROM THE SCOPE OF WORK FOR THIS ALTERNATE.

Add/Deduct: \_\_\_\_\_  
(\$ \_\_\_\_\_ )

ALTERNATE No. 3: EXISTING MAIN ENTRANCE SLIDING DOORS ARE TO REMAIN AND NOT BE REPLACED.

Add/Deduct: \_\_\_\_\_  
(\$ \_\_\_\_\_ )

ALTERNATE No. 4: REDUCE LENGTH OF MAPES CANOPY TO 6'-0"; REDUCE RECESSED CAN LIGHTS QUANTITY TO 3.

---

Add/Deduct: \_\_\_\_\_  
(\$ \_\_\_\_\_ )

ALTERNATE No. 5: EXISTING METAL SIDING TO REMAIN, RE-WORK ONLY AS NECESSARY TO ACCOMMODATE NEW MAPES CANOPY.

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Add/Deduct: \_\_\_\_\_  
(\$ \_\_\_\_\_ )



300 N. ORANGE ST. WILMINGTON, DE. 19801  
DTCC WILMINGTON COURTYARD RENOVATION  
#DTCC\_22C900404-CYD

**BID FORM**

**UNIT PRICES**

Unit prices conform to applicable project specification section. Refer to the specifications for a complete description of the following Unit Prices:

- This form is required to be attached to the Bid Form.
- The undersigned Bidder proposes the amounts below be added to or deducted from the Contract Sum on performance and measurement of the individual items of Work and for adjustment of the quantity given in the Unit-Price Allowance for the actual measurement of individual items of the Work.
- If the unit price does not affect the Work of this Contract, the Bidder shall indicate "NOT APPLICABLE."
- Unit price request 2 is solely applicable for the referenced removal of unsatisfactory material and the restoration of acceptable bearing media below the basis of design bearing elevation of the footings. All excavation above the basis of design bearing elevation of the footings is unclassified, as defined in specification section 003132. The request for these unit prices shall not be construed as implying the excavation is classified. Excavation is unclassified and includes excavation to subgrade elevations indicated, regardless of character of materials and obstructions encountered.
- Definitions:

*Rock excavation*: is defined as the excavation of all hard, compacted, or cemented materials that require blasting or the use of ripping and excavating equipment larger than defined for common excavation.

*Common excavation* is defined as the excavation of all materials that can be excavated, transported, and unloaded using heavy ripping equipment and wheel tractor-scrappers with pusher tractors, or that can be excavated and dumped into place or loaded onto hauling equipment by excavators equipped with attachments (shovel, bucket, backhoe, dragline, or clam shell) appropriate to the material type, character, and nature of the materials. Common excavation does not include removal of rock fragments or boulders larger than 1 cubic yard.

*Heavy ripping equipment* is defined as a rear-mounted, heavy duty, single-tooth, ripping attachment mounted on a track type tractor having a power rating of at least 250 flywheel horsepower.

*Unsatisfactory soil material* as defined by ASTM D2487 in conjunction with the performance criteria established by the contract documents, including, but not limited the structural drawings and specification section 003132.

Unit-Price No. 1: Additional fire extinguisher and surface mounted cabinet. Basis of design: Pro&Family 10lb exterior rated, wall mount cabinet. part number: LS-11.

- \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) per unit.

Unit-Price No. 2: Removal of unsatisfactory bearing soil and replacement with satisfactory soil including compaction.

- \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) per CuYd.

Unit-Price No. 3: Common excavation as defined in this section including cost of removal from site: (Unit cost will only apply to required cutting that is not already required/documented in the Contract Documents.

- \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) per unit.

Unit-Price No. 4: Per cubic yard of Rock Excavation as defined in this section:

- \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) per Unit.

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**BID FORM**

I/We acknowledge Addendums numbered \_\_\_\_\_ and the price(s) submitted include any cost/schedule impact they may have.

This bid shall remain valid and cannot be withdrawn for thirty (30) days from the date of opening of bids (60 days for School Districts and Department of Education), and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid.

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to achieve substantial completion of all the work within \_\_\_\_\_ calendar days of the Notice to Proceed.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By \_\_\_\_\_ Trading as \_\_\_\_\_  
(Individual's / General Partner's / Corporate Name)  
\_\_\_\_\_  
(State of Corporation)

Business Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Witness: \_\_\_\_\_ By: \_\_\_\_\_  
(SEAL) ( Authorized Signature )  
\_\_\_\_\_  
( Title )  
Date: \_\_\_\_\_

**ATTACHMENTS**

- Sub-Contractor List
- Non-Collusion Statement
- Affidavit of Employee Drug Testing Program
- Affidavit of Contractor Qualifications
- Bid Security
- (Others as Required by Project Manuals)

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**BID FORM**

**SUBCONTRACTOR LIST**

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b of the Delaware Code, the following subcontractor listing must accompany any bid submittal. The bidder must list **in each category** the full name and address (City & State) of the sub-contractor that the bidder will be using to perform the work and provide material for that subcontractor category. Should the bidder's listed subcontractor intend to provide any of their subcontractor category of work through a third-tier contractor, the bidder shall list that third-tier contractor's full name and address (City & State). **If the bidder intends to perform any category of work itself, it must list its full name and address.** For clarification, if the bidder intends to perform the work themselves, the bidder **may not** insert "not applicable", "N/A", "self" or anything other than its own full name and address (City & State). To do so shall cause the bid to be rejected. In addition, the failure to produce a completed subcontractor list with the bid submittal shall cause the bid to be rejected. If you have more than three (3) third-tier contractors to report in any subcontractor category, print out additional page(s) containing the appropriate category, complete the rest of your list of third-tier contractors for that category, notate the addition in parentheses as (CONTINUATION) next to the subcontractor category and an asterisk (\*) next to any additional third-tier contractors, and submit it with your bid.

<b><u>Subcontractor Category</u></b>	<b><u>Subcontractor</u></b>	<b><u>Address (City &amp; State)</u></b>	<b><u>Subcontractors tax-payer ID # or Delaware Business license #</u></b>
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____

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**BID FORM**

**NON-COLLUSION STATEMENT**

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date (*to the Office of Management and Budget, Division of Facilities Management*).

All the terms and conditions of DTCC Contract No. DTCC\_22C900404-CYD have been thoroughly examined and are understood.

**NAME OF BIDDER:** \_\_\_\_\_

**AUTHORIZED REPRESENTATIVE  
(TYPED):** \_\_\_\_\_

**AUTHORIZED REPRESENTATIVE  
(SIGNATURE):** \_\_\_\_\_

**TITLE:** \_\_\_\_\_

**ADDRESS OF BIDDER:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**E-MAIL:** \_\_\_\_\_

**PHONE NUMBER:** \_\_\_\_\_

Sworn to and Subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_ 2022.

My Commission expires \_\_\_\_\_. NOTARY PUBLIC \_\_\_\_\_.

**THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.**

300 N. ORANGE ST. WILMINGTON, DE. 19801  
DTCC WILMINGTON COURTYARD RENOVATION  
#DTCC\_22C900404-CYD

**BID FORM**

**AFFIDAVIT  
OF  
EMPLOYEE DRUG TESTING PROGRAM**

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors, that complies with this regulation:

**Contractor/Subcontractor Name:** \_\_\_\_\_

**Contractor/Subcontractor Address:** \_\_\_\_\_

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

**Authorized Representative (typed or printed):** \_\_\_\_\_

**Authorized Representative (signature):** \_\_\_\_\_

**Title:** \_\_\_\_\_

Sworn to and Subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_ 2022.

My Commission expires \_\_\_\_\_. NOTARY PUBLIC \_\_\_\_\_.

**THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.**

300 N. ORANGE ST. WILMINGTON, DE. 19801  
DTCC WILMINGTON COURTYARD RENOVATION  
#DTCC\_22C900404-CYD

**BID FORM**

**AFFIDAVIT  
OF  
CONTRACTOR QUALIFICATIONS**

We hereby certify that we will abide by the contractor’s qualifications outlined in the construction bid specifications for the duration of the contract term.

In accordance with Title 29, Chapter 69, Section 6962(d)(10)b.3 of the Delaware Code, after a contract has been awarded the successful bidder shall not substitute another subcontractor whose name was submitted on the Subcontractor Form except for the reasons in the statute and not without written consent from the awarding agency. Failure to utilize the subcontractors on the list will subject the successful bidder to penalties as outlined in the General Requirements Section 5.2 of the contract.

**Contractor Name:** \_\_\_\_\_

**Contractor Address:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Authorized Representative (typed or printed):** \_\_\_\_\_

**Authorized Representative (signature):** \_\_\_\_\_

**Title:** \_\_\_\_\_

Sworn to and Subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_ 2022.

My Commission expires \_\_\_\_\_. NOTARY PUBLIC \_\_\_\_\_.

**THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.**

**END OF SECTION**



DELAWARE TECHNICAL COMMUNITY COLLEGE

**BID BOND**

TO ACCOMPANY PROPOSAL  
(Not necessary if security is used)

KNOW ALL MEN BY THESE PRESENTS That: \_\_\_\_\_  
\_\_\_\_\_ of \_\_\_\_\_ in the County of \_\_\_\_\_  
\_\_\_\_\_ and State of \_\_\_\_\_ as **Principal**, and \_\_\_\_\_  
\_\_\_\_\_ of \_\_\_\_\_ in the County of \_\_\_\_\_  
and State of \_\_\_\_\_ as **Surety**, legally authorized to do business in the State of Delaware  
("State"), are held and firmly unto the **State** in the sum of \_\_\_\_\_  
\_\_\_\_\_ Dollars (\$ \_\_\_\_\_), or \_\_\_\_\_ percent not to exceed \_\_\_\_\_  
\_\_\_\_\_ Dollars (\$ \_\_\_\_\_  
\_\_\_\_\_ ) of amount of bid on Contract No. DTCC 22C900404-CYD, to be paid to the **Delaware  
Technical Community College** for the use and benefit of **Delaware Technical Community College** for  
which payment well and truly to be made, we do bind ourselves, our and each of our heirs, executors,  
administrators, and successors, jointly and severally for and in the whole firmly by these presents.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH That if the above bonded **Principal**  
who has submitted to the **Delaware Technical Community College** a certain proposal to enter into this  
contract for the furnishing of certain material and/or services within the **State**, shall be awarded this  
Contract, and if said **Principal** shall well and truly enter into and execute this Contract as may be required  
by the terms of this Contract and approved by **Delaware Technical Community College** this Contract to  
be entered into within twenty days after the date of official notice of the award thereof in accordance with  
the terms of said proposal, then this obligation shall be void or else to be and remain in full force and virtue.

Sealed with \_\_\_\_\_ seal and dated this \_\_\_\_\_ day of \_\_\_\_\_ in the year of our Lord  
two thousand and \_\_\_\_\_ (20\_\_\_\_).

SEALED, AND DELIVERED IN THE  
Presence of

\_\_\_\_\_  
Name of Bidder (Organization)

Corporate  
Seal

By:

\_\_\_\_\_  
Authorized Signature

Attest \_\_\_\_\_

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name of Surety

Witness: \_\_\_\_\_

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

\_\_\_\_\_  
Title

**END OF SECTION**

 **AIA**® Document **A101**® – 2017

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

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

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

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

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

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

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

The parties should complete A101®–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement.

AIA Document A201®–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

The Owner and Contractor agree as follows.

Init.

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**TABLE OF ARTICLES**

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

**EXHIBIT A INSURANCE AND BONDS**

**ARTICLE 1 THE CONTRACT DOCUMENTS**

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

**ARTICLE 2 THE WORK OF THIS CONTRACT**

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

**ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION**

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

*(Check one of the following boxes.)*

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

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

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

**§ 3.3 Substantial Completion**

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

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

- Not later than ( ) calendar days from the date of commencement of the Work.

By the following date:

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

Portion of Work	Substantial Completion Date
-----------------	-----------------------------

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

#### ARTICLE 4 CONTRACT SUM

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

#### § 4.2 Alternates

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

Item	Price
------	-------

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

Item	Price	Conditions for Acceptance
------	-------	---------------------------

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

Item	Price
------	-------

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

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

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

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

## ARTICLE 5 PAYMENTS

### § 5.1 Progress Payments

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

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

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

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

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

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

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

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

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

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

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

### § 5.1.7 Retainage

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

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

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

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

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

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

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

## **§ 5.2 Final Payment**

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

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

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

## **§ 5.3 Interest**

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

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

\_\_\_\_\_ %

## **ARTICLE 6 DISPUTE RESOLUTION**

### **§ 6.1 Initial Decision Maker**

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.

*(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)*

**§ 6.2 Binding Dispute Resolution**

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

*(Check the appropriate box.)*

- Arbitration pursuant to Section 15.4 of AIA Document A201–2017
- Litigation in a court of competent jurisdiction
- Other *(Specify)*

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

**ARTICLE 7 TERMINATION OR SUSPENSION**

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

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

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

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

**ARTICLE 8 MISCELLANEOUS PROVISIONS**

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

**§ 8.2** The Owner’s representative:

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

**§ 8.3** The Contractor’s representative:

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

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



**§ 8.5 Insurance and Bonds**

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

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

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

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

**§ 8.7** Other provisions:

**ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS**

**§ 9.1** This Agreement is comprised of the following documents:

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

.5 Drawings

Number	Title	Date
--------	-------	------

.6 Specifications

Section	Title	Date	Pages
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.7 Addenda, if any:

Number	Date	Pages
--------	------	-------

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

.8 Other Exhibits:

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

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

The Sustainability Plan:

Title	Date	Pages
-------	------	-------

Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
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.9 Other documents, if any, listed below:

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

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

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

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

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

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

Amendment to Contract for Construction  
Between  
Delaware Technical and Community College  
And

---

The parties hereby agree and reaffirm that the AIA Document A101 – 2017 “Standard Form of Agreement between Owner and Contractor” between Delaware Technical and Community College (“Owner”) and \_\_\_\_\_, a \_\_\_\_\_ corporation (“Contractor”), dated \_\_\_\_\_, 202\_, shall govern this transaction as supplemented by A201-2017 General Conditions for Construction and amended herein (“Contract Documents”). At times Owner and Contractor shall be collectively referred to the “Parties”.

The parties expressly agree to enter into this amendment (“Amendment”) which shall govern in the event of a conflict between the terms of the Contract Documents or any document referenced or incorporated therein, and that any contrary provision of any such document shall be superseded hereby. The parties agree to this Amendment as follows:

1. Contractor represents and warrants that it has not employed or retained any company or person, other than a bona fide employee working primarily for the firm offering professional services, to solicit or secure this agreement, and that he has not been paid or agreed to pay any person, company, corporation, individual, or firm, other than a bona fide employee working primarily for the firm offering professional services, any fee, commission, percentage, gift, or any other consideration, contingent upon or resulting from the award or making of this agreement;
2. All provisions of the Bid Package and Project manual are incorporated herein by reference as though fully set forth. In the event of a conflict between any provision of the Bid Package or Project Manual and the bid or proposal submitted by Contractor, the Bid Package and Project Manual shall control.
3. §3.3 is amended to require substantial completion of all construction not later than \_\_\_\_\_ days from the commencement of construction. Time is of the essence. If the Contractor fails to complete the work within the time specified, the Contractor shall pay liquidated damages to the Owner in the amount of \$ \_\_\_\_\_ for each calendar day of delay until the work is completed or accepted. If the Owner terminates the Contractor’s right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to all sums and remedies available to Owner upon termination for cause.
4. In the event the attached contract or aggregate of contracts is in excess of \$500,000 for new construction (including painting and decorating) or \$45,000 for alteration, repair,

renovation, rehabilitation, demolition or reconstruction (including painting and decorating of buildings or works) and requires or involves the employment of mechanics and/or laborers, then the minimum wages to be paid to the various classes of laborers and mechanics shall be based upon greater of the Davis-Bacon Wage Rates (if the project is federally funded) or the wages that will be determined by the Delaware Department of Labor, Division of Industrial Affairs, to be prevailing in the county in which the work is to be performed.

5. Contractor shall pay all mechanics and laborers employed directly upon the site of the work, unconditionally and not less often than once a week and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment, computed at wage rates not less than the prevailing wages, regardless of any contractual relationship which may be alleged to exist between the employer and such laborers and mechanics, and shall provide sworn payroll information, as required by the Department of Labor, on a weekly basis.
6. All changes to the scope of construction shall be authorized in writing by Owner in advance. Owner shall not be liable for payment of any change order that has not received prior written authorization. The cost of any change order shall be set forth therein. If no such provision is set forth in the change order, then the cost to the Owner shall be the Contractor's costs for wages, labor costs other than wages, wage taxes, materiel, equipment rentals, insurance and subcontracts attributable to the additional activity plus a reasonable sum for overhead and profit not to exceed 15%;
7. Preference in employment of laborers, workers or mechanics shall be given to bona fide legal citizens of the State who have established citizenship by residence of at least 90 days in the State. Contractor shall pay a penalty to the Secretary of Finance equal to the amount of compensation paid to any person in violation of this section;
8. Contractor shall not substitute another subcontractor for any subcontractor whose name was set forth in the statement which accompanied the bid without the written consent of Owner. Contractor shall pay a penalty equal to 150% of the amount of the proposal or subcontract submitted by the subcontractor identified in the accompanying statement for violating this paragraph.
9. Payments are due 30 days after receipt of a valid Application for Payment. Payments due and unpaid after 30 days shall bear simple interest at the rate of 1 percent per month not greater than 12% annual percentage rate;
10. Final payment shall not be due until all non-conforming work has been corrected and all other provisions of the agreement have been met, including, but not limited to, all reporting requirements. Furthermore, a written release of mechanics' liens signed by all persons who would otherwise be entitled to avail themselves of the provisions of Chapter 27 of Title 25 of the Delaware Code, containing a notarized, verified certification signed by the Contractor that all of the persons signing the release constitute all of the persons who have furnished materials and performed labor in and for the construction, erection,

building, improvement, alteration and repair to the date of the release and who would be entitled otherwise to file mechanics' liens claims shall be provided simultaneously with the receipt of final payment;

11. Owner may terminate this agreement or suspend work hereunder for any reason authorized by applicable Delaware law;
12. §6.2 is hereby deleted. The parties reserve all remedies available at law or equity for any dispute not resolved in accordance with §6.1;
13. §7.1.1 is hereby deleted and there shall be no Termination Fee paid to Contractor. Any reference to a Termination Fee in §14.4.3 of the A201-2017 is also deleted.
14. Any and all references to attorney's fees in §10.3.3 of the A201-2017 is deleted.
15. Exhibit A Insurance and Bonds is hereby deleted. Simultaneous with the execution of the this contract, Contractor shall also execute a good and sufficient bond for the benefit of Owner, with corporate surety authorized to do business in this State, in a sum equal to 100% of the contract price and the bond form used shall be the standard form issued by the Office of Management and Budget. The bond shall be conditioned upon the faithful compliance and performance by the successful bidder of each and every term and condition of the contract and the proposal and plans and specifications thereof, at the time and in the manner prescribed by the contract and the plans and specifications, including the payment in full, to every firm furnishing materiel or performing labor in the performance of the contract, of all sums of money due it for such labor or materiel. The bond shall also contain the Contractor's guarantee to indemnify and save harmless the Owner from all costs, damages and expenses growing out of or by reason of Contractor's failure to comply and perform the work and complete the contract in accordance with its terms. No firm or surety, in any action brought under 29 Del C §6962, or any successor law, or on the bond required by such statute, shall assert as a defense to such action the claim that the bond given contained a limitation or restriction not provided for by Chapter 69, Title 29 of the Delaware Code, the provisions of which are incorporated herein by reference as though fully set forth. Contractor shall obtain all insurance required by Owner and provide proof thereof prior to execution.;
16. Owner shall have the right to terminate the contract upon receipt of notice from Contractor's surety that bond claims have been made or are anticipated to be made against Contractor on this or any other project of Contractor. If Owner elects to terminate the contract pursuant to this paragraph, it shall be deemed a termination for cause.
17. Owner may, when it considers that its interests so require, cause judgment to be confessed upon the bond. All sums received through confession of judgment shall be paid for the credit of the Owner to the Secretary of Finance;
18. Owner or any of its duly authorized representatives shall have access to any documents, books, papers, and records of Contractor (which are directly pertinent to a specific grant

program) for the purpose of making an audit, examination, excerpts, and transcriptions. Contractor shall maintain all required records for at least three years after Owner makes final payment and all pending matters are closed;

19. Contractor shall submit a report to Owner not less frequently than monthly covering the general progress of the job and describing any problems or factors contributing to delay;
20. During the performance of this contract, the contractor agrees as follows:

The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, sexual orientation gender identity, pregnancy, or national origin. The contractor will take positive steps to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, color, sex, sexual orientation, gender identity, pregnancy, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, 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 contracting agency setting forth this nondiscrimination clause.

The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants receive consideration for employment without regard to race, creed, color, sex, sexual orientation or national origin.

21. The parties agree that this agreement shall be governed by and construed pursuant to the laws of The State of Delaware, and that the Delaware courts shall have sole and exclusive jurisdiction of any dispute arising under this agreement.

IN WITNESS WHEREOF, the parties, through their acknowledged and duly authorized agents set forth below, have set their hand and seal on this indenture on this \_\_\_\_\_ day of \_\_\_\_\_, 202\_\_.

Delaware Technical and Community College

\_\_\_\_\_ (Seal)

Mark T. Brainard, President

(Contractor)

\_\_\_\_\_ (Seal)

By:

STATE OF DELAWARE  
OFFICE OF MANAGEMENT AND BUDGET

**PERFORMANCE BOND**

Bond Number: \_\_\_\_\_

KNOW ALL PERSONS BY THESE PRESENTS, that we, \_\_\_\_\_, as principal ("**Principal**"), and \_\_\_\_\_, a \_\_\_\_\_ corporation, legally authorized to do business in the State of Delaware, as surety ("**Surety**"), are held and firmly bound unto the Office of Management and Budget ("**Owner**"), in the amount of \_\_\_\_\_ (\$\_\_\_\_\_), to be paid to **Owner**, for which payment well and truly to be made, we do bind ourselves, our and each and every of our heirs, executors, administrations, successors and assigns, jointly and severally, for and in the whole, firmly by these presents.

Sealed with our seals and dated this \_\_\_\_\_ day of \_\_\_\_\_, 2022.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH, that if **Principal**, who has been awarded by **Owner** that certain contract known as Contract No. DTCC\_22C900404-CYD dated the \_\_\_\_\_ day of \_\_\_\_\_, 2022 (the "Contract"), which Contract is incorporated herein by reference, shall well and truly provide and furnish all materials, appliances and tools and perform all the work required under and pursuant to the terms and conditions of the Contract and the Contract Documents (as defined in the Contract) or any changes or modifications thereto made as therein provided, shall make good and reimburse **Owner** sufficient funds to pay the costs of completing the Contract that **Owner** may sustain by reason of any failure or default on the part of **Principal**, and shall also indemnify and save harmless **Owner** from all costs, damages and expenses arising out of or by reason of the performance of the Contract and for as long as provided by the Contract; then this obligation shall be void, otherwise to be and remain in full force and effect.

**Surety**, for value received, hereby stipulates and agrees, if requested to do so by **Owner**, to fully perform and complete the work to be performed under the Contract pursuant to the terms, conditions and covenants thereof, if for any cause **Principal** fails or neglects to so fully perform and complete such work.

**Surety**, for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of **Surety** and its bond shall be in no way impaired or affected by any extension of time, modification, omission, addition or change in or to the Contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any work to be performed or any monies due or to become due thereunder; and **Surety** hereby waives notice of any and

all such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees, subcontractors, and other transferees shall have the same effect as to **Surety** as though done or omitted to be done by or in relation to **Principal**.

**Surety** hereby stipulates and agrees that no modifications, omissions or additions in or to the terms of the Contract shall in any way whatsoever affect the obligation of **Surety** and its bond.

Any proceeding, legal or equitable, under this Bond may be brought in any court of competent jurisdiction in the State of Delaware. Notices to **Surety** or Contractor may be mailed or delivered to them at their respective addresses shown below.

IN WITNESS WHEREOF, **Principal** and **Surety** have hereunto set their hand and seals, and such of them as are corporations have caused their corporate seal to be hereto affixed and these presents to be signed by their duly authorized officers, the day and year first above written.

PRINCIPAL

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

Witness or Attest: Address: \_\_\_\_\_

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

(Corporate Seal)

By: \_\_\_\_\_(SEAL)

Name:

Title:

SURETY

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

Witness or Attest: Address: \_\_\_\_\_

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

(Corporate Seal)

By: \_\_\_\_\_(SEAL)

Name:

Title:

**END OF SECTION**



STATE OF DELAWARE  
OFFICE OF MANAGEMENT AND BUDGET

**PAYMENT BOND**

Bond Number: \_\_\_\_\_

KNOW ALL PERSONS BY THESE PRESENTS, that we, \_\_\_\_\_, as principal ("**Principal**"), and \_\_\_\_\_, a \_\_\_\_\_ corporation, legally authorized to do business in the State of Delaware, as surety ("**Surety**"), are held and firmly bound unto the Office of Management and Budget ("**Owner**"), in the amount of \_\_\_\_\_ (\$\_\_\_\_\_), to be paid to **Owner**, for which payment well and truly to be made, we do bind ourselves, our and each and every of our heirs, executors, administrations, successors and assigns, jointly and severally, for and in the whole firmly by these presents.

Sealed with our seals and dated this \_\_\_\_\_ day of \_\_\_\_\_, 2022.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH, that if **Principal**, who has been awarded by **Owner** that certain contract known as Contract No. DTCC\_22C900404-CYD dated the \_\_\_\_\_ day of \_\_\_\_\_, 2022 (the "Contract"), which Contract is incorporated herein by reference, shall well and truly pay all and every person furnishing materials or performing labor or service in and about the performance of the work under the Contract, all and every sums of money due him, her, them or any of them, for all such materials, labor and service for which **Principal** is liable, shall make good and reimburse **Owner** sufficient funds to pay such costs in the completion of the Contract as **Owner** may sustain by reason of any failure or default on the part of **Principal**, and shall also indemnify and save harmless **Owner** from all costs, damages and expenses arising out of or by reason of the performance of the Contract and for as long as provided by the Contract; then this obligation shall be void, otherwise to be and remain in full force and effect.

**Surety**, for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of **Surety** and its bond shall be in no way impaired or affected by any extension of time, modification, omission, addition or change in or to the Contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any work to be performed or any monies due or to become due thereunder; and **Surety** hereby waives notice of any and all such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees,

subcontractors, and other transferees shall have the same effect as to **Surety** as though done or omitted to be done by or in relation to **Principal**.

**Surety** hereby stipulates and agrees that no modifications, omission or additions in or to the terms of the Contract shall in any way whatsoever affect the obligation of **Surety** and its bond.

Any proceeding, legal or equitable, under this Bond may be brought in any court of competent jurisdiction in the State of Delaware. Notices to **Surety** or Contractor may be mailed or delivered to them at their respective addresses shown below.

IN WITNESS WHEREOF, **Principal** and **Surety** have hereunto set their hand and seals, and such of them as are corporations have caused their corporate seal to be hereto affixed and these presents to be signed by their duly authorized officers, the day and year first above written.

PRINCIPAL

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

Witness or Attest: Address: \_\_\_\_\_

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

(Corporate Seal)

By: \_\_\_\_\_(SEAL)

Name:  
Title:

SURETY

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

Witness or Attest: Address: \_\_\_\_\_

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

(Corporate Seal)

By: \_\_\_\_\_(SEAL)

Name:  
Title:

END OF SECTION

**CONTRACTOR**

<b>Submittal No.</b>	
<b>Spec Section</b>	
<b>Paragraph</b>	
<b>Description</b>	

**Project**  
 Delaware Technical Community College  
 Wilmington Courtyard Renovation  
 300 North Orange Street  
 Wilmington, DE. 19801

**Owner**  
 Delaware Technical Community College  
 Charles L. Terry Jr. Campus  
 100 Campus Dr. Dover, DE 19904-1383

**Architect**  
 Tevebaugh Architecture  
 2 Mill Road, Suite 210  
 Wilmington, DE 19806

**TEVEBAUGH**

Architect's review is for conformance with project design concepts. The contractor is responsible for confirming and correlating all quantities and dimensions relating to fabrication process, techniques of construction, and coordination of the work of all trades.

Review neither extends nor alters any contractual obligations of the Architect or Contractor.

- Reviewed
- Reviewed with Notations
- Revise & Resubmit
- Rejected

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

Comments:

**CONSULTANT**

Comments:

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## Application and Certificate for Payment

TO OWNER: PROJECT: \_\_\_\_\_

APPLICATION NO: \_\_\_\_\_

PERIOD TO: \_\_\_\_\_

CONTRACT FOR: \_\_\_\_\_

CONTRACT DATE: \_\_\_\_\_

PROJECT NOS: \_\_\_\_\_

Distribution to: OWNER  ARCHITECT  CONTRACTOR  FIELD  OTHER

FROM CONTRACTOR: VIA ARCHITECT: \_\_\_\_\_

### CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. AIA Document G703\*, Continuation Sheet, is attached.

1. ORIGINAL CONTRACT SUM ..... \$ \_\_\_\_\_
2. NET CHANGE BY CHANGE ORDERS ..... \$ \_\_\_\_\_
3. CONTRACT SUM TO DATE (Line 1 + 2) ..... \$ \_\_\_\_\_
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) ..... \$ \_\_\_\_\_
5. RETAINAGE:
  - a. \_\_\_\_\_% of Completed Work (Columns D + E on G703) \$ \_\_\_\_\_
  - b. \_\_\_\_\_% of Stored Material (Column F on G703) \$ \_\_\_\_\_
- Total Retainage (Lines 5a + 5b, or Total in Column I of G703) ..... \$ \_\_\_\_\_
6. TOTAL EARNED LESS RETAINAGE ..... \$ \_\_\_\_\_  
(Line 4 minus Line 5 Total)
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT ..... \$ \_\_\_\_\_  
(Line 6 from prior Certificate)
8. CURRENT PAYMENT DUE ..... \$ \_\_\_\_\_
9. BALANCE TO FINISH, INCLUDING RETAINAGE  
(Line 3 minus Line 6) \$ \_\_\_\_\_

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

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

By: \_\_\_\_\_ State of: \_\_\_\_\_

County of: \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_

Notary Public: \_\_\_\_\_

My commission expires: \_\_\_\_\_

### ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED ..... \$ \_\_\_\_\_  
(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT: \_\_\_\_\_

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

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	\$ _____	\$ _____
Total approved this month	\$ _____	\$ _____
TOTAL	\$ _____	\$ _____
NET CHANGES by Change Order	\$ _____	\$ _____

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**REQUEST FOR INFORMATION**

PROJECT: DTCC Wilmington Courtyard Renovation  
NUMBER: TEVEBAUGH #21038

RFI NUMBER: \_\_\_\_\_  
DATE: \_\_\_\_\_

SUBJECT: \_\_\_\_\_  
REFERENCE: \_\_\_\_\_

**REQUEST:** \_\_\_\_\_

By: \_\_\_\_\_ Date Reply Requested: \_\_\_\_\_

**REPLY:** \_\_\_\_\_

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

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

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**SECTION 00 63 25**

**SUBSTITUTION REQUEST FORM**

To: Tevebaugh Associates, Inc.

Two Mill Road, Suite 210

Wilmington, DE 19806

Project Delaware Technical Community College Wilmington Courtyard Renovation

Prime Contract \_\_\_\_\_

Contractor Company Name \_\_\_\_\_

The following product is submitted in lieu of the specified product(s) for the above-referenced project:

Specification Section or Drawing \_\_\_\_\_

Paragraph or Detail \_\_\_\_\_

Specified Item \_\_\_\_\_

Substituted Manufacturer \_\_\_\_\_

Substituted Product Name \_\_\_\_\_

Substituted product manufacturer's contact information

Company Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Company Telephone \_\_\_\_\_

Technical Contact \_\_\_\_\_

Technical Email \_\_\_\_\_

Local Rep Name \_\_\_\_\_

Local Rep Telephone \_\_\_\_\_

Local Rep Email \_\_\_\_\_

Reason for not giving priority to specified items:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The attached data includes descriptions, specifications, drawings, photographs, performance, and test data adequate for the evaluation of the proposed substitution request. The applicable portions of the data have been highlighted, and non-applicable information has been redacted or clearly omitted from the documentation. The documentation has been provided in a line-by-line comparison to the basis of design product performance criteria established by the drawings and specifications.

The undersigned prime contractor certifies that the following statements are correct, unless specifically clarified in writing, via the substitution request form in this section:

1. The proposed substitution has been reviewed and coordinated with the Contract Documents.
2. The proposed substitution does not affect dimensions required by the drawings or specifications

3. The proposed substitution does not affect the work of other prime contractors
4. The undersigned will be responsible for changes to the design, including architectural and engineering design, detailing, or construction costs associated with the proposed substitution.
5. The proposed substitution will have no adverse effect on the construction schedule, or specified warranty requirements.
6. Maintenance and service parts are readily available to local suppliers servicing the site location at the time of bid.
7. The function, appearance, and quality of the proposed substitution is better than or equal to the specified item.

Attachments (Provide description of attachments next to applicable heading)

Drawings

---

---

Specifications

---

---

Technical Data

---

---

Submitted by:

---

(Signature of Prime Contractor's Representative)

---

(Prime Contract)

---

(Printed Name of Prime Contractor's Representative)

---

(Date)

Drawings affected by proposed substitution: ( No effect / or describe below)

---

---

Description of changes to the contract documents as a result of proposed substitution:

( No effect / or describe below)

---

---

List of applicable building codes that apply to the implementation of proposed substitution for this project: ( No effect / or describe below)

---

---

Effects that this substitution has on other prime contracts: ( No effect / or describe below)

---

---

List any differences between basis of design and proposed substitution:

( No difference / or describe below)

---

---

**END OF SECTION**



**AIA**<sup>®</sup>

# Document G710<sup>™</sup> – 2017

## Architect's Supplemental Instructions

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**PROJECT:** *(name and address)*

**CONTRACT INFORMATION:**

Contract For:

Date:

**ASI INFORMATION:**

ASI Number:

Date:

**OWNER:** *(name and address)*

**ARCHITECT:** *(name and address)*

**CONTRACTOR:** *(name and address)*

---

The Contractor shall carry out the Work in accordance with the following supplemental instructions without change in Contract Sum or Contract Time. Proceeding with the Work in accordance with these instructions indicates your acknowledgment that there will be no change in the Contract Sum or Contract Time.

*(Insert a detailed description of the Architect's supplemental instructions and, if applicable, attach or reference specific exhibits.)*

---

**ISSUED BY THE ARCHITECT:**

---

**ARCHITECT** *(Firm name)*

---

**SIGNATURE**

---

**PRINTED NAME AND TITLE**

---

**DATE**

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**AIA**<sup>®</sup>

# Document G714<sup>™</sup> – 2017

## Construction Change Directive

**PROJECT:** *(name and address)*

**CONTRACT INFORMATION:**

Contract For:

Date:

**CCD INFORMATION:**

Directive Number:

Date:

**OWNER:** *(name and address)*

**ARCHITECT:** *(name and address)*

**CONTRACTOR:** *(name and address)*

The Contractor is hereby directed to make the following change(s) in this Contract:

*(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits.)*

### PROPOSED ADJUSTMENTS

1. The proposed basis of adjustment to the Contract Sum or Guaranteed Maximum Price:

- Lump Sum (increase) (decrease) of \$
- Unit Price of \$ \_\_\_\_\_ per \_\_\_\_\_
- Cost, as defined below, plus the following fee:  
*(Insert a definition of, or method for determining, cost)*
- As follows:

2. The Contract Time is proposed to (be adjusted) (remain unchanged). The proposed adjustment, if any, is (an increase of \_\_\_\_\_ days) (a decrease of \_\_\_\_\_ days).

*NOTE: The Owner, Architect and Contractor should execute a Change Order to supersede this Construction Change Directive to the extent they agree upon adjustments to the Contract Sum, Contract Time, or Guaranteed Maximum price for the change(s) described herein.*

When signed by the Owner and Architect and received by the Contractor, this document becomes effective IMMEDIATELY as a Construction Change Directive (CCD), and the Contractor shall proceed with the change(s) described above.

Contractor signature indicates agreement with the proposed adjustments in Contract Sum and Contract Time set forth in this CCD.

\_\_\_\_\_  
**ARCHITECT** *(Firm name)*

\_\_\_\_\_  
**OWNER** *(Firm name)*

\_\_\_\_\_  
**CONTRACTOR** *(Firm name)*

\_\_\_\_\_  
**SIGNATURE**

\_\_\_\_\_  
**SIGNATURE**

\_\_\_\_\_  
**SIGNATURE**

\_\_\_\_\_  
**PRINTED NAME AND TITLE**

\_\_\_\_\_  
**PRINTED NAME AND TITLE**

\_\_\_\_\_  
**PRINTED NAME AND TITLE**

\_\_\_\_\_  
**DATE**

\_\_\_\_\_  
**DATE**

\_\_\_\_\_  
**DATE**

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**AIA**<sup>®</sup>

# Document G701™ – 2017

## Change Order

**PROJECT:** *(name and address)*

**CONTRACT INFORMATION:**

Contract For:

Date:

**CHANGE ORDER INFORMATION:**

Change Order Number:

Date:

**OWNER:** *(name and address)*

**ARCHITECT:** *(name and address)*

**CONTRACTOR:** *(name and address)*

The Contract is changed as follows:

*(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits. Also include agreed upon adjustments attributable to executed Construction Change Directives.)*

The original (Contract Sum) (Guaranteed Maximum Price) was \$ \_\_\_\_\_

The net change by previously authorized Change Orders \$ \_\_\_\_\_

The (Contract Sum) (Guaranteed Maximum Price) prior to this Change Order was \$ \_\_\_\_\_

The (Contract Sum) (Guaranteed Maximum Price) will be (increased) (decreased) (unchanged) by this Change Order in the amount of \$ \_\_\_\_\_

The new (Contract Sum) (Guaranteed Maximum Price), including this Change Order, will be \$ \_\_\_\_\_

The Contract Time will be (increased) (decreased) (unchanged) by (     ) days.

The new date of Substantial Completion will be \_\_\_\_\_

*NOTE: This Change Order does not include adjustments to the Contract Sum or Guaranteed Maximum Price, or the Contract Time, that have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.*

**NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.**

\_\_\_\_\_  
ARCHITECT *(Firm name)*

\_\_\_\_\_  
CONTRACTOR *(Firm name)*

\_\_\_\_\_  
OWNER *(Firm name)*

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
PRINTED NAME AND TITLE

\_\_\_\_\_  
PRINTED NAME AND TITLE

\_\_\_\_\_  
PRINTED NAME AND TITLE

\_\_\_\_\_  
DATE

\_\_\_\_\_  
DATE

\_\_\_\_\_  
DATE

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**SECTION 00 63 73**

**ALLOWANCE AUTHORIZATION FORM**

Project: Delaware Technical Community College Wilmington Courtyard Renovation

Architect: Tevebaugh Architecture Project No. DTCC 22C900404-CYD

Contractor: \_\_\_\_\_

AAA No.: \_\_\_\_\_ Initiation Date: \_\_\_\_\_

**The Allowance is allocated as follows:**

There are no current allowances for this project.

Total original Contract Allowance was: \$ \_\_\_\_\_

Amount of Contract Allowance Access previously authorized: \$ \_\_\_\_\_

Adjusted Contract Allowance prior to this authorization is: \$ \_\_\_\_\_

The amount of available Allowance will Decrease by this Access Authorization: \$ \_\_\_\_\_

The remaining Contract Allowance, after this Access Authorization will be: \$ \_\_\_\_\_

**Recommended by:  
Architect**

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

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

**Accepted by:  
Contractor**

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

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

**Approved by:  
Owner**

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

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

**END OF SECTION**

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 **AIA<sup>®</sup> Document G704<sup>™</sup> – 2017****Certificate of Substantial Completion****PROJECT:** *(name and address)***CONTRACT INFORMATION:**

Contract For:

Date:

**CERTIFICATE INFORMATION:**

Certificate Number:

Date:

**OWNER:** *(name and address)***ARCHITECT:** *(name and address)***CONTRACTOR:** *(name and address)*

The Work identified below has been reviewed and found, to the Architect's best knowledge, information, and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated below is the date established by this Certificate.

*(Identify the Work, or portion thereof, that is substantially complete.)*

\_\_\_\_\_  
**ARCHITECT** *(Firm Name)*\_\_\_\_\_  
**SIGNATURE**\_\_\_\_\_  
**PRINTED NAME AND TITLE**\_\_\_\_\_  
**DATE OF SUBSTANTIAL COMPLETION****WARRANTIES**

The date of Substantial Completion of the Project or portion designated above is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

*(Identify warranties that do not commence on the date of Substantial Completion, if any, and indicate their date of commencement.)*

**WORK TO BE COMPLETED OR CORRECTED**

A list of items to be completed or corrected is attached hereto, or transmitted as agreed upon by the parties, and identified as follows:

*(Identify the list of Work to be completed or corrected.)*

The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment, whichever occurs first. The Contractor will complete or correct the Work on the list of items attached hereto within (      ) days from the above date of Substantial Completion.

Cost estimate of Work to be completed or corrected: \$

The responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work, insurance, and other items identified below shall be as follows:

*(Note: Owner's and Contractor's legal and insurance counsel should review insurance requirements and coverage.)*

The Owner and Contractor hereby accept the responsibilities assigned to them in this Certificate of Substantial Completion:

\_\_\_\_\_  
**CONTRACTOR** *(Firm Name)*\_\_\_\_\_  
**SIGNATURE**\_\_\_\_\_  
**PRINTED NAME AND TITLE**\_\_\_\_\_  
**DATE**\_\_\_\_\_  
**OWNER** *(Firm Name)*\_\_\_\_\_  
**SIGNATURE**\_\_\_\_\_  
**PRINTED NAME AND TITLE**\_\_\_\_\_  
**DATE**

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# AIA<sup>®</sup> Document G706<sup>™</sup> – 1994

## Contractor's Affidavit of Payment of Debts and Claims

PROJECT: *(Name and address)*

ARCHITECT'S PROJECT NUMBER:

OWNER

CONTRACT FOR:

ARCHITECT

CONTRACTOR

TO OWNER: *(Name and address)*

CONTRACT DATED:

SURETY

OTHER

STATE OF:

COUNTY OF:

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

CONTRACTOR: *(Name and address)*

1. Consent of Surety to Final Payment. Whenever Surety is involved, Consent of Surety is required. AIA Document G707<sup>™</sup>, Consent of Surety to Final Payment, may be used for this purpose.

Indicate attachment:  Yes  No

BY:

The following supporting documents should be attached hereto if required by the Owner:

*(Signature of authorized representative)*

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof
3. Contractor's Affidavit of Release of Liens (AIA Document G706A<sup>™</sup>)

*(Printed name and title)*

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:

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# AIA<sup>®</sup> Document G706A<sup>™</sup> – 1994

## Contractor's Affidavit of Release of Liens

PROJECT: *(Name and address)*

ARCHITECT'S PROJECT NUMBER:

OWNER

CONTRACT FOR:

ARCHITECT

CONTRACTOR

TO OWNER: *(Name and address)*

CONTRACT DATED:

SURETY

OTHER

STATE OF:

COUNTY OF:

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

CONTRACTOR: *(Name and address)*

BY:

\_\_\_\_\_  
*(Signature of authorized representative)*

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

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:

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**AIA**<sup>®</sup>

# Document G707<sup>™</sup> – 1994

## Consent of Surety to Final Payment

PROJECT: *(Name and address)*

ARCHITECT'S PROJECT NUMBER:

OWNER

CONTRACT FOR:

ARCHITECT

CONTRACTOR

TO OWNER: *(Name and address)*

CONTRACT DATED:

SURETY

OTHER

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the  
*(Insert name and address of Surety)*

on bond of  
*(Insert name and address of Contractor)*

, SURETY,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve  
the Surety of any of its obligations to  
*(Insert name and address of Owner)*

, CONTRACTOR,

as set forth in said Surety's bond.

, OWNER,

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:  
*(Insert in writing the month followed by the numeric date and year.)*

\_\_\_\_\_  
*(Surety)*

\_\_\_\_\_  
*(Signature of authorized representative)*

Attest:  
*(Seal)*

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

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# AIA® Document A201® – 2017

## General Conditions of the Contract for Construction

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

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

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

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

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

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## **ARTICLE 1 GENERAL PROVISIONS**

### **§ 1.1 Basic Definitions**

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

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

#### **§ 1.1.2 The Contract**

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

#### **§ 1.1.3 The Work**

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

#### **§ 1.1.4 The Project**

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

#### **§ 1.1.5 The Drawings**

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

#### **§ 1.1.6 The Specifications**

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

#### **§ 1.1.7 Instruments of Service**

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

#### **§ 1.1.8 Initial Decision Maker**

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

### **§ 1.2 Correlation and Intent of the Contract Documents**

**§ 1.2.1** The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

**§ 1.2.1.1** The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining

provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

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

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

### **§ 1.3 Capitalization**

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

### **§ 1.4 Interpretation**

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

### **§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service**

**§ 1.5.1** The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

**§ 1.5.2** The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

### **§ 1.6 Notice**

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

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

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

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

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

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building



information model, and each of their agents and employees.

## **ARTICLE 2 OWNER**

### **§ 2.1 General**

**§ 2.1.1** The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

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

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

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

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

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

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

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

**§ 2.3.1** Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

**§ 2.3.2** The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

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

**§ 2.3.4** The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the

site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

**§ 2.3.5** The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

**§ 2.3.6** Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

#### **§ 2.4 Owner's Right to Stop the Work**

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

#### **§ 2.5 Owner's Right to Carry Out the Work**

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

### **ARTICLE 3 CONTRACTOR**

#### **§ 3.1 General**

**§ 3.1.1** The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

**§ 3.1.2** The Contractor shall perform the Work in accordance with the Contract Documents.

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

#### **§ 3.2 Review of Contract Documents and Field Conditions by Contractor**

**§ 3.2.1** Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

**§ 3.2.2** Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's

capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

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

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

### **§ 3.3 Supervision and Construction Procedures**

**§ 3.3.1** The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

**§ 3.3.2** The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

**§ 3.3.3** The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

### **§ 3.4 Labor and Materials**

**§ 3.4.1** Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

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

**§ 3.4.3** The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

### **§ 3.5 Warranty**

**§ 3.5.1** The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes

remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

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

### § 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

### § 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

### § 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

### § 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

- 3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

#### § 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

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

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

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

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

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

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

#### § 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

#### § 3.12 Shop Drawings, Product Data and Samples

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

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

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

**§ 3.12.4** Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

**§ 3.12.5** The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

**§ 3.12.6** By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

**§ 3.12.7** The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

**§ 3.12.8** The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

**§ 3.12.9** The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

**§ 3.12.10** The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

**§ 3.12.10.1** If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

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

time and in the form specified by the Architect.

### **§ 3.13 Use of Site**

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

### **§ 3.14 Cutting and Patching**

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

**§ 3.14.2** The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

### **§ 3.15 Cleaning Up**

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

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

### **§ 3.16 Access to Work**

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

### **§ 3.17 Royalties, Patents and Copyrights**

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

### **§ 3.18 Indemnification**

**§ 3.18.1** To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

**§ 3.18.2** In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

## **ARTICLE 4 ARCHITECT**

### **§ 4.1 General**

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

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

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

**§ 4.2.1** The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

**§ 4.2.2** The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

**§ 4.2.3** On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

### **§ 4.2.4 Communications**

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

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

**§ 4.2.6** The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

**§ 4.2.7** The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under



Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

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

**§ 4.2.9** The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

**§ 4.2.10** If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

**§ 4.2.11** The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

**§ 4.2.12** Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

**§ 4.2.13** The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

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

## **ARTICLE 5 SUBCONTRACTORS**

### **§ 5.1 Definitions**

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

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

### **§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work**

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

**§ 5.2.2** The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

**§ 5.2.3** If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the

Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

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

### **§ 5.3 Subcontractual Relations**

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

### **§ 5.4 Contingent Assignment of Subcontracts**

**§ 5.4.1** Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

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

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

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

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

## **ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**

### **§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts**

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

**§ 6.1.2** When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

**§ 6.1.3** The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate

Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

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

## **§ 6.2 Mutual Responsibility**

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

**§ 6.2.2** If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

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

**§ 6.2.4** The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

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

## **§ 6.3 Owner's Right to Clean Up**

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

## **ARTICLE 7 CHANGES IN THE WORK**

### **§ 7.1 General**

**§ 7.1.1** Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

**§ 7.1.2** A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

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

### **§ 7.2 Change Orders**

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

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

### **§ 7.3 Construction Change Directives**

**§ 7.3.1** A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

**§ 7.3.2** A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

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

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

**§ 7.3.4** If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.

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

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

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

**§ 7.3.8** The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

**§ 7.3.9** Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The

Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

#### § 7.4 Minor Changes in the Work

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

### ARTICLE 8 TIME

#### § 8.1 Definitions

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

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

#### § 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

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

#### § 8.3 Delays and Extensions of Time

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

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

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

### ARTICLE 9 PAYMENTS AND COMPLETION

#### § 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable

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by the Owner to the Contractor for performance of the Work under the Contract Documents.

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

### **§ 9.2 Schedule of Values**

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

### **§ 9.3 Applications for Payment**

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

**§ 9.3.1.1** As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

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

**§ 9.3.2** Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

**§ 9.3.3** The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

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

**§ 9.4.1** The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

**§ 9.4.2** The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The

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

#### **§ 9.5 Decisions to Withhold Certification**

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

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

**§ 9.5.2** When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

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

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

#### **§ 9.6 Progress Payments**

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

**§ 9.6.2** The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

**§ 9.6.3** The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

**§ 9.6.4** The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers

to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

**§ 9.6.5** The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

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

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

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

#### **§ 9.7 Failure of Payment**

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

#### **§ 9.8 Substantial Completion**

**§ 9.8.1** Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

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

**§ 9.8.3** Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

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



**§ 9.8.5** The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

**§ 9.9 Partial Occupancy or Use**

**§ 9.9.1** The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

**§ 9.9.2** Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

**§ 9.9.3** Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

**§ 9.10 Final Completion and Final Payment**

**§ 9.10.1** Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

**§ 9.10.2** Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

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

constitute a waiver of Claims.

**§ 9.10.4** The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

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

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

## **ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY**

### **§ 10.1 Safety Precautions and Programs**

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

### **§ 10.2 Safety of Persons and Property**

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

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

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

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

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

**§ 10.2.5** The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

**§ 10.2.6** The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

**§ 10.2.7** The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

#### **§ 10.2.8 Injury or Damage to Person or Property**

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

#### **§ 10.3 Hazardous Materials and Substances**

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

**§ 10.3.2** Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

**§ 10.3.3** To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

**§ 10.3.4** The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

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

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

#### **§ 10.4 Emergencies**

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

### **ARTICLE 11 INSURANCE AND BONDS**

#### **§ 11.1 Contractor's Insurance and Bonds**

**§ 11.1.1** The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the

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

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

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

**§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance.** Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

## **§ 11.2 Owner's Insurance**

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

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

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

## **§ 11.3 Waivers of Subrogation**

**§ 11.3.1** The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The

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

**§ 11.3.2** If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

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

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

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

**§ 11.5.1** A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

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

**ARTICLE 12 UNCOVERING AND CORRECTION OF WORK**

**§ 12.1 Uncovering of Work**

**§ 12.1.1** If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

**§ 12.1.2** If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

**§ 12.2 Correction of Work**

**§ 12.2.1 Before Substantial Completion**

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

Contractor's expense.

**§ 12.2.2 After Substantial Completion**

**§ 12.2.2.1** In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

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

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

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

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

**§ 12.2.5** Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

**§ 12.3 Acceptance of Nonconforming Work**

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

**ARTICLE 13 MISCELLANEOUS PROVISIONS**

**§ 13.1 Governing Law**

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

**§ 13.2 Successors and Assigns**

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

**§ 13.2.2** The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

### § 13.3 Rights and Remedies

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

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

### § 13.4 Tests and Inspections

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

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

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

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

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

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

### § 13.5 Interest

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

## ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

### § 14.1 Termination by the Contractor

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

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

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

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

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

#### § 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

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

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

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

#### § 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

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

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.



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

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

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

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

**§ 14.4.3** In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

**ARTICLE 15 CLAIMS AND DISPUTES**

**§ 15.1 Claims**

**§ 15.1.1 Definition**

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

**§ 15.1.2 Time Limits on Claims**

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

**§ 15.1.3 Notice of Claims**

**§ 15.1.3.1** Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

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

**§ 15.1.4 Continuing Contract Performance**

**§ 15.1.4.1** Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

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

**§ 15.1.5 Claims for Additional Cost**

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

**§ 15.1.6 Claims for Additional Time**

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

15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

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

**§ 15.1.7 Waiver of Claims for Consequential Damages**

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

**§ 15.2 Initial Decision**

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

**§ 15.2.2** The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

**§ 15.2.3** In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

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

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

**§ 15.2.6** Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

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

**§ 15.2.7** In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

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

### **§ 15.3 Mediation**

**§ 15.3.1** Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

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

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

**§ 15.3.4** The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

### **§ 15.4 Arbitration**

**§ 15.4.1** If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

**§ 15.4.1.1** A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

**§ 15.4.2** The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

**§ 15.4.3** The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly

consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

**§ 15.4.4 Consolidation or Joinder**

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

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

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

Sample

## **SUPPLEMENTARY GENERAL CONDITIONS A201-2017**

The following supplements modify the "General Conditions of the Contract for Construction," AIA Document A201-2017. Where a portion of the General Conditions is modified or deleted by the Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect.

### TABLE OF ARTICLES

1. GENERAL PROVISIONS
2. OWNER
3. CONTRACTOR
4. ADMINISTRATION OF THE CONTRACT
5. SUBCONTRACTORS
6. CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7. CHANGES IN THE WORK
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13. MISCELLANEOUS PROVISIONS
14. TERMINATION OR SUSPENSION OF THE CONTRACT

## ARTICLE 1: GENERAL PROVISIONS

### 1.1 BASIC DEFINITIONS

#### 1.1.1 THE CONTRACT DOCUMENTS

Strike the last sentence of Section 1.1.1 in its entirety and replace with the following:

“The Contract Documents also include Advertisement for Bid, Instructions to Bidder, sample forms, the Bid Form, the Contractor’s completed Bid and the Award Letter.”

Add the following Section:

“1.1.1.1 In the event of conflict or discrepancies among the Contract Documents, the Documents prepared by the Delaware Technical and Community College shall take precedence over all other documents.”

#### 1.1.8 INITIAL DECISION MAKER

Strike the last sentence of Section 1.1.8 in its entirety and add the following to the end of the remaining sentence:

“ and certify termination of the Agreement under Section 14.2.2.”

### 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

#### 1.2.1.1 Insert “if possible” at the end of the second sentence.

Add the following Sections:

“1.2.4 In the case of an inconsistency between the Drawings and the Specifications, or within either document not clarified by addendum, the better quality or greater quantity of work shall be provided in accordance with the Architect’s interpretation.”

“1.2.5 The word “PROVIDE” as used in the Contract Documents shall mean “FURNISH AND INSTALL” and shall include, without limitation, all labor, materials, equipment, transportation, services and other items required to complete the Work.”

“1.2.6 The word “PRODUCT” as used in the Contract Documents means all materials, systems and equipment.”

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

Strike Section 1.5.1 in its entirety and replace with the following:

“All pre-design studies, drawings, specifications and other documents, including those in electronic form, prepared by the Architect under this Agreement are, and shall remain, the property of the Owner whether the Project for which they are made is executed or not. Such documents may be used by the Owner to construct one or more like Projects without the approval of, or additional compensation to, the Architect. The Contractor, Subcontractors, Sub-subcontractors, and Material or Equipment Suppliers are authorized to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the

Architect and the Architect's consultants appropriate to and for use in the execution of their Work under the Contract Documents. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or Material and Equipment Supplier on other Projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and Architect's consultants.

The Architect shall not be liable for injury or damage resulting from the re-use of drawings and specifications if the Architect is not involved in the re-use Project. Prior to re-use of construction documents for a Project in which the Architect is not also involved, the Owner will remove from such documents all identification of the original Architect, including name, address and professional seal or stamp."

Strike Section 1.5.2 in its entirety.

1.7 DIGITAL DATA USE AND TRANSMISSION

Strike Section 1.7 in its entirety and replace with the following:

"The parties shall agree upon protocols governing transmission and use of Instruments of Service or any other information or documentation in digital form."

1.8 BUILDING INFORMATION MODELS USE AND RELIANCE

Strike Section 1.8 in its entirety.

**ARTICLE 2: OWNER**

2.2 EVIDENCE OF THE OWNERS FINANCIAL ARRANGEMENTS

Strike Section 2.2 in its entirety.

2.3 INFORMATION AND SERVICES REQUIRED OF THE OWNER

2.3.3 Strike 2.3.3 in its entirety.

2.3.4 Add the following sentence at the end of the paragraph:

"The Contractor, at their expense shall bear the costs to accurately identify the location of all underground utilities in the area of their excavation and shall bear all cost for any repairs required, out of failure to accurately identify said utilities."

Strike Section 2.3.6 in its entirety and replace with the following:

"2.3.6 The Contractor shall be furnished free of charge (1) electronic set of the Drawings and Project Manuals. Additional sets will be furnished at the cost of reproduction, postage and handling."

2.5 OWNER'S RIGHT TO CARRY OUT THE WORK

Add ", except as outlined in Section 3.15" after the reference to "Article 15" at the end of the last sentence of the Section.

### **ARTICLE 3: CONTRACTOR**

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

3.2.2 Add "and Owner" after "report to the Architect" in the second sentence.

3.2.4 Strike "subject to Section 15.1.7" in the second sentence.

3.2.4 Strike the third sentence.

#### **3.3 SUPERVISION AND CONSTRUCTION PROCEDURES**

Add the following Sections:

"3.3.2.1 The Contractor shall immediately remove from the Work, whenever requested to do so by the Owner, any person who is considered by the Owner or Architect to be incompetent or disposed to be so disorderly, or who for any reason is not satisfactory to the Owner, and that person shall not again be employed on the Work without the consent of the Owner or the Architect."

"3.3.4 The Contractor must provide suitable storage facilities at the Site for the proper protection and safe storage of their materials, or as otherwise identified by the specifications. Consult the Owner and the Architect before storing any materials."

"3.3.5 When any room is used as a shop, storeroom, office, etc., by the Contractor or Subcontractor(s) during the construction of the Work, the Contractor making use of these areas will be held responsible for any repairs, patching or cleaning arising from such use."

#### **3.4 LABOR AND MATERIALS**

Add the Following Sections:

"3.4.4 Before starting the Work, each Contractor shall carefully examine all preparatory Work that has been executed to receive their Work. Check carefully, by whatever means are required, to insure that its Work and adjacent, related Work, will finish to proper contours, planes and levels. Promptly notify the Architect & Owner of any defects or imperfections in preparatory Work which will in any way affect satisfactory completion of its Work. Absence of such notification will be construed as an acceptance of preparatory Work and later claims of defects will not be recognized."

"3.4.5 Under no circumstances shall the Contractor's Work proceed prior to preparatory Work having been completely cured, dried and/or otherwise made satisfactory to receive this Work. Responsibility for timely installation of all materials rests solely with the Contractor responsible for that Work, who shall maintain coordination at all times."

#### **3.5 WARRANTY**

Add the following Sections:

"3.5.3 The Contractor will guarantee all materials and workmanship against original defects, except injury from proper and usual wear when used for the purpose intended, for two years



after Acceptance by the Owner, and will maintain all items in perfect condition during the period of warranty.”

“3.5.4 Defects appearing during the period of warranty will be made good by the Contractor at his expense upon demand of the Owner, it being required that all work will be in perfect condition when the period of warranty will have elapsed.”

“3.5.5 Upon notification by the Owner of a defect covered by the Contractor’s warranty, the Contractor shall respond within 4 hours of the notification.”

“3.5.6 In addition to the General Warranty there are other warranties required for certain items for different periods of time than the two years as above, and are particularly so stated in that part of the specifications referring to same. The said warranties will commence at the same time as the General Warranty.”

“3.5.7 If the Contractor fails to remedy any failure, defect or damage within a reasonable time after receipt of notice, the Owner will have the right to replace, repair, or otherwise remedy the failure, defect or damage at the Contractor’s expense.”

### 3.8 ALLOWANCES

Add the following Section:

“3.8.1.1 For costs to be covered under a project allowance, (included in the schedule of values) the Contractor shall submit a summary of those costs anticipated and an Allowance Access Authorization Form to the Architect and Owner, reflecting the projected costs. The Allowance Access Authorization Form must be signed by the Owner prior to initiating any work associated with the allowance.”

### 3.10 CONTRACTOR’S CONSTRUCTION AND SUBMITTAL SCHEDULES

3.10.1 Add “estimated” after “and the” and before “date of” in the second sentence.

3.10.2 Strike “and thereafter as necessary to maintain a current submittal schedule” in the first sentence.

### 3.11 DOCUMENTS AND SAMPLES AT THE SITE

Add the following Sections:

“3.11.1 During the course of the Work, the Contractor shall maintain a record set of drawings on which the Contractor shall mark the actual physical location of all piping, valves, equipment, conduit, outlets, access panels, controls, actuators, including all appurtenances that will be concealed once construction is complete, etc., including all invert elevations.”

“3.11.2 At the completion of the project, the Contractor shall obtain a set of the conformed contract drawings from the Architect, and neatly transfer all information outlined in 3.11.1 to provide a complete record of the as-built conditions.”

“3.11.3 Upon completion of the work noted in 3.11.2 the contractor shall schedule a meeting with the Architect/Engineer and Owner to review the final record drawings and closeout documents prior to submission. After this meeting the Contractor shall make adjustments per the review, and submit one (1) original markup and (2) copies of the red line drawings (as-built conditions, to the Owner and one (1) print to the Architect. In addition, attach one complete set of

the as-built documents to each of the Operating and Maintenance Instructions/Manuals. The Contractor will include (2) USB drives, each containing all “red line drawings (as-built) and Closeout Documents properly tabbed in accordance with closeout requirements as defined elsewhere in the contract documents.”

- 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES
- 3.12.10.2 Strike “If the Contract Documents require” from the beginning of the sentence.
- 3.12.10.2 Strike “to” between “professional” and certify” and replace with “shall”.
- 3.17 Insert “indemnify and” between “shall” and “hold” in the second sentence.

#### **ARTICLE 4: ADMINISTRATION OF THE CONTRACT**

##### 4.2 ADMINISTRATION OF THE CONTRACT

- 4.2.7 Strike the first sentence and replace with the following:

“The Architect will review and approve or take other appropriate action upon the Contractor’s submittals such as Shop Drawings, Product Data and Samples for the purpose of checking for conformance with the Contract Documents.”

- 4.2.7 Strike the second sentence and replace with the following:

“The Architect’s action will be taken with such reasonable promptness as to cause no delay in the Work in the activities of the Owner, Contractor or separate Contractors, while allowing sufficient time in the Owner’s professional judgment to permit adequate review.”

Add the following Section:

“4.2.10.1 There will be no full-time Project Representative provided by the Owner or Architect on this project.”

“4.2.13 Add “and in compliance with all local requirements.” to the end of the sentence.”

#### **ARTICLE 5: SUBCONTRACTORS**

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

- 5.2.3 Strike Section 5.2.3 in its entirety and replace with the following:

“If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection, subject to the statutory requirements of 29 Delaware Code § 6962(d)(10)b.3 and 4.”

- 5.2.4 Strike Section 5.2.4 in its entirety and replace with the following:

“The Contractor may not substitute any Subcontractor listed in its Bid unless the Contractor complies with the requirements of 29 Delaware Code § 6962(d)(10)b.3 and 4. Failure to comply with this requirement shall subject the Contractor to a penalty as outlined in Section 5.2 of the Owner’s General Requirements.”

Add the following Section:

“5.2.5 The Contractor shall comply and shall ensure all Subcontractors comply with all requirements for drug testing as set forth in TITLE 19 LABOR DELAWARE ADMINISTRATIVE CODE 4000 Office of Management and Budget 4100 Division of Facilities Management **4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects.**”

#### **ARTICLE 6: CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**

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

6.1.1 Strike “and waiver of subrogation” from the end of the second sentence.

6.1.4 Strike Section 6.1.4 in its entirety.

##### 6.2 MUTUAL RESPONSIBILITY

6.2.3 Strike “shall” and replace with “may” in the second sentence.

#### **ARTICLE 7: CHANGES IN THE WORK**

(SEE ARTICLE 7: CHANGES IN WORK IN THE DELAWARE TECHNICAL AND COMMUNITY COLLEGE GENERAL REQUIREMENTS)

7.3.4.1 Strike “and other employee costs approved by the Architect” after “worker’s compensation insurance,”

7.3.4.4 Add “work attributable to the” before “change” at the end of the sentence.

##### 7.4 MINOR CHANGES IN WORK

Add “unless such changes are approved” at the end of the third sentence.

#### **ARTICLE 8: TIME**

##### 8.2 PROGRESS AND COMPLETION

8.2.1 Add the following Section:

“8.2.1.1 Refer to Project Specifications Section SUMMARY OF WORK for Contract time requirements.”

8.2.2 After “by the Contractor” strike “and” and insert “to”.

8.2.4 Add the following Section:

“8.2.4 If the Work falls behind the Progress Schedule as submitted by the Contractor, the Contractor shall employ additional labor and/or equipment necessary to bring the Work into compliance with the Progress Schedule at no additional cost to the Owner.”

8.3 DELAYS AND EXTENSION OF TIME

8.3.1 Strike “binding dispute resolution” and insert “any and all remedies at law or in equity”.

Add the following Section:

“8.3.2.1 The Contractor shall update the status of the suspension, delay, or interruption of the Work with each Application for Payment. (The Contractor shall report the termination of such cause immediately upon the termination thereof.) Failure to comply with this procedure shall constitute a waiver for any claim for adjustment of time or price based upon said cause.”

Strike Section 8.3.3 in its entirety and replace with the following:

8.3.3 “Except in the case of a suspension of the Work directed by the Owner, an extension of time under the provisions of Section 8.3.1 shall be the Contractor’s sole remedy in the progress of the Work and there shall be no payment or compensation to the Contractor for any expense or damage resulting from the delay.”

Add the following Section:

“8.3.4 By permitting the Contractor to work after the expired time for completion of the project, the Owner does not waive their rights under the Contract.”

**ARTICLE 9: PAYMENTS AND COMPLETION**

9.2 SCHEDULE OF VALUES

Add the following Sections:

“9.2.1 The Schedule of Values shall be submitted using AIA Document G703, Continuation Sheet to G702.”

“9.2.2 The Schedule of Values is to include a line item for Project Closeout Document Submittal. The value of this item is to be no less than 1.5% of the initial contract amount.”

9.3 APPLICATIONS FOR PAYMENT

9.3.1 Strike Section 9.3.1 in its entirety and replace with the following:

“At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values for completed portions of the Work. The application shall be notarized, and supported by all data substantiating the Contractor’s right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage.”

Add the following Sections:

“9.3.1.3 Application for Payment shall be submitted on AIA Document G702 “Application and Certificate for Payment”, supported by AIA Document G703 “Continuation Sheet”. Said Applications shall be fully executed and notarized.”

“9.3.4 Until Closeout Documents have been received and outstanding items completed the Owner will pay 95% (ninety-five percent) of the amount due the Contractor on account of progress payments.”

“9.3.5 The Contractor shall provide a current and updated Progress Schedule to the Architect with each Application for Payment. Failure to provide Schedule will be just cause for rejection of Application for Payment.”

## 9.5 DECISIONS TO WITHHOLD CERTIFICATION

Add the following Subsections to 9.5.1:

- .8 failure to provide a current Progress Schedule;
- .9 a lien or attachment is filed;
- .10 failure to comply with mandatory requirements for maintaining Record Documents.

## 9.6 PROGRESS PAYMENTS

### 9.6.1 Strike Section 9.6.1 in its entirety and replace with the following:

“9.6.1 After the Architect has approved and issued a Certificate for Payment, payment shall be made by the Owner within 30 days after Owner’s receipt of the Certificate for Payment.”

### 9.6.8 Strike “Provided the Owner has fulfilled its payment obligations under the Contract Documents,” in the first sentence.

## 9.7 FAILURE OF PAYMENT

Strike Section 9.7 in its entirety and replace with the following:

“If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within fourteen days after receipt of the Contractor’s Application for Payment, or if the Owner does not pay the Contractor within thirty days after the date established in the Contract Documents, the amount certified by the Architect, then the Contractor may, upon thirty additional days’ notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor’s reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.”

## 9.8 SUBSTANTIAL COMPLETION

### 9.8.3 At the end of Section 9.8.3, add the following sentence:

“If the Architect is required to make more than 2 inspections of the same portion of work, the Contractor shall be responsible for all costs associated with subsequent inspections including but not limited to any Architect’s fees.”

### 9.8.5 Strike “shall” and insert “may” in the second sentence.

- 9.8.5 Insert "1/2 of the" after "make payment of" in the second sentence. 9.9 PARTIAL OCCUPANCY OR USE
- 9.9.1 Strike the first sentence and replace with the following (the remainder of the Section remains as written):  
"The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use authorized by public authorities having jurisdiction over the Project."
- 9.10.2 Strike "to remain in force after final payment is currently in effect" after "required by the Contract Documents" and replace with "shall remain in force until final payment is completed" in the first sentence.
- 9.10.4.4 Strike "if permitted by the Contract Documents,"

## **ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY**

### 10.1 SAFETY PRECAUTIONS AND PROGRAMS

Add the following Sections:

- 10.1.1 Each Contractor shall develop a safety program in accordance with the Occupational Safety and Health Act of 1970. A copy of said plan shall be furnished to the Owner and Architect prior to the commencement of that Contractor's Work.
- 10.1.2 Each Contractor shall appoint a Safety Representative. Safety Representatives shall be someone who is on site on a full time basis. If deemed necessary by the Owner or Architect, Contractor Safety meetings will be scheduled. The attendance of all Safety Representatives will be required. Minutes will be recorded of said meetings by the Contractor and will be distributed to all parties as well as posted in all job offices/trailers etc.

### 10.2 SAFETY OF PERSONS AND PROPERTY

Add the following Section:

- 10.2.4.1 As required in the Hazardous Chemical Act of June 1984, all vendors supplying any material that may be defined as hazardous must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it has a caution warning on the label relating to a potential physical or health hazard, if it is known to be present in the work place, and if employees may be exposed under normal conditions or in foreseeable emergency situations. Material Safety Data Sheets shall be provided directly to the Owner, along with the shipping slips that include those products.
- 10.2.5 Strike the second sentence in its entirety.
- 10.3 HAZARDOUS MATERIALS AND SUBSTANCES
- 10.3.3 Strike Section 10.3.3 in its entirety.
- 10.3.4 Insert "hazardous" in the last sentence after "handling of such" .
- 10.3.6 Strike Section 10.3.6 in its entirety.

**ARTICLE 11: INSURANCE AND BONDS**

11.1 CONTRACTOR'S INSURANCE AND BONDS

11.1.1 Strike "Owner" from the third sentence .

11.2 OWNER'S LIABILITY INSURANCE

Strike 11.2 in its entirety, except that in the case of school projects in which case Section 11.2 shall remain.

11.3 WAIVERS OF SUBROGATION

Delete Section 11.3 in its entirety

11.4 LOSS OF USE, BUSINESS INTERRUPTION, AND DELAY IN COMPLETION INSURANCE

Delete Section 11.4 in its entirety

**ARTICLE 12: UNCOVERING AND CORRECTION OF WORK**

12.2.2 AFTER SUBSTANTIAL COMPLETION

Add the following Section:

"12.2.2.1.1 At any time during the progress of the Work, or in any case where the nature of the defects will be such that it is not expedient to have corrected, the Owner, at its option, will have the right to deduct such sum, or sums, of money from the amount of the Contract as it considers justified to adjust the difference in value between the non-conforming work and that required under contract including any damage to the structure."

12.2.2.1 Strike all references to "one year" or "one-year" and replace with "two years".

12.2.2.2 Strike "one-year" and replace with "two years".

12.2.2.3 Strike "one-year" and replace with "two years".

12.2.5 Strike "one-year" and replaced with "two years".

**ARTICLE 13: MISCELLANEOUS PROVISIONS**

13.1 GOVERNING LAW

Strike the last sentence.

13.4 TESTS AND INSPECTIONS

13.4.1 Strike the last sentence and replace with the following:

"The Owner shall pay for tests, inspections, or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor."

13.5 INTEREST

Strike “the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located” and replace with “30 days of presentment of the authorized Certificate of Payment at the annual rate of 12% or 1% per month.”

Insert the following Section:

“13.6 CONFLICTS WITH FEDERAL STATUTES OR REGULATIONS

13.6.1 If any provision, specifications or requirement of the Contract Documents conflict or is inconsistent with any statute, law or regulation of the government of the United States of America, the Contractor shall notify the Architect and Owner immediately upon discovery.”

**ARTICLE 14: TERMINATION OR SUSPENSION OF THE CONTRACT**

14.1 TERMINATION BY THE CONTRACTOR

14.1.1.4 Insert “, upon the Contractors’ request,” after “” furnish to the Contractor” .

14.1.3 Strike “and profit on Work not executed, and” after “as well as reasonable overhead” and replace with “, profit, and reasonable”

14.3 SUSPENSION BY OWNER FOR CONVENIENCE

14.3.2 Strike “Adjustment of the Contract Sum shall include profit”.

14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

14.4.3 Strike Section 14.4.3 in its entirety and replace with the following:

“In case of such termination for the Owner’s convenience, the Contractor shall be entitled to receive payment for Work executed, and reasonable costs incurred by reason of such termination along with reasonable overhead.”

**ARTICLE 15: CLAIMS AND DISPUTES**

15.1 CLAIMS

15.1.2 TIME LIMITS ON CLAIMS

Strike the last sentence.

15.1.3 NOTICE OF CLAIM

Strike all references to “21” and replace with “45”.

15.1.5 CLAIMS FOR ADDITIONAL COSTS

Strike the first sentence and replace with the following:



“Contractor shall not proceed to execute any portion of the Work that is subject to the Claim without prior approval of the costs or method of payment for the costs associated with the Claim as determined by the Architect and approved by the Owner.”

15.1.7 WAIVER OF CLAIMS FOR CONSEQUENTIAL DAMAGES

Strike Section 15.1.7 in its entirety.

15.2 INITIAL DECISION

15.2.1 Strike “and binding dispute resolution” in the fourth sentence and replace with “or any and all remedies at law or in equity”.

15.2.5 Strike Section 15.2.5 in its entirety and replace with the following:

“The Architect will approve or reject Claims by written decision, which shall state the reasons therefore and shall notify the parties of any change in the Contract Sum or Contract Time or both. The approval or rejection of a Claim by the Architect shall be subject to mediation and any or all remedies at law or in equity.”

15.2.6 Strike Section 15.2.6 and its subsections in their entirety.

15.3 MEDIATION

15.3.1 Strike “binding dispute resolution” and replace with “any or all remedies at law or in equity”.

15.3.2 Strike “, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedure in effect on the date of the Agreement,” in the first sentence.

15.3.2 Strike all references to “binding dispute resolution” and replace with “any or all remedies at law and in equity”.

15.3.3 Strike Section 15.3.3 in its entirety.

15.4 ARBITRATION

Strike Section 15.4 and its Subsections in their entirety.

**END OF SECTION**

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**SECTION 00 73 46**

**WAGE DETERMINATION SCHEDULE**

1.1 STATE OF DELWARE DEPARTMENT OF LABOR PREVAILING WAGES FOR BUILDING  
CONSTRUCTION

**END OF SECTION**

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STATE OF DELAWARE  
DEPARTMENT OF LABOR  
DIVISION OF INDUSTRIAL AFFAIRS  
4425 NORTH MARKET STREET  
WILMINGTON, DELAWARE 19802

TELEPHONE (302) 761-8200

**Via Electronic and Regular Mail**

June 22, 2022

Mr. Jonathan Falkinburg  
Project Manager  
Tevebaugh Architecture  
2 Mill Rd  
Wilmington, DE 19806

Re: DTCC\_22C900404-CYD Delaware Technical Community College Wilmington Campus-  
Courtyard Project - New Castle County, DE

Dear Mr. Falkinburg:

I am responding to your request for a category determination for the DTCC\_22C900404-CYD Delaware Technical Community College Wilmington Campus- Courtyard Project, which is a state funded construction project located in New Castle County, DE. The work consists of demolition of existing courtyard including landscape and soft scape areas, the new courtyard construction and minor renovations. You estimate the total cost of construction for this project to be \$1,200,000.00.

Based upon the information you provided the Department of Labor has determined that this project is a Building Construction project.

Delaware's Prevailing Wage Regulations provide that the rates applicable to a project are the rates in effect on the date of publication of the specifications for that project. I have enclosed a certified copy of the March 15, 2022, prevailing wage rates for Building Construction to be included in your bid specification. However, please be advised that, in the event that a contract for a project is not executed within one hundred and twenty (120) days from the earliest date the specifications were published, the rates in effect at the time of the execution of the contract shall be the applicable rates for the project.

This determination is directed solely to the parties identified herein. It is based on the unique facts relevant to this matter. It does not constitute precedent and should not be cited as such by future parties.

Lastly, please see the enclosed debarment list. Entities/individuals listed shall not be permitted to bid on, be awarded or work on Delaware State funded construction projects, in the timeframe specified, as provided for under 29 Del.C. §6960 or other applicable State statutes.

If you have any questions or I can provide any additional assistance, please do not hesitate to contact me at (302) 761- 8174.

Sincerely,



Francis Chudzik, Administrator  
Delaware Department of Labor  
francis.chudzik@delaware.gov

Enclosures

STATE OF DELAWARE  
DEPARTMENT OF LABOR  
DIVISION OF INDUSTRIAL AFFAIRS  
OFFICE OF LABOR LAW ENFORCEMENT  
PHONE: (302) 761-8327

Mailing Address:  
4425 North Market Street  
3rd Floor  
Wilmington, DE 19802

Located at:  
4425 North Market Street  
3rd Floor  
Wilmington, DE 19802

PREVAILING WAGES FOR BUILDING CONSTRUCTION EFFECTIVE MARCH 15, 2022

CLASSIFICATION	NEW CASTLE	KENT	SUSSEX
ASBESTOS WORKERS	25.81	31.79	46.27
BOILERMAKERS	77.28	39.21	57.64
BRICKLAYERS	61.64	61.64	61.64
CARPENTERS	58.31	58.31	46.55
CEMENT FINISHERS	81.52	57.97	25.02
ELECTRICAL LINE WORKERS	51.33	44.02	33.56
ELECTRICIANS	76.72	76.72	76.72
ELEVATOR CONSTRUCTORS	106.08	72.81	92.00
GLAZIERS	80.05	80.05	63.96
INSULATORS	63.53	63.53	63.53
IRON WORKERS	72.06	72.06	72.06
LABORERS	51.90	51.90	51.90
MILLWRIGHTS	80.13	80.13	64.33
PAINTERS	56.20	56.20	56.20
PILEDRIVERS	81.87	44.43	35.93
PLASTERERS	33.69	33.69	24.97
PLUMBERS/PIPEFITTERS/STEAMFITTERS	74.05	71.65	65.81
POWER EQUIPMENT OPERATORS	77.29	77.29	77.29
ROOFERS-COMPOSITION	27.98	28.10	27.25
ROOFERS-SHINGLE/SLATE/TILE	20.76	24.69	19.42
SHEET METAL WORKERS	80.03	80.03	80.03
SOFT FLOOR LAYERS	56.81	56.81	56.81
SPRINKLER FITTERS	65.57	65.57	65.57
TERRAZZO/MARBLE/TILE FNRS	69.16	69.16	70.74
TERRAZZO/MARBLE/TILE STRS	76.82	76.82	78.45
TRUCK DRIVERS	49.14	30.97	24.11

CERTIFIED:

*06/23/2022*

BY:

*[Signature]*  
ADMINISTRATOR, OFFICE OF LABOR LAW ENFORCEMENT

**NOTE:** THESE RATES ARE PROMULGATED AND ENFORCED PURSUANT TO THE PREVAILING WAGE REGULATIONS ADOPTED BY THE DEPARTMENT OF LABOR ON APRIL 3, 1992.

CLASSIFICATIONS OF WORKERS ARE DETERMINED BY THE DEPARTMENT OF LABOR. FOR ASSISTANCE IN CLASSIFYING WORKERS, OR FOR A COPY OF THE REGULATIONS OR CLASSIFICATIONS, PHONE (302) 761-8327.

NON-REGISTERED APPRENTICES MUST BE PAID THE MECHANIC'S RATE.

PROJECT: DTCC 22C900404-CYD Delaware Technical Community College Wilmington Campus-Courtyard Project, New Castle County

## PREVAILING WAGE DEBARMENT LIST

The following contractors have been debarred for violations of the prevailing wage law 29Del.C. §6960 or other applicable State statutes.

Therefore, no public construction contract in this State shall be bid on, awarded to, or received by contractors and individuals on this list for a period of (3) three years from the date of the judgment or as deemed by a court of competent jurisdiction.

Contractor	Address	Date of Debarment
Mullen Brothers, Inc. and Daniel Mullen, individually	3375 Garnett Road, Boothwyn, PA 19060	Indefinite/ Civil Contempt
State Contractors Corporation, and Jose Oscar Rivera, individually	13004 Hathaway Drive Silver Spring, MD 20906	Indefinite/ 19 <u>Del.C.</u> 2374(f)
Green Granite and Jason Green, individually	604 Heatherbrooke Court Avondale, PA 19311	Indefinite/ Civil Contempt
Pro Image Landscaping, Inc. and Owner(s) individually	23 Commerce Street Wilmington, DE 19801 and/or 2 Cameo Road Claymont, DE 19703	Indefinite/19 <u>Del.C.</u> §108 & 10 <u>Del.C.</u> 542(c)
Liberty Mechanical, LLC and Owner(s), individually	2032 Duncan Road Wilmington, DE 19801	Indefinite/ 19 <u>Del.C.</u> 2374(f)
Integrated Mechanical and Fire Systems Inc. and Allison Sheldon, individually	4601 Governor Printz Boulevard Wilmington, DE 19809	Indefinite/19 <u>Del.C.</u> §108 & 10 <u>Del.C.</u> 542(c)
ACH 1, INC. d/b/a Anglin Construction Co., and Stuart Anglin, individually	873 Salem Church Road Newark, DE 19702	Indefinite/19 <u>Del.C.</u> 6960

Updated: April 12, 2022



**EMPLOYEE DRUG TESTING REPORT FORM**

**Period Ending:** \_\_\_\_\_

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors who work on Large Public Works Contracts funded all or in part with public funds maintain testing data that includes but is not limited to the data elements below.

Project Number: \_\_\_\_\_

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

Contractor/Subcontractor Name: \_\_\_\_\_

Contractor/Subcontractor Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Number of employees who worked on the jobsite during the report period: \_\_\_\_\_

Number of employees subject to random testing during the report period: \_\_\_\_\_

Number of Negative Results \_\_\_\_\_ Number of Positive Results \_\_\_\_\_

Action taken on employee(s) in response to a failed or positive random test:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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

This form is not required to be submitted to the Owner. Included as a reference to show information required to be maintained by the Contractor. The Owner shall have the right to periodically audit all Contractor and Subcontractor test results at the Contractor's or Subcontractor's offices (or by other means to make the data available for inspection by the Owner).

### EMPLOYEE DRUG TESTING REPORT OF POSITIVE RESULTS

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors who work on Large Public Works Contracts funded all or in part with public funds to notify the Owner in writing of a positive random drug test.

Project Number: \_\_\_\_\_

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

Contractor/Subcontractor Name: \_\_\_\_\_

Contractor/Subcontractor Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name of employee with positive test result: \_\_\_\_\_

Last 4 digits of employee SSN: \_\_\_\_\_

Date test results received: \_\_\_\_\_

Action taken on employee in response to a positive test result:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Authorized Representative of Contractor/Subcontractor: \_\_\_\_\_  
(typed or printed)

Authorized Representative of Contractor/Subcontractor: \_\_\_\_\_  
(signature)

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

**This form shall be sent by mail to the Owner within 24 hours of receipt of test results.**

**Enclose this test results form in a sealed envelope with the notation "Drug Testing Form – DO NOT OPEN" on the face thereof and place in a separate mailing envelope.**

300 N ORANGE ST WILMINGTON, DE 19801  
JUNE 23, 2022

DELAWARE TECHNICAL COMMUNITY COLLEGE  
#DTCC\_22C900404-CYD

**END OF SECTION**

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300 N. ORANGE ST, WILMINGTON, DE 19801  
DELAWARE TECHNICAL COMMUNITY COLLEGE  
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**AFFIDAVIT OF  
CRAFT TRAINING COMPLIANCE**

We, the contractor, hereby certify that we and all applicable subcontractors will abide by the contractor and subcontractor craft training requirements outlined below for the duration of the contract. Craft training must be provided by a contractor and/or subcontractor for each craft on a project for which there are Delaware Department of Labor approved and registered training programs. A list of crafts for which there are approved and registered training programs is maintained by the Delaware Department of Labor and can be found at <https://laborfiles.delaware.gov/main/det/apprenticeship/DE%20Craft%20Training%20Occupation%20List%20Effective%20March%20201%202022.pdf>. If you have questions regarding craft training programs, please submit them in writing to the Delaware Department of Labor at: [apprenticeship@delaware.gov](mailto:apprenticeship@delaware.gov). The Craft Training Compliance Affidavit must be submitted prior to contract execution.

In accordance with Title 29, Chapter 69, Section 6962(c)(13) of the Delaware Code, contractors and subcontractors must provide craft training for journeyman and apprentice levels if **all** of the following apply:

- A. A project meets the prevailing wage requirement under Title 29, Chapter 69, Section 6960 of the Delaware Code.
- B. The contractor employs 10 or more total employees.
- C. The project is not a federal highway project

Failure to provide required craft training on the project may subject the successful contractor and/or subcontractor(s) to penalties as outlined in Title 29, Chapter 69, Section 6962(c)(13) of the Delaware Code.

**Craft(s)**

\_\_\_\_\_

**Contractor Name:**

\_\_\_\_\_

**Contractor Address:**

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

**Contractor Program  
Registration Number(s)**

\_\_\_\_\_

On this line also indicate whether DE, Other State (identify) or US Registration Number

**Or**

**Craft Training requirements are not applicable because:** \_\_\_\_\_

**Authorized Representative (typed or printed):**

\_\_\_\_\_

**Authorized Representative (signature):**

\_\_\_\_\_

**Title:**

\_\_\_\_\_

Sworn to and Subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

My Commission expires \_\_\_\_\_. NOTARY PUBLIC \_\_\_\_\_  
\_\_\_\_\_.

THIS PAGE MUST BE SIGNED AND NOTARIZED TO BE CONSIDERED.

**END OF SECTION**

**DOCUMENT TRANSFER AGREEMENT**

Client: Delaware Technical Community College  
Project: DTCC Wilmington Courtyard Renovation

The undersigned receiving entity ("Recipient") owning, occupying, performing work, furnishing materials or providing services in connection with the above Project agrees to the following terms and conditions which shall govern the undersigned's access to, receipt and use of Digital Files prepared by Tevebaugh Architecture, its consultants, and sub-consultants ("Transferor"):

- A. Digital files furnished to Recipient in regard to the Project ("DIGITAL FILES"), including but not limited to Computer Aided Design (CAD) or Building Information Model (BIM) files may be used by the Recipient for informational and reference purposes solely in connection with the Recipient's ownership of, occupancy of, or performance of its independent contractual obligations with respect to the Project, pursuant to this Document Transfer Agreement (the "Agreement") and subject to the limitations set forth herein. The requested electronic file(s) (the "Digital Files") shall remain the property of Transferor or its consultants as applicable.
- B. Transferor makes no warranties or guarantees that the Files transferred represent or reflect the complete scope of work and/or as-built conditions of the Project.
- C. Transferor assumes no responsibility for files that remain a work in progress or files released in an electronic format. Such data is being provided as an accommodation to the Recipient only and may be labeled "For Reference Only – Not for Construction".
- D. The Recipient receiving the Files and users thereof acknowledge much of the Files represent work in progress. DIGITAL FILES, in the form of Autodesk Revit Building Information Model (BIM) files, will be formatted prior to transfer to Recipient in a manner so as to display certain information in pre-defined view ("PRE-DEFINED VIEWS") in the Project Browser. From and after the completion of Construction Documents, Recipient may rely on information displayed in the "PRE-DEFINED VIEWS" in the DIGITAL FILES but only to the extent such information is visible and identical to the two-dimensional copy of the hard copy of completed Construction Documents. In all cases, the two-dimensional hard copy of the Construction Documents shall control in the event of any discrepancy between the two-dimensional Construction Documents and the Digital Files. As such, the Recipient accepts full responsibility for verifying the accuracy and completeness of the Digital Files and shall to the fullest extent permitted by law, defend, indemnify, and hold Transferor, its subsidiaries, its officers, employees, consultants, and agents harmless from any claims or damages arising from any use of the Digital Files by the Recipient or any third party who receives the Digital Files from the Recipient, including any use on this or other projects. Such claims include without limitation, any claims which may arise due to deletions, omissions, or variations of data due to mechanical or technical failure in connection with the transmission of the DIGITAL FILES or design changes which were not incorporated into the DIGITAL files.
- E. The Digital Files should not be relied upon to reflect the present conditions of the site, and Recipient is cautioned to obtain an updated review of the Digital Files by an appropriately licensed professional.
- F. The Digital Files shall not be utilized for any other purpose other than that for which they were originally intended without the express written consent of Transferor. The use of Digital Files to alter or revise the scope of work is not permitted unless authorized by change orders.

**TEVEBAUGH**  
ARCHITECTURE

2 Mill Road, Ste 210  
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302 984 1400

- G. Should any Digital Files transferred electronically contain any electronic copies of permits or professional seals, these Digital Files must be returned immediately to Transferor and all copies thereof destroyed.
- H. No retransmission of the Files in any form to any third party is permitted unless authorized in writing by Transferor. No such retransmission shall be authorized unless and until the Recipient executes and agreement containing all the terms and conditions of this Agreement.
- I. The undersigned has read and understands the terms and conditions set forth above, and in exchange for Transferor providing the requested Digital Files and e-copies, the undersigned hereby agrees to be bound by the terms and conditions set forth herein.
- J. The Files are requested for the purpose of providing convenience in the preparation of submittals, such as shop drawings and coordination drawings or construction modeling / clash detection. This does not eliminate or reduce your responsibility to verify any information relevant to your work and responsibilities on the project. Contractor agrees that the use of the Files does not reduce nor modify the Contractor's contract responsibilities for submitting complete and coordinated services.
- K. The above requested Digital Files will only be released upon receipt by Transferor of an original of this Agreement signed by a duly authorized representative of the company requesting the files. Transferor reserves the right to deny any request for copies of electronic files. By signing this Agreement, Recipient confirms that they have read, understood, and agree to the terms contained herein. The individual signing this document on behalf of the Recipient represents that they are duly authorized to bind the Recipient to the terms hereof. This Agreement, once executed and returned to Transferor, shall govern all future transfers of DIGITAL FILES, and need not be re-executed prior to each such transfer. Recipient further agrees that, before Recipient forwards DIGITAL FILES to third parties for their use in connection with the Project, Recipient shall first obligate each such third party to execute a copy of this Document Transfer Agreement, and shall deliver a duplicate original of such executed Agreement to Transferor.

We hereby agree to the conditions outlined above.

Receiver:

**Tevebaugh Architecture**  
Bill Lenihan  
President

\_\_\_\_\_  
Signature of Authorized Agent

\_\_\_\_\_  
Title of Authorized Agent

\_\_\_\_\_  
Company

\_\_\_\_\_  
Date



## **SECTION 055100**

### **METAL STAIRS**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Exterior architectural steel stairs with perforated treads and risers for communicating stair between courtyard and lower level seating area.

##### **1.2 COORDINATION**

- A. Coordinate installation of anchorages for metal stairs. Furnish setting drawings, templates, and installation instructions. Furnish items to be embedded in concrete or masonry.

##### **1.3 ACTION SUBMITTALS**

- A. Product Data: For metal stairs and the following:
  - 1. Perforated metal stair treads and platforms.
  - 2. Nonslip aggregates and non-slip aggregate finishes.
  - 3. Paint products.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Samples: For each type and finish of:
  - 1. Perforated riser/tread sample.
  - 2. Physical samples/Color Chips
- D. Delegated-Design Submittal: Include analysis data signed and sealed by the qualified professional engineer responsible for their preparation for the following:
  - 1. Exterior Architectural stairs.

##### **1.4 INFORMATIONAL SUBMITTALS**

- A. Qualification Data: For qualified professional engineer.

- B. Welding certificates.
- C. Paint Compatibility Certificates: From manufacturers of topcoats applied over galvanizing certifying that proposed galvanization is compatible with topcoats.

## 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Fabricator of products.
- B. Welding Qualifications: Qualify procedures and personnel according to the following:
  - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
  - 2. AWS D1.3/D1.3M, "Structural Welding Code - Sheet Steel."

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer to design stairs.
- B. Structural Performance of Stairs: Metal stairs shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
  - 1. Uniform Load: 100 lbf/sq. ft.
  - 2. Concentrated Load: 300 lbf applied on an area of 4 sq. in..
  - 3. Uniform and concentrated loads need not be assumed to act concurrently.
  - 4. Stair Framing: Capable of withstanding stresses resulting from railing loads in addition to loads specified above.
  - 5. Limit deflection of treads, platforms, and framing members to L/360 or 1/4 inch, whichever is less.

### 2.2 METALS

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For components exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
- B. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.
- C. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- D. Uncoated, Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, either commercial steel, Type B, or structural steel, Grade 25, unless another grade is required by design loads; exposed.

- E. Rolled-Steel Floor Plate: ASTM A 786/A 786M, rolled from plate complying with ASTM A 36/A 36M or ASTM A 283/A 283M, Grade C or D.
- F. Perforated Steel Sheet: As indicated on the Drawings.

## 2.3 FASTENERS

- A. General: Provide zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5 where built into exterior walls. Select fasteners for type, grade, and class required.
- B. Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A; with hex nuts, ASTM A 563; and, where indicated, flat washers.
- C. Anchor Bolts: ASTM F 1554, Grade 36, of dimensions indicated; with nuts, ASTM A 563; and, where indicated, flat washers.
- D. Post-Installed Anchors: Exterior rated Torque-controlled expansion anchors or chemical anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.
  - 1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, unless otherwise indicated.

## 2.4 MISCELLANEOUS MATERIALS

- A. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.

## 2.5 FABRICATION, GENERAL

- A. Provide complete stair assemblies, including metal framing, clips, brackets, bearing plates, and other components necessary to support and anchor stairs and platforms on supporting structure.
  - 1. Join components by welding unless otherwise indicated.
  - 2. Use connections that maintain structural value of joined pieces.
- B. Assemble stairs in shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

- C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- D. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- E. Form exposed work with accurate angles and surfaces and straight edges.
- F. Weld connections to comply with the following:
  - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  - 2. Obtain fusion without undercut or overlap.
  - 3. Remove welding flux immediately.
  - 4. Weld exposed corners and seams continuously unless otherwise indicated.
  - 5. At exposed connections, finish exposed welds to comply with NOMMA's "Voluntary Joint Finish Standards."
    - a. Architectural Stairs: Type 1 welds; no evidence of welded joint.
- G. Architectural Stairs: Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) screws or bolts unless otherwise indicated. Locate joints where least conspicuous.

## 2.6 STEEL-FRAMED STAIRS

- A. NAAMM Stair Standard: Comply with "Recommended Voluntary Minimum Standards for Fixed Metal Stairs" in NAAMM AMP 510, "Metal Stairs Manual," and specified Class.
- B. Stair Framing:
  - 1. Stringers:
    - a. Architectural Stairs: Fabricate stringers of steel channels. Provide closures for exposed ends of channel stringers.
  - 2. Construct platforms of steel plate or channel headers and miscellaneous framing members as indicated.
  - 3. Weld stringers to headers; weld framing members to stringers and headers.
    - a. Architectural Stairs: Fabricate and join so bolts are not exposed on finished surfaces.
- C. Metal Floor Plate Stairs: Form treads and platforms to configurations shown from rolled-steel floor plate; minimum 1/8 inch thick.

1. Form treads with integral nosing and back edge stiffener. Form risers of same material as treads.
2. Weld steel supporting brackets to stringers and weld treads to brackets.
3. Fabricate platforms with integral nosings matching treads and weld to platform framing.
4. Provide perforation per pattern shown on drawings.

## 2.7 STAIR RAILINGS

- A. Comply with applicable requirements in Section 057300 "Decorative Metal Railings."

## 2.8 FINISHES

- A. Stair sheet tread/riser and to be hot-dipped galvanized and powder coated.

## PART 3 - EXECUTION

### 3.1 INSTALLING METAL STAIRS

- A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing metal stairs to in-place construction. Include threaded fasteners for concrete and masonry inserts, through-bolts, lag bolts, and other connectors.
- B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal stairs. Set units accurately in location, alignment, and elevation, measured from established lines and levels and free of rack.
- C. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.
- D. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations.
- E. Field Welding: Comply with requirements for welding in "Fabrication, General" Article.
- F. Install aggregate surfacing on treads and platform in accordance with manufacturer's instructions to produce slip resistant surface.

### 3.2 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
  - 1. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.

**END OF SECTION**

## 05 52 13 – ALUMINUM AND STAINLESS STEEL RAILINGS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Stainless-Steel handrails

#### 1.3 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design railings, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. General: In engineering railings to withstand structural loads indicated, determine allowable design working stresses of railing materials based on the following:
  - 1. Stainless Steel: 60 percent of minimum yield strength.
- C. Structural Performance: Railings shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
  - 1. Handrails
    - a. Uniform load of 50 lbf/ ft. (0.73 kN/m) applied in any direction.
    - b. Concentrated load of 200 lbf (0.89 kN) applied in any direction.
    - c. Uniform and concentrated loads need not be assumed to act concurrently.
    - d. Infill load and other loads need not be assumed to act concurrently.
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.
  - 1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

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

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For the following:
  - 1. Railing brackets.
  - 2. Grout and anchoring cement.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Samples for Initial Selection: For products involving selection of color, texture, or design.
- D. Samples for Verification: For each type of exposed finish required.
  - 1. Sections of each distinctly different linear railing member, including handrails, top rails, posts, and balusters.
- E. Fittings and brackets.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.
- B. Welding certificates.
- C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, according to ASTM E 894 and ASTM E 935.

#### 1.6 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of railing from single source from single manufacturer.
- B. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- C. Welding Qualifications: Qualify procedures and personnel according to the following:
  - 1. AWS D1.6, "Structural Welding Code – Stainless Steel."

#### 1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.



## 1.8 COORDINATION AND SCHEDULING

- A. Coordinate installation of anchorages for railings. 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.
- B. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not satisfy structural performance requirements.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Stainless Steel Tube Railings:
    - a. Viva Railings
    - b. Blum, Julius & Co., Inc.
    - c. Paragon Aquatics; Division of Pentair, Inc.
    - d. Pisor Industries, Inc.
    - e. Stainless Fabricators, Inc.
    - f. Sterling Dula Architectural Products, Inc.; Div. of Kane Manufacturing.
    - g. Tri Tech, Inc.
    - h. Tubular Specialties Manufacturing, Inc.
    - i. Tuttle Railing Systems; Div. of Tuttle Aluminum & Bronze, Inc.
    - j. Wagner, R & B, Inc.; a division of the Wagner Companies

### 2.2 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
- B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

### 2.3 STAINLESS STEEL

- A. Shapes: ASTM A240/A240M, Type 316.
- B. Tubing: ASTM A554, Grade MT 316.
- C. Castings: ASTM A 743, Grade CF 8 or CF 20.
- D. Plate and Sheet: ASTM A 240/A 240M or ASTM A 666.

- E. Expanded Metal: ASTM 1267, Type I (expanded), Type II (expanded and flattened), Class 3 (corrosion-resistant steel), made from stainless steel sheet, ASTM A 240/A 240M or ASTM A666, Type 316.

- 1. Style Designation: 1-1/2 number 10

## 2.4 FASTENERS

- A. General: Provide the following:
  - 1. Ungalvanized-Steel Railings: Plated steel fasteners complying with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5 for zinc coating.
  - 2. Hot-Dip Galvanized Railings: Type 316 stainless-steel or hot-dip zinc-coated steel fasteners complying with ASTM A 153/A 153M or ASTM F 2329 for zinc coating.
- B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.
- C. Post-Installed Anchors: Torque-controlled expansion anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.

## 2.5 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
- B. Non-shrink, Nonmetallic Grout: Factory-packaged, non-staining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

## 2.6 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage.
- B. Assemble railings in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- D. Form work true to line and level with accurate angles and surfaces.

- E. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
- G. Connections: Fabricate railings with welded connections unless otherwise indicated.
- H. Form changes in direction as follows:
  - 1. As detailed.
  - 2. By radius bends of radius indicated.
- I. Bend members in jigs to produce uniform curvature for each configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- J. Close exposed ends of railing members with prefabricated end fittings.
- K. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is 1/4 inch (6 mm) or less.
- L. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by railings. Coordinate anchorage devices with supporting structure.
- M. Welded connections for Aluminum Pipe: Fabricate railings to interconnect members with concealed internal welds that eliminate surface grinding, using manufacturer's standard system of sleeve and socket fittings.
- N. Non-welded Connections: connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
  - 1. Fabricate splice joints for field connection using an epoxy structural adhesive if this is manufacturer's standard splicing method.

## 2.7 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

- D. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.

## 2.8 STAINLESS STEEL FINISHES

- A. Stainless Steel: NAAMM AMP 503; No. 6 satin.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Install railing system in accordance with approved Shop Drawings.
- B. Install components plumb and level, accurately fitted, free from distortion and defects.
- C. Provide anchors for connecting railings to supporting construction.
- D. Fit joints tight, flush, and hairline.
- E. Installation Tolerances:
  - 1. Maximum variation from level or from indicated slopes: 1/4 inch in 10 feet, noncumulative.
  - 2. Maximum offset from true alignment of abutting members: 1/16 inch.
- F. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
  - 1. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
  - 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).
  - 3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (5 mm in 3 m).
- G. Corrosion Protection: Coat concealed surfaces of aluminum that will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.
- H. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- I. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

### 3.2 RAILING CONNECTIONS

- A. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.
- B. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate the thermal movement. Provide slip-joint internal sleeve extending 2 inches (50 mm) beyond joint on either side, fasten internal sleeve securely to one side, and locate joint within 6 inches (150mm) of post.

### 3.3 ANCHORING POSTS

- A. Form or core-drill holes not less than 4 inches (125 mm) deep and  $\frac{3}{4}$  inch (20 mm) larger than OD of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with non-shrink, non-metallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions.
- B. Cover anchorage joint with flange of same metal as post, welded to post after placing anchoring material.
- C. Leave anchorage joint exposed with 1/8-inch (3 mm) buildup, sloped away from post.

### 3.4 ATTACHING RAILINGS

- A. Anchor railing ends to metal surfaces with flanges bolted to metal surfaces and welded to railing ends

### 3.5 ADJUSTING AND CLEANING

- A. Clean stainless steel by washing thoroughly with clean water and soap and rinsing with clean water.

### 3.6 PROTECTION

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

**END OF SECTION 055213**

300 N ORANGE ST WILMINGTON, DE 19801  
JUNE 23, 2022

DELAWARE TECHNICAL COMMUNITY COLLEGE  
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## SECTION 05 73 00

### DECORATIVE METAL RAILINGS

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A.
- B. Section Includes:
  - 1. Stainless steel railing system with cable infill.
- C. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.

##### 1.2 REFERENCES

- A. American National Standards Institute (ANSI) Z97.1 - Safety Performance Specifications and Methods of Test for Safety Glazing Material Used in Buildings.
- B. ASTM International (ASTM):
  - 1. A240/A240M – Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
  - 2. A554 - Standard Specification for Welded Stainless Steel Mechanical Tubing.
  - 3. C1048 - Standard Specification for Heat-Treated Flat Glass-Kind HS, Kind FT, Coated and Uncoated Glass.
  - 4. E985 - Standard Specification for Permanent Metal Railing Systems and Rails for Buildings.
- C. National Association of Architectural Metal Manufacturers (NAAMM) AMP 503 - Finishes for Stainless Steel.

##### 1.3 SYSTEM DESCRIPTION

- A. Design Requirements:
  - 1. Design railings to conform to Building Code requirements.
  - 2. Design railings to withstand following minimum loads:
    - a. 50 pounds per linear foot applied in any direction at top, transferred via attachments and supports to building structure.
    - b. Concentrated 200 pound load applied in any direction at any point along top, transferred via attachments and supports to building structure.
    - c. Design infill to withstand minimum uniform load of 50 pounds per square foot applied horizontally.
    - d. Uniform and concentrated loads do not need to be applied simultaneously.
- B. Fabricate railings in accordance with ASTM E985.

## 1.4 SUBMITTALS

- A. Submittals for Review:
1. Shop Drawings: Show railing locations, component dimensions, fabrication and assembly details, and attachments.
  2. Product Data: Manufacturer's descriptive data including system description, components, and finishes.
  3. Samples:
    - a. Minimum 18 inch tall railing system samples showing post assembly.
    - b. Infill: 12 inches long cable.
    - c. Rail: Minimum 12 inch long railing system samples showing top rail, hand rail.

## 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum 2 years experience in work of this Section.
- B. Railing System:
1. System components: Pre-engineered, designed by licensed Professional Structural Engineer.
  2. Attachments to building structure: Designed by Professional Structural Engineer licensed in State in which project is located.
- C. Perform Work in accordance with ASTM E985.
- D. Mockup:
1. No mockup is required for this project.
- E. Pre-Installation Conference:
1. Convene pre-installation conference approximately 2 weeks prior to beginning work of this Section.
  2. Attendance: Contractor, Construction Manager, Architect, railing fabricator, and railing installer.
  3. Review:
    - a. Installation methods for frame components attaching to supporting construction.
    - b. Installation, adjusting, and protection of railing system.
    - c. Coordination with other work.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Contract Documents are based on TEE Railing System by VIVA Railings, 1454 Halsey Way Carrollton, TX 75007, 972-353-VIVA (8482), <mailto:info@vivarailings.com>, [www.vivarailings.com](http://www.vivarailings.com).
- B. Substitutions: Under provisions of Division 01.



## 2.2 MATERIALS

- A. Stainless Steel:
  - 1. Shapes: ASTM A240/A240M, Type 316
  - 2. Tube: ASTM A554, Type 316.
  - 3. Finish: No. 6 Satin, 380 grit.
  
- B. Posts:
  - 1. T profile stainless steel bar posts.
  - 2. Mounting method: Core.
  
- C. Infill:
  - 1. Cable:
    - a. Material: 1 x 19, Type 316 stainless steel strand, left-hand lay, per dimensional properties contained in MIL-W-87161.
    - b. Finish: Mill.
    - c. Diameter: 3/16 inch, minimum breaking strength of 4000 pounds.
    - d. Orientation: As indicated on Drawings.
    - e. Spacing: Maximum 3 inches on center.
    - f. Cable Hardware Components: Hardware substantially concealed inside end posts wherever practical.
  
- D. Top Rail: (See construction documents for denoted areas of Top Rail Type)
  - 1. 1.5 inch diameter stainless steel round tubing
  - 2. LED illuminated Rail: 1.5 inch diameter Viva Railings iRail, LED light bar sealed by an aluminum housing encased in a clear resin which is outdoor wet-location listed with following specifications:
    - a. Power: Input: 100-120V AC / 200-240V AC / Output: 12V DC / Driver: 30W, 60W, 100W, 200W.
    - b. Rating: IP67
    - c. Power Consumption: [Med Output 2.16 watts per/ft] [High Output 4.32 watts per/ft].
    - d. Light Color – Cool White (6000K-7000K) / Warm White (3000K-3500K)
    - e. Light Output: [Warm White Med Output-120 Lumens/Ft.] [Cool White Med Output 120 Lumens/Ft.] [Cool White High Output-270 Lumens/Ft.]
    - f. Lens: [Clear] [Opaque], Flat profile
  
- E. Handrail:
  - 1. 1.5 inch diameter stainless steel round tubing
  
- F. Wall Mounted Rail:
  - 2. 1.5 inch diameter stainless steel round tubing

## 2.3 ACCESSORIES

- A. Anchors: Type best suited to application.
- B. Wall Brackets for Rail: With non-exposed fasteners

## 2.4 FABRICATION

- A. Fabricate railings in accordance with approved Shop Drawings.
- B. Fabricate railings with joints located symmetrically.
- C. Fabricate railings with joints tightly fitted and secured. Furnish fittings to accommodate site assembly and installation.
- D. Supply components required for anchorage of railings. Fabricate anchors and related components of same material and finish as railing.
- E. Conceal fastenings where possible.
- F. Use welds for permanent connections where possible.
  - 1. Grind exposed welds smooth.
  - 2. Tack welds prohibited on exposed surfaces.
- G. Accommodate for expansion and contraction of members and building movement without damage to connections or members.

## 2.5 FINISHES

- H. Stainless Steel: NAAMM AMP 503; No. 6 satin.

## **PART 3 - EXECUTION**

### 3.1 INSTALLATION

- I. Install railing system in accordance with approved Shop Drawings.
- J. Install components plumb and level, accurately fitted, free from distortion and defects.
- K. Provide anchors for connecting railings to supporting construction.
- L. Fit joints tight, flush, and hairline.
- M. Tension cables to minimum of 400 pounds each.
- N. Ensure that cables are parallel, without kinks and sags.
- O. Installation Tolerances:
  - 1. Maximum variation from level or from indicated slopes: 1/4 inch in 10 feet, non-cumulative.
  - 2. Maximum offset from true alignment of abutting members: 1/16 inch.

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JUNE 23, 2022

DELAWARE TECHNICAL COMMUNITY COLLEGE  
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**END OF SECTION**

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**SECTION 074213.23  
ALUMINUM COMPOSITE MATERIAL (ACM) SYSTEM SPECIFICATION**

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this section.

1.02 SUMMARY

A. Definitions:

1. An Aluminum Composite Material (ACM) Panel System includes ACM panels, joints, attachment system components and miscellaneous materials as appropriate for the design of the project to provide a weather-resistant exterior veneer system.
2. A “Field-Fabricated” ACM Panel System is designed with components that permit the complete fabrication and installation of the system, in a single process in the field, without compromise to the overall quality and performance.

B. Section Includes:

1. Exterior installation and performance of ACM panels and ACM Panel System components.

C. Related Sections:

1. Division 03 – Concrete: Cast-In-Place Concrete
2. Division 04 – Masonry: Unit Masonry
3. Division 05 – Metals: Cold-Formed Metal Framing
4. Division 05 – Metals: Structural Aluminum Framing
5. Division 06 – Wood, Plastics, and Composites: Sheathing
6. Division 07 – Thermal and Moisture Protection: Weather Barriers
7. Division 07 – Thermal and Moisture Protection: Fluid-Applied Membrane Air Barriers
8. Division 07 – Thermal and Moisture Protection: Sheet Metal Flashing and Trim
9. Division 07 – Thermal and Moisture Protection: Joint Sealants

- 10. Division 08 – Openings: Aluminum Windows
- 11. Division 08 – Openings: Glazing
- 12. Division 08 – Openings: Glazed Aluminum Curtain Walls

### 1.03 REFERENCES

- A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to the extent indicated. Standards listed have either been identified by the International Building Code (IBC) or local building code or are specific requirements for this building construction type.
- B. Aluminum Association (AA):
  - 1. Aluminum Design Manual (ADM)
  - 2. AA-M12C23A31: Anodized – Clear Coating
  - 3. AA-M12C23A34: Anodized – Color Coating
- C. American Architectural Manufacturers Association (AAMA):
  - 1. AAMA 501.1 Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure
  - 2. AAMA 501.2 Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls and Sloped Glazing Systems
  - 3. AAMA 609 & 610 Cleaning and Maintenance Guide for Architecturally Finished Aluminum
  - 4. AAMA 2605 Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels
- D. American Society of Civil Engineers (ASCE):
  - 1. ASCE/SEI 7 Minimum Design Loads for Buildings and Other Structures
- E. ASTM International:
  - 1. ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
  - 2. ASTM B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate

3. ASTM B221 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
4. ASTM C645 Standard Specification for Nonstructural Steel Framing Members
5. ASTM C920 Standard Specification for Elastomeric Joint Sealants
6. ASTM C1193 Standard Guide for Use of Joint Sealants
7. ASTM D635 Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position
8. ASTM D1781 Standard Test Method for Climbing Drum Peel for Adhesives
9. ASTM D1929 Standard Test Method for Determining Ignition Temperature of Plastics
10. ASTM D2244 Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates
11. ASTM D4214 Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films
12. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
13. ASTM E283 Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
14. ASTM E330 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls By Uniform Static Air Pressure Difference
15. ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls By Uniform Static Air Pressure Difference

F. National Fire Protection Association (NFPA):

1. NFPA 285 Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components

#### 1.04 SYSTEM DESCRIPTION

A. Performance Requirements:

1. Provide installed ACM Panel System designed to withstand project-specific design loads while maintaining System Requirements; Deflection and Thermal Movement;

and Fire Performance without defects, damage, or failure as defined by the Manufacturer and required by this section.

B. System Requirements:

1. ASTM E283 Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen – Air flow measurement across the ACM Panel System (excluding jamb conditions) shall not be more than 0.06 cfm per sf of wall area when tested to a pressure difference of 6.24 psf.
2. ASTM E330 Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls By Uniform Static Air Pressure Difference – ACM Panel System must be engineered to meet the project-specific design loads for strength and serviceability requirements. In addition, the ACM Panel System must meet or exceed the Deflection and Thermal Movement criteria when tested to a minimum pressure of 40.0 psf.
3. ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls By Uniform Static Air Pressure Difference – Water penetration across the ACM Panel System shall not occur when tested to a pressure difference of 12.0 psf.
4. AAMA 501.1 Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure – Water penetration across the ACM Panel System shall not occur when tested to a pressure difference of 15.0 psf.

C. Deflection and Thermal Movement: Provide installed ACM Panel System that has been designed to resist project-specific wind loads, acting both inward and outward:

1. Perimeter Framing Deflection: Deflection of the ACM panel perimeter framing member shall not exceed  $L/175$  normal to plane of the wall, where L is the unsupported span of the perimeter framing member between fastener locations.
2. ACM Panel Deflection: Deflection of the ACM panel face shall not exceed  $L/60$  normal to plane of the wall, where L is the unsupported span of the ACM panel between load transfer locations.
3. At 150% pressure, no permanent deformation exceeding  $L/1000$  or failure to structural members is permitted.
4. Thermal Movements: Allow for free and noiseless horizontal and vertical thermal movement due to expansion and contraction of component parts over a temperature range of  $-20^{\circ}\text{F}$  to  $+180^{\circ}\text{F}$  at the material surface.
  - a. Buckling, opening of joints, undue stress on fasteners, failure of sealants, or any other detrimental effects of thermal movement are not permitted.



- b. Field-fabrication and installation procedures shall consider the ambient temperature range at the time of the respective operation.
- D. Fire Performance: Wall assemblies containing ACM Panel System shall meet the requirements of NFPA 285 using the Intermediate-Scale Multi-Story Test Apparatus (ISMA), where required by code based on the design of this project.

#### 1.05 SUBMITTALS

- A. General: Provide submittals in accordance with Conditions of the Contract and Division 01 Submittal Procedures Section as follows:
- B. Product Data: Submit material descriptions, dimensions of individual components and profiles, and finishes for each type of ACM Panel System.
- C. ACM Panel System:
  - 1. Submit system-specific design details including, but not limited to, ACM panel, molding, clip, adhesive, fastener, and sealant components.
  - 2. Submit design data including, but not limited to, material properties, section properties, and capacities for each ACM Panel System component. Design data shall be supported by a qualified Design Professional licensed in the state of primary research and development, design, and manufacturing of the ACM Panel System.
  - 3. Submit system-specific installation guide information.
  - 4. Submit Shop Drawings indicating, but not limited to, elevations and reflected ceiling plans with joint locations and ACM panel sizes; sections with thicknesses and dimensions of components; edge conditions; interfaces with dissimilar materials; corners and transitions; flashings, trims, venting, fasteners, sealants, caulks, and adhesives; accessories; and/or colors.
- D. Samples:
  - 1. Selected Samples: Submit ACM Manufacturer's color charts or chips illustrating full range of colors, finishes, patterns, and textures available for ACM panels with factory-applied finishes. Custom color selection requires color sample to be submitted for approval. Approval signature(s) are required by [Owner] [Architect].
  - 2. Verification Samples:
    - a. ACM Panel System assembly: Submit 12 inches x 12 inches, or size as required, demonstrating system assembly. Samples to be provided in thickness specified, including ACM panel, molding, clip, adhesive, fastener, and sealant components. Sample need not be provided in the specified color.

- b. Submit two samples of each color or finish selected that measure approximately 3 inches x 4 inches, minimum.
- c. Custom color samples may contain drawdown lines. Sizes for custom color samples may vary.

E. Quality Assurance Submittals:

1. ACM Material Certification: Submit an official written statement from the Manufacturer documenting that product raw materials meet specified standards. Certification shall be backed by test reports and/or material certificates.
2. ACM Product Certification: Submit an official written statement from the Manufacturer documenting that product complies with specified Performance Requirements indicated in this specification. Certification shall be backed by test reports.
3. ACM Panel System Certification: Submit an official written statement from the Manufacturer documenting that the ACM Panel System complies with specified Performance Requirements indicated in this specification. Certification shall be backed by test reports.

F. Closeout Submittals:

1. Warranty: Submit Manufacturer and Installer warranty documents as specified within the Warranty section of this specification.
2. Maintenance: Submit Manufacturer's recommendations document for Cleaning and Maintenance of the ACM Panel System.

## 1.06 QUALITY ASSURANCE

A. Qualifications:

1. Manufacturer Qualifications: Company with a minimum of 20 years of continuous experience manufacturing ACM panels in the United States of America of the type specified:
  - a. Able to provide specified warranty on finish.
  - b. Able to provide a list of other projects of similar size including approximate date of installation for each.
2. Installer Qualifications:
  - a. The Installer shall have:
    - i. Been in business of a similar trade and under the present company name for at least five (5) years prior to the start of this project, and

- ii. Experience with similar-sized ACM Panel System projects, and
  - iii. Installed at least three (3) successful projects of the specified ACM Panel System within the last five (5) years
    - 1) Acceptable, varying combinations of successful projects and/or years of experience shall be determined at the discretion of the Manufacturer.
  - b. The Installer must be capable of providing field service representation during installation.
- B. Regulatory Code Agencies Requirements: Provide ACM Panel System that has been evaluated and is in compliance with the following, where required:
- 1. International Code Council (ICC)
  - 2. Miami/Dade County Florida (Notice of Acceptance)
  - 3. State of Florida (Florida Product Approval)
- C. Mock-Ups: Install a mock-up at the project jobsite using acceptable products and Manufacturer-approved details. Obtain [**Owner's**] [**Architect's**] acceptance of finish color (drawdown samples to be used for color approval of nonstandard coil coated colors), texture and pattern, and workmanship standard. Comply with Division 01 Quality Control, Mock-Up Requirements Section.
- 1. Mock-Up Size: Provide as detailed in the construction documents if a stand-alone Mock-Up is required.
  - 2. Maintenance: Maintain mock-up during construction for workmanship comparison; remove and legally dispose of mock-up when no longer required.
  - 3. Incorporation: Mock-up may be incorporated into final construction upon Owner's approval.
  - 4. Additional Cost: Material required for custom color mock-ups may require special small quantity runs that increase cost and require additional time to obtain material.
- D. Pre-installation Meeting: Conduct pre-installation meeting to verify project requirements, substrate conditions, and Manufacturer's installation details.

#### 1.07 PROJECT CONDITIONS

- A. Substrate Tolerances: The General Contractor is responsible for providing an acceptable substrate per Manufacturer's requirements including:

1. Adjacent substrate faces out-of-plane offset: +/- 1/8 inch, and
  2. Level, plumb, and location control lines as indicated: 1/4 inch in any 20 feet, and
  3. Any building elevation direction deviation: +/- 1/2 inch
- B. Field Measurements: Verify locations of wall framing members and wall opening dimensions by field measurements prior to the field-fabrication of the ACM Panel System. Field measurements to be taken once all substrate materials and adjacent materials are installed.

#### 1.08 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. ACM Panel Manufacturer's Material Warranty: Submit, to the Owner, the Manufacturer's standard warranty.
1. Warranty Period:
    - a. Material and Product Integrity: Five (5) years against delamination at any manufactured bond line
    - b. PVDF Painted Finish: Twenty (20) years against:
      - i. Chalking in excess of a numerical rating of eight (8) when measured in accordance with ASTM D4214
      - ii. Fading or change color in excess of eight (8) E units (NBS) when calculated in accordance with ASTM D2244, paragraph 6.3
      - iii. Cracking, chipping, splitting, blistering, or peeling. Minute fracturing (i.e. crazing or cracking) as a result of routing and bending of the ACM panels shall be excluded.
    - c. Polyester Painted Finish: Ten (10) years against:
      - i. Chalking in excess of a numerical rating of eight (8) when measured in accordance with ASTM D4214
      - ii. Fading or change color in excess of eight (8) E units (NBS) when calculated in accordance with ASTM D2244, paragraph 6.3
      - iii. Cracking, chipping, splitting, blistering, or peeling. Minute fracturing (i.e. crazing or cracking) as a result of routing and bending of the ACM panels shall be excluded.

- d. Anodized Finish: Five (5) years against cracking, chipping, splitting, blistering, or peeling. Minute fracturing (i.e. crazing or cracking) as a result of routing and bending of the ACM panels shall be excluded.
- C. Installation Warranty: Installer shall submit to the Owner a standard warranty document executed by an authorized company official. The warranty shall be in addition to, and not a limitation of, other rights Owner may have under the Contract Documents.
1. Warranty Period:
    - a. Workmanship: **[One (1) year] [Other]** warranty period commencing on Date of Substantial Completion.

## PART 2 – PRODUCTS

### 2.01 ACM PANEL MANUFACTURERS AND FIELD-FABRICATED ACM PANEL SYSTEM SUPPLIERS

- A. ACM Panel Manufacturers:
1. Omega-Lite ACM panels manufactured by Laminators Inc. – [www.laminatorsinc.com](http://www.laminatorsinc.com)
  2. **[Other ACM panel manufacturer who meets the requirements of this specification]**
  3. **[Other ACM panel manufacturer who meets the requirements of this specification]**
- B. Field-Fabricated ACM Panel System Suppliers:
1. Laminators Inc. – [www.laminatorsinc.com](http://www.laminatorsinc.com)
  2. **[Other Field-Fabricated ACM Panel System supplier who meets the requirements of this specification]**
  3. **[Other Field-Fabricated ACM Panel System supplier who meets the requirements of this specification]**

### 2.02 ALUMINUM COMPOSITE MATERIAL (ACM)

- A. ACM System Type:
- B. ACM Panel Description
1. Construction:
    - a. Two sheets of aluminum bonded to a core of extruded thermoplastic manufactured in a laminated batch (i.e. discontinuous) process using adhesive(s) be-

tween dissimilar materials. The core material shall not contain foam plastic insulation.

2. Thickness: 0.236 inch (6 mm)
3. Sheets:
  - a. Face Thickness: 0.020 inch nominal or thicker
  - b. Backer Thickness: 0.0125 inch nominal or thicker
  - c. Combined Minimum Thickness: 0.0325 inch nominal (Face + Backer)
4. Product:
  - a. On Types I, II, III, and IV Construction to any height above grade in accordance with the provisions of IBC Section 1407.10.
  - b. On Type V Construction to any height above grade in accordance with the provisions of IBC Section 1407.12.
5. Fire Performance:
  - a. ACM panels tested in accordance with ASTM E84: Class A Material
    - i. ACM panels shall have a Flame Spread Index (FSI) of not more than 25 as intended for use.
    - ii. ACM panels shall have a Smoke Developed Index (SDI) of not more than 450 as intended for use.
6. Bond Integrity:
  - a. ACM panels tested in accordance with ASTM D1781:
    - i. ACM panels shall have a Climbing Drum Peel Strength of at least 22.5 lb/in as intended for use.
  - b. Chemically-bonded to the core material in a laminated batch process

## 2.03 FINISH

A. Exterior Finish: Finish shall meet the performance criteria of AAMA 2605.

1. Standard and Standard Metallic Finishes:
  - a. Selected from a Manufacturer's standard color chart

2. Custom Finish:
  - a. Selected by the [Owner] [Architect] and coordinated with Manufacturer

3. Standard Specialty Finish:
  - a. Selected from a Manufacturer's standard color chart

B. Exterior Finish: Finish shall meet the performance criteria of the AA.

1. Anodized:
  - a. Clear Coating: AA-M12C23A31 Architectural Class
  - b. Color Coating: AA-M12C23A34 Architectural Class

## 2.04 SYSTEM COMPONENTS

- A. General: Provide Manufacturer's standard ACM Panel System-specific components, including, but not limited to, mountings, adhesives, connections, and fasteners for specific applications indicated on contract documents.

## 2.05 RELATED MATERIALS

- A. General: Refer to Related Sections specified herein for other materials, including concrete, masonry, framing, sheathing, barriers, flashing and trim, sealants, windows, glazing, and/or curtain walls.

## PART 3 – EXECUTION

### 3.01 INSTALLER INSTRUCTIONS

- A. Compliance: Comply with Manufacturer's product data, including, but not limited to, installation guides, design details, product technical bulletins, supplemental technical instructions, and any other product packaging instructions.

### 3.02 PREPARATION

- A. Site Verification of Conditions: Verify that conditions of substrate previously installed under other sections are acceptable for the ACM Panel System installation. Documentation should be provided indicating any conditions detrimental to the performance of the ACM Panel System.

### 3.03 FIELD-FABRICATED INSTALLATION

- A. Field measurements of site conditions shall be coordinated with approved Shop Drawings prior to beginning installation of the ACM Panel System for locations of intermediate adhesive supports, joints, and edge locations.

- B. Field-coordinate placement of **[moldings]** **[joints]** relative to substrate prior to field-fabrication of ACM panels.
- C. Field-fabricate ACM panels to sizes and joint configurations indicated on approved Shop Drawings.
- D. Fabricate ACM panels with sharply cut edges and no displacement of face or backer sheets or protrusion of core. Form ACM panel angles, breaks, corners, lines, and returns to be sharp, true, and free of buckle and/or warp.
- E. Fabrication Tolerances:
  - 1. Width: +/- 1/16- inch
  - 2. Length: +/- 1/16 inch
  - 3. Squareness: +/- 1/16 inch
- F. ACM Panel Installation:
  - 1. Install the ACM Panel System plumb, level, and true in compliance with Manufacturer's recommendations and approved Shop Drawings.
  - 2. Comply with the Manufacturer's instructions for installation of concealed fasteners; provisions of Section 079200; and manufacturer's recommendations for installation of joint sealants.
  - 3. Installation Tolerances:
    - a. Adjacent vertical or horizontal **[molding]** **[ACM panel]** out-of-plane offset: +/- 1/16 inch
    - b. **[ACM panel edge shall not be exposed short of the finished face of molding.] [Vertical or horizontal joint width: +/- 1/16 inch]**
    - c. Adjacent vertical or horizontal **[molding]** **[ACM panel]** edge alignment: +/- 1/16 inch
    - d. Adjacent vertical or horizontal joint deviation: +/- 1/16 inch
    - e. Maximum vertical or horizontal joint deviation: 1/4 inch in any 20 feet
  - 4. Do not cut, trim, weld, or braze ACM Panel System-specific components during installation in a manner which would damage the finish, decrease strength, or result in visual imperfection or a failure in performance.



5. Separate contact of dissimilar metals with approved methods as defined by the Manufacturer in order to eliminate the possibility of corrosive or electrolytic action between metals.

G. Related Products Installation Requirements: Refer to other sections in Related Sections for installation of related products.

### 3.04 FIELD QUALITY REQUIREMENTS

- A. Field Quality Control: When required, mock-up shall be constructed and tested at the direction of the [Owner] [Architect] [General Contractor]. Water-spray testing on the mock-up of the ACM Panel System shall be in accordance with AAMA 501.2.
- B. Testing Agency: If required, the [Owner] [Architect] [General Contractor] shall engage a qualified testing agency to perform tests and inspections.

### 3.05 REMEDIATION AND CLEANING

#### A. Remediation:

1. Remove and replace ACM Panel System-specific components damaged as a direct result of activities in the ACM panel Installation section.
2. Remove protective masking immediately after installation of ACM Panel System. Masking intentionally left in place after ACM panel Installation on an elevation at the direction of the General Contractor shall become the responsibility of the General Contractor.
3. ACM panel Installation completion shall be agreed-upon between the Installer and the General Contractor.
4. Following Panel Installation completion, any determination of repair or replacement of ACM Panel System-specific components is at the discretion of the Architect. Such repair or replacement shall become the responsibility of the General Contractor.
  - a. At the discretion of the Architect, repair damaged ACM Panel System components such that repairs are not discernible at a distance of 10 feet from the surface at a 90° angle per AAMA 2605.
5. Removal and replacement of ACM Panel System-specific components damaged by other trades shall be the responsibility of the General Contractor.
6. If required after ACM panel Installation, any additional protection of the ACM Panel System shall be the responsibility of the General Contractor.
7. Remove from project site damaged ACM Panel System-specific components, protective masking, and other debris attributable to work of this section.

B. Cleaning:

1. Final Cleaning shall not be part of the work of this section.
2. Cleaning and Maintenance of the ACM Panel System shall be in accordance with AAMA 609 & 610.

**END OF SECTION**

## SECTION 08 42 29.23

### SLIDING AUTOMATIC ENTRANCES

#### PART 1 - GENERAL

##### 1.1 SUMMARY

A. This section includes the following types of automatic entrance doors:

- 1.1 Exterior and interior sliding automatic entrances.

B. Related Sections:

- 1.1 Division 7 Sections for caulking to the extent not specified in this section.
- 1.2 [Division 8 Section "Aluminum-Framed Entrances and Storefronts" for entrances furnished separately in Division 8 Section.]
- 1.3 [Division 8 Section "All-Glass Entrances and Storefronts" for entrances furnished separately in Division 8 Section.]
- 1.4 [Division 8 Section "Door Hardware" for hardware to the extent not specified in this Section.]
- 1.5 Division 8 Section "Glazing" for materials and installation requirements of glazing for automatic entrance doors.
- 1.6 Division 26 and 28 Sections for electrical connections including conduit and wiring for automatic entrance door operators and access control devices.

##### 1.2 REFERENCES

A. References: Refer to the version year adopted by the Authority Having Jurisdiction.

- 1.2.A.1 ANSI A117.1 - Accessible and Usable Buildings and Facilities.
- 1.2.A.2 ICC/IBC - International Building Code.
- 1.2.A.3 NFPA 70 - National Electrical Code.
- 1.2.A.4 NFPA 101 - Life Safety Code.

B. American National Standards Institute (ANSI) / Builders Hardware Manufacturers Association (BHMA).

- 1.2.B.1 ANSI/BHMA A156.10 American National Standard for Power Operated Pedestrian Doors.
- 1.2.B.2 ANSI Z97.1 Standards for Safety Glazing Material Used in Buildings.

C. Underwriters Laboratories (UL).

- 1.2.C.1 UL 325 Standard for Safety for Door, Drapery, Gate, Louver and Window Operators and Systems.

D. American Association of Automatic Door Manufacturers (AAADM).

- E. American Society for Testing and Materials (ASTM).
  - 1.2.E.1 ASTM B221 Standard Specification for Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Profiles and Tubes.
  - 1.2.E.2 ASTM B209 Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate.
  - 1.2.E.3 ASTM 283e Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
- F. American Architectural Manufacturers Association (AAMA).
  - 1.2.F.1 AAMA 611 Voluntary Specification for Anodized Architectural Aluminum.
- G. National Association of Architectural Metal Manufacturers (NAAMM).
  - 1.2.G.1 Metal Finishes Manual for Architectural Metal Products.
- H. International Code Council (ICC).
  - 1.2.H.1 [IBC: International Building Code.]
- I. National Fenestration Rating Council (NFRC).
  - 1.2.I.1 NFRC 100-2010: Procedure for Determining Fenestration Product U-Factors.
  - 1.2.I.2 NFRC 200-2010: Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.
  - 1.2.I.3 NFRC 500-2010: Procedure for Determining Fenestration Product Condensation Resistance Values.
- J. ASHRAE 90.1-2010/2013: Energy Standard for Buildings Except Low-Rise Residential Buildings.

### 1.3 DEFINITIONS

- A. Activation Device: Device that, when actuated, sends an electrical signal to the door operator to activate the operation of the door.
  - 1.3.A.1 Knowing act: Consciously initiating the opening of a power operated door using acceptable methods including wall mounted switches such as push plates and controlled access devices such as keypads, card readers and key switches.
- B. Safety Device: A device that detects the presence of an object or person within a zone where contact could occur and provides a signal to stop the movement of the door.

### 1.4 PERFORMANCE REQUIREMENTS

- A. Compliance with the following:
  - 1.4.A.1 ANSI/BHMA A156.10 American National Standard for Power Operated Pedestrian Doors.

- 1.4.A.2 UL 325 listed.
- B. Automatic door equipment accommodates medium to heavy pedestrian traffic.
- C. Entrapment Force Requirements:
  - 1.4.C.1 Power Operated Sliding Doors: Not more than 30 lbf (133 N) required to prevent stopped door from closing.
  - 1.4.C.2 Sliding doors provided with a breakaway device shall require no more than 50 lbf (222N) applied 1 inch (25 mm) from the leading edge of the lock stile for the breakout panel to open.
- D. Energy Code Requirements: Sliding automatic entrances that are required to meet construction energy code requirements in those districts that have adopted ASHRAE 90.1-2010/2013 shall have been evaluated based on methodology in accordance with the following National Fenestration Rating Council (NFRC) standards:
  - 1.4.D.1 NFRC 100-2010: Procedure for Determining Fenestration Product U-Factors.
  - 1.4.D.2 NFRC 200-2010: Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.
  - 1.4.D.3 NFRC 500-2010: Procedure for Determining Fenestration Product Condensation Resistance Values.
  - 1.4.D.4 ASTM 283e-2010: Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.

## 1.5 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, fabrication, operational descriptions and finishes.
- B. Shop Drawings: Submit manufacturer's shop drawings, including elevations, sections and details, indicating dimensions, materials, and fabrication of doors, frames, sidelites, operator, motion /presence sensor control device, anchors, hardware, finish, options and accessories.
- C. Samples: Submit manufacturer's samples of aluminum finish.
- D. Informational Submittals: Manufacturer's product information and applicable sustainability program credits that are available to contribute towards a LEED rated project certification.
  - 1.5.D.1 Credit MR 4.1 and 4.2: Manufacturer's or fabricator's certificate indicating percentage of post-consumer recycled content by weight and pre-consumer recycled content by weight for each Product specified under this Section.

- E. Manufacturers Field Reports: Submit manufacturer's field reports from AAADM certified technician of inspection and approval of doors for compliance with ANSI/BHMA A156.10 after completion of installation.
- F. Energy Calculations: Submit computer simulation data that is based on methodology in accordance with the National Fenestration Rating Council (NFRC) standards: NFRC 100-2010, NFRC 200-2010, NFRC 500-2010, and ASTM 283e-2010.
- G. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door opening installation in quantity as required in Division 01, Closeout Submittals. The manual to include the name, address, and contact information of the manufacturers providing the entrance and their nearest service representatives. The final copies delivered after completion of the installation test to include spare parts list.
- H. Warranties and Maintenance: Special warranties and maintenance agreements specified in this Section.

#### 1.6 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 10 years of documented experience in manufacturing of doors and equipment of similar to that indicated for this Project and that have a proven record of successful in-service performance. Manufacturer to have a company certificate issued by AAADM.
- B. Installer Qualifications: Installers, trained by the primary product manufacturers, with a minimum 3 years documented experience installing and maintenance of units similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- C. Certified Inspector Qualifications: Certified by AAADM.
- D. Source Limitations for Automatic Entrances: Obtain each type of door, frame, operator and sensor components specified in this Section from a single source, same manufacturer unless otherwise indicated.
- E. Power-Operated Pedestrian Door Standard: ANSI/BHMA A156.10 (current version).
- F. Emergency Exit door requirements: Comply with requirements of authorities having jurisdiction for automatic entrance doors serving as a required means of egress.

## 1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify actual dimensions of openings to receive automatic entrances by field measurements before fabrication and indicate on shop drawings.

## 1.8 COORDINATION

- A. Coordinate sizes and locations of recesses in concrete floors for recessed tracks and thresholds if applicable. Concrete work is specified in Division 03.
- B. Electrical System Roughing-in: Coordinate layout and installation of automatic entrances with connections to power supplies and access control system as applicable.

## 1.9 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Automatic Entrance Doors shall be free of defects in material and workmanship for a period of One (1) year from the date of substantial completion.
- C. During the warranty period a factory-trained technician shall perform service and affect repairs. An inspection shall be performed after each adjustment or repair.
- D. During the warranty period all warranty work, including but not limited to emergency service, shall be performed during normal business hours.
- E. Manufacturer shall have in place a dispatch procedure that shall be available 24 hours a Day, 7 Days a week for emergency call back service.

## 2 PRODUCTS

### 2.1 MANUFACTURER

- A. Manufacturer: ASSA ABLOY Entrance Systems, 1900 Airport Road, Monroe, NC 28110. Toll Free (877) SPEC-123. Fax (704 ) 290- 5555 Website [www.assaabloyentrance.us](http://www.assaabloyentrance.us) contact: [specdesk.na.entrance@assaabloy.com](mailto:specdesk.na.entrance@assaabloy.com)

### 2.2 SLIDING AUTOMATIC ENTRANCES

- A. Sliding automatic entrance system including the following:

- 2.2.A.1 Sliding panels, sidelites and aluminum frame.
- 2.2.A.2 Overhead concealed, electro-mechanical operator.
- 2.2.A.3 Operator housing, guide system and carrier assemblies.
- 2.2.A.4 Controls and accessories as required for a complete installation.

B. [Besam SL500 EcoDoor U-Factor (Basis of Design) Automatic Sliding Entrance with Stile and Rail Panels] [and] [Besam SL500 (Basis of Design) Automatic Sliding Entrance with Stile and Rail Panels]:

- 2.2.B.1 [Single slide, full breakout, door system.]
  - 2.2.B.1.1 Configuration: Single slide, two equal panel unit with one operable leaf and one [pocket type] sidelite.
  - 2.2.B.1.2 Traffic Pattern: [Two-way.] [One-way.]
  - 2.2.B.1.3 Emergency Breakaway Capability: Sliding leaf and sidelite.
  - 2.2.B.1.4 Mounting: Overhead header installed between jambs.
- 2.2.B.2 [Single slide, fixed sidelite, door system.]
  - 2.2.B.2.1 Configuration: Single slide, two equal panel unit with one operable leaf and one fixed sidelite.
  - 2.2.B.2.2 Traffic Pattern: [Two-way.] [One-way.]
  - 2.2.B.2.3 Emergency Breakaway Capability: Sliding leaf only.
  - 2.2.B.2.4 Mounting: Overhead header installed between jambs.
- 2.2.B.3 [Single slide, surface mounted, door system.]
  - 2.2.B.3.1 Configuration: Single slide unit without sidelite.
  - 2.2.B.3.2 Traffic Pattern: [Two-way.] [One-way.]
  - 2.2.B.3.3 Emergency Breakaway Capability: Sliding leaf.
  - 2.2.B.3.4 Mounting: Surface mounted header installed on face of wall.
- 2.2.B.4 [Single slide, surface mounted with sidelite, door system.]
  - 2.2.B.4.1 Configuration: Single slide, two equal panel unit with one operable leaf and one sidelite.
  - 2.2.B.4.2 Traffic Pattern: [Two-way.] [One-way.]
  - 2.2.B.4.3 Emergency Breakaway Capability: Sliding leaf and sidelite.
  - 2.2.B.4.4 Mounting: Surface mounted header installed on face of wall.
- 2.2.B.5 [Bi-parting, full breakout, door system.]
  - 2.2.B.5.1 Configuration: Bi-parting, four equal panel unit with two operable leaves and two [pocket type] sidelites.
  - 2.2.B.5.2 Traffic Pattern: [Two-way.] [One-way.]
  - 2.2.B.5.3 Emergency Breakaway Capability: Sliding leaves and sidelites.
  - 2.2.B.5.4 Mounting: Overhead header installed between jambs.
- 2.2.B.6 [Bi-parting, fixed sidelite, door system.]
  - 2.2.B.6.1 Configuration: Bi-parting, four equal panel unit with two operable leaves and two fixed sidelites.
  - 2.2.B.6.2 Traffic Pattern: [Two-way.] [One-way.]
  - 2.2.B.6.3 Emergency Breakaway Capability: Sliding leaves only.
  - 2.2.B.6.4 Mounting: Overhead header installed between jambs.
- 2.2.B.7 [Bi-parting, surface mounted, door system.]
  - 2.2.B.7.1 Configuration: Bi-parting, two equal panel unit with two operable leaves and no sidelites.
  - 2.2.B.7.2 Traffic Pattern: [Two-way.] [One-way.]
  - 2.2.B.7.3 Emergency Breakaway Capability: Sliding leaves.



- 2.2.B.7.4 Mounting: Surface mounted header installed on face of wall.
- 2.2.B.8 [Bi-parting, surface mounted with sidelites, door system.]
  - 2.2.B.8.1 Configuration: Bi-parting, four equal panel unit with two operable leaves and two sidelites.
  - 2.2.B.8.2 Traffic Pattern: [Two-way.] [One-way.]
  - 2.2.B.8.3 Emergency Breakaway Capability: Sliding leaves and sidelites.
  - 2.2.B.8.4 Mounting: Surface mounted header installed on face of wall.

## 2.3 ENTRANCE COMPONENTS

### A. Stile and Rail Sliding Panels and Sidelites:

- 2.3.A.1 Material: Extruded Aluminum, Alloy 6063-T5.
- 2.3.A.2 Door panels shall have a minimum .125 inch (3.2 mm) structural wall thickness including adjoining horizontal members and perimeter frames where applicable.
- 2.3.A.3 Door Construction shall be by means of an integrated corner block with 3/8 inch all-thread through bolt from each stile.
- 2.3.A.4 Glass stops shall be .062 inch (15.8 mm) wall thickness and shall provide security function as a standard by means of a fixed non-removable exterior section with glazing to be performed from the interior only.
- 2.3.A.5 Full breakout sliding entrances shall include two interlocks per moving panel securing the leading stile of the sidelite and the butt stile of the sliding door panel together.
- 2.3.A.6 Vertical Stiles shall be [narrow stile 2-1/8 inch (54 mm).] [medium stile 4 inch (102 mm).] [wide stile 5 inch (127 mm).]
- 2.3.A.7 Bottom Rails shall be [4 inch (102 mm).] [7 inch (178 mm).] [10 inch (254 mm).]
- 2.3.A.8 [Intermediate Muntin shall be [1-3/4 inch (45 mm).] [4 inch (102 mm).]
- 2.3.A.9 Weather-Stripping: Slide-in type, replaceable pile mohair seals retained by the aluminum extrusions. The following types of weather-stripping are required: complementing weather-stripping on the joining vertical stiles of the sidelite and sliding door panels, complementing weather-stripping on the lead edge of the lock stiles of bi-parting doors, single pile weather-stripping between the carrier and the header, single pile weather-stripping on the lead edge stile of single slide door panels, dual pile weather-stripping on the pivot stile of breakout sidelite panels, and dual pile weather-stripping on the butt stile of fixed sidelite panels. Bottom rails shall be provided with an adjustable nylon sweep.
  - 2.3.A.9.1 EcoDoor Seals: High pile mohair weather stripping on the lock stile of the sliding doors, integrated mohair weather stripping with vinyl fin on the joining vertical stiles of the sidelite and sliding door panels, and expandable foam inserts in leading stile of sidelite panels at pockets for interlocks. Bottom rails shall be provided with a concealed adjustable nylon sweep.
- 2.3.A.10 U-Factor Door Package:
  - 2.3.A.10.1 U-Factor door package shall have been evaluated in full compliance with the listed National Fenestration Rating Council (NFRC) and American Society for Testing and Materials (ASTM) standards: NFRC 100-2010, NFRC 200-2010, NFRC 500-2010, and ASTM 283e-2010.
  - 2.3.A.10.2 U-Factor door package shall meet the following requirements:

U-Factor Rating 0.64 BTU/(h °F ft<sup>2</sup>)

Solar Heat Gain Coefficient 0.28

Visible Light Transmittance 0.45

Condensation Resistance<sup>22</sup>

Air infiltration rating 0.93 cuft/min/sqft 0.28x3/Mx2/min.

2.3.A.11 Glass: Glazing shall comply with ANSI Z97.1, thickness as indicated.

2.3.A.11.1 U-Factor Glazing Sliding Panels and Sidelite Panels: 1" (25 mm) overall thickness insulating glass unit consisting of an interior and exterior glass lite; both lites to be 1/4 inch (6 mm) clear tempered glass. Airspace to be 90% argon filled.

2.3.A.11.1.1 Glazing shall be [PPG Solarban 60 Clear, coated on surface 2, and the airspace 90% argon filled] and meet the following listed requirements specified for U-Factor and Solar Heat Gain Coefficient:

U-Factor Summer (BTU/(h °F ft<sup>2</sup>) 0.22

U-Factor Summer (W/(m<sup>2</sup>K) 1.27

U-Factor Winter (BTU/(h °F ft<sup>2</sup>) 0.25

U-Factor Winter (W/(m<sup>2</sup>K) 1.4

Solar Heat Gain Coefficient 0.37

2.3.A.11.2 [Glazing Sliding Panels and Sidelite Panels: [1/4" (6 mm) tempered glass.] [5/8" (16 mm) insulated glass with tempered panes.] [1" (25 mm) insulated glass with tempered panes.]

2.3.A.11.3 [Glazing Transom Panel: [1/4" (6 mm)] safety glass.] [5/8" (16 mm) insulated safety glass.] [1" (25 mm) insulated safety glass.]

2.3.A.11.3.1 [Transom glazing shall meet the color, clarity, solar coating and performance requirements of the entrance glazing.]

2.3.A.11.4 Glazing Installation: See Division 8 Section "Glazing" for requirements and the manufacturer instructions to meet the specified energy performance of the sliding entrance.

2.3.A.11.4.1 [All Glazing furnished "by others".]

B. Door Carriers: Manufacturer's standard carrier assembly that allows vertical adjustment.

2.3.B.1 Carriage Assembly: Carriage bar with two wheel assemblies. Each assembly shall have tandem roller wheels.

2.3.B.2 Roller Wheels: Two heavy duty Delrin roller wheels per wheel assembly, for a total of four (4) roller wheels, 1-7/16 inch (36.51 mm) diameter, per active door leaf for operation over a replaceable aluminum track. Single journal with sealed oil impregnated bearings.

2.3.B.3 Two (2) heavy duty self-aligning anti-risers per leaf.

C. Framing Members: Provide automatic entrances as complete assemblies. Manufacturer's standard extruded aluminum framing reinforced as required to support loads.

2.3.C.1 Vertical Jambs: 1-3/4 inches (44.5 mm) by [4-1/2 inches (114.3 mm).] [6 inches (152.4 mm).]

D. Header: Manufacturer's standard extruded aluminum header with a replaceable aluminum track extending full width of entrance unit. Header to conceal door operators, carrier assemblies, and roller track; complete with hinged access panel for service of door operator, and controls.

2.3.D.1 Header Span: Maximum 16'-0" (4.9 m) without intermediate supports when entrance glazed with 1/4-inch glass.

2.3.D.1.1 Capacity: Capable of supporting active breakout leafs up to maximum of 300 lb (136 kg) per leaf when header is supported per manufacturer's recommendations.

2.3.D.2 Header Size: [4-1/2 inches (114.3 mm)] [6 inches (152.4 mm)] wide by 7 inches (177.8 mm) high.

2.3.D.2.1 Header height including the sensor plate cap which spans the clear door opening width is 8 inches (203.2 mm) high.

2.3.D.3 Header Access: Continuous hinge at top of header allows cover to swing and allow complete access to operator and internal electronic and mechanical assemblies.

2.3.D.4 Design: Closed header when doors in closed position.

## 2.4 HARDWARE

A. Hardware: Provide manufacturer's standard hardware as required for operation indicated.

2.4.A.1 Breakaway arms and bottom pivot assemblies shall be supplied by the manufacturer and shall be adjustable to comply with applicable codes.

2.4.A.2 [Magnetic catch(s) to retain breakout door and sidelite panels in the closed position.]

2.4.A.3 [Hydraulic closer(s) to return breakout door and sidelite panels to the closed position.]

2.4.A.3.1 [Magnetic catch(s) to retain breakout door and sidelite panels in the closed position.]

2.4.A.4 [Wind resistant hydraulic damper to control movement of breakout panels.]

2.4.A.5 [Bottom ball detent on breakout sidelite panels to provide additional wind resistance.]

2.4.A.6 Locking hardware shall be provided as indicated.

2.4.A.6.1 [Electrified slide lock shall automatically lock the sliding function of all sliding door panels within the entrance when the door panels are in the closed position.]

2.4.A.6.1.1 [Fail secure operation: Slide lock shall lock the sliding function of the door panels upon loss of power.]

2.4.A.6.1.2 [Fail safe operation: Slide lock shall unlock the sliding function of the door panels upon loss of power.]

2.4.A.6.1.3 Exterior jamb mounted key switch to unlock sliding door operation.

2.4.A.6.2 [Mortise type hookbolt latch. (Single slide sliding entrance).]

2.4.A.6.2.1 Interior Side: [Thumbturn.] [Keyed cylinder.] Lock indicators shall be provided if required by code.

2.4.A.6.2.2 Exterior Side: [Keyed cylinder.] [No cylinder.]

- 2.4.A.6.3 [Two point locking system with throw rod into carrier arm and mortise hookbolt. (Bi-parting sliding entrance).]
  - 2.4.A.6.3.1 Interior Side: [Thumbturn.] [Keyed cylinder.] Lock indicators shall be provided if required by code.
  - 2.4.A.6.3.2 Exterior Side: [Keyed cylinder.] [No cylinder.]
- 2.4.A.6.4 [Exit devices shall lock the breakout function while allowing emergency egress at all times. Exit devices in combination with the automatic slide locking hardware to be provided on secured doors. Automatic locking for the sliding door when the door control switch is in the closed position.]
  - 2.4.A.6.4.1 [Adams-Rite 8600 Series, concealed vertical rod exit device mounted to the leading sliding panels.]
    - 2.4.A.6.4.1.1 [Keyed cylinder to retract vertical rod.]
    - 2.4.A.6.4.2 [Flush mounted Adams-Rite F86 Series, concealed vertical rod exit devices mounted to the leading sliding panels.]
  - 2.4.A.6.5 [Locking hardware not required.]
- 2.4.A.7 Keyed cylinders shall be provided as indicated.
  - 2.4.A.7.1 [Manufacturer's standard keyed cylinder.]
  - 2.4.A.7.2 [Keyed cylinder specified in Division 8 Section "Door Hardware".]
  - 2.4.A.7.3 [Keyed cylinder by others.]
- B. Guide Track/Threshold: Manufacturer's threshold as indicated.
  - 2.4.B.1 [Full Breakout Entrance Guide Track: Recessed floor mounted aluminum guide track(s) adjacent to the sidelite portion of the sliding automatic door assembly.]
  - 2.4.B.2 [Full Breakout Entrance Threshold: 1/2 inch (12.7 mm) high continuous aluminum threshold with integral track shall span the width of the sliding door header and fit between the vertical framing members. Threshold design shall allow for optional extruded ramps to securely interlock to flat section to meet ADA requirements.]
    - 2.4.B.2.1 [Surface mounted threshold with interlocking ADA accessible ramps.]  
[Recessed mounted threshold.]
  - 2.4.B.3 [Fixed Sidelite Entrance Guide Track: Aluminum guide track integrated in the bottom of the sidelite portion of the sliding automatic door assembly.]
  - 2.4.B.4 [Fixed Sidelite Entrance Threshold: 1/2 inch (12.7 mm) high continuous aluminum threshold shall span the width of the sliding door header and fit between the vertical framing members. Threshold design shall allow for optional extruded ramps to securely interlock to flat section to meet ADA requirements. Aluminum guide track is integrated into the bottom of the sidelite portion of the door assembly.]
    - 2.4.B.4.1 [Surface mounted threshold with interlocking ADA accessible ramps.]  
[Recessed mounted threshold.]
  - 2.4.B.5 [Fixed Sidelite Entrance Threshold: 1/4 inch (6.4 mm) high continuous aluminum threshold shall span the width of the sliding door header and fit between the vertical framing members. Threshold shall be ramped each side to comply with ADA requirements. Aluminum guide track is integrated into the bottom of the sidelite portion of the door assembly.]

- 2.4.B.6 [Surface Mounted Entrance Guide Track: Aluminum fixed sidelite guide track mounted along the face of the wall. The track shall not extend past the jamb into the door opening.]
- 2.4.B.7 [Surface Mounted Entrance Guide Track: Floor mounted aluminum guide track(s) mounted adjacent to the wall construction. The track(s) shall not extend into the clear door opening.]
  - 2.4.B.7.1 [Surface mounted track.] [Recessed mounted track.]
- 2.4.B.8 [Surface Mounted Entrance Threshold: 1/2 inch (12.7 mm) high continuous aluminum threshold with integral track shall span the width of the sliding door header and fit between the vertical framing members. Threshold design shall allow for optional extruded ramps to securely interlock to flat section to meet ADA requirements.]

## 2.5 DOOR OPERATORS AND CONTROLS

### A. Door Operator and Controller:

- 2.5.A.1 Electro-mechanical controlled unit utilizing a high-efficiency, energy efficient, DC motor requiring a maximum of 3 amp current draw, allowing 5 operators on one 20 amp circuit. The supplied system shall have the capability to operate at full performance well beyond a brown out and high line voltage conditions (85V – 265V) sensing changes and adjusting automatically. The operator shall allow an adjustable hold open time delay of 0 to 60 seconds and have internal software to incorporate a self-diagnostic system.
- 2.5.A.2 Operating Temperature Range: -31° F to 130° F (-35° C to 54.44° C).

### B. Microprocessor Control Box:

- 2.5.B.1 Modular control unit to allow for changing technology. Factory-adjusted configuration with opening and closing speeds set to comply with ANSI/BHMA A156.10 requirements and electronic dampening to reduce wear on drive train. Should the drive train operations deviate from design criteria ranges, Watchdog Control Circuit Monitoring will assume command of the system and shut down the automatic function allowing a secondary supervisory circuit to perform as a backup. Control unit shall allow the following functions:
  - 2.5.B.1.1 Diagnostics with the ability to produce application data.
- 2.5.B.2 Mode Selector Control:
  - 2.5.B.2.1 [Multi-position [rotary knob] [keyed cylinder] mode selector control shall allow selection of the indicated functions to be engaged when switch is turned to the appropriate setting.]
  - 2.5.B.2.2 [Touch pad mode selector control with the following visual indication and trouble shooting.]
    - 2.5.B.2.2.1 Touch pad mode selector with selection indication, to allow selection of the indicated functions.
    - 2.5.B.2.2.2 Touch pad security code to prevent accidental change of settings.
    - 2.5.B.2.2.3 Multi-colored, trouble shooting LED indicator for the following conditions: inspection is required, service is required, or error condition such as door in breakout position.
  - 2.5.B.2.3 Mode Selector Control Mounting: Control shall be mounted as indicated:

2.5.B.2.3.1 [Jamb mounted.]

2.5.B.2.3.2 [Remote mounted.]

2.5.B.2.3.3 [Header cover mounted.]

2.5.B.2.4 Mode selector control to allow the following functions:

2.5.B.2.4.1 "Off"

2.5.B.2.4.2 "Exit Only" one way traffic with automatic operation from the interior.

2.5.B.2.4.3 "Two Way Traffic" allowing automatic operation from exterior and interior.

2.5.B.2.4.4 "Partial Opening" energy saving door position allows door to automatically adjust opening width based on amount of usage, that is, full open during high use and partial open during low use. The control for this setting is programmable allowing adjustment to both the usage setting and the opening width.

2.5.B.2.4.5 "Hold Open" doors activated and held in the full open position.

## 2.6 ACTIVATION AND SAFETY CONTROL DEVICES

A. General: Provide the types of activation and safety devices specified in accordance with ANSI/BHMA standards, for the condition of exposure and for long-term, maintenance-free operation under normal traffic load for type of occupancy indicated. Coordinate activation and safety devices with door operation and door operator mechanisms.

B. Combination Activation Motion Sensor/Safety Presence Sensor:

2.6.B.1 Shall be a sliding door sensor utilizing K-band microwave technology to detect motion and focused active infrared technology to detect presence, combined in a single housing surface mounted on each side of the header.

2.6.B.1.1 Presence sensor shall remain active at all times.

2.6.B.1.2 The sensor shall communicate with the automatic door operator through a self-monitoring connection that allows the door to go into a fail-safe mode preventing the door from closing in the event of a sensor failure.

2.6.B.2 Motion/presence detecting sensors to be field installed and adjusted.

## 2.7 ELECTRICAL

A. High-Efficiency DC Motor: Maximum of 3 amp current draw, allowing 5 operators to run on one 20 Amp circuit.

B. Power: Self-detecting line voltage capable control. 120 VAC through 240 VAC, 50/60 Hz, 3 amp minimum incoming power with solid earth ground connection for each door system.

C. Key Impulse Input: Input for card readers or remote activation with independent adjustable hold open delay.

D. Wiring: Separate internal channel raceway free from moving parts.

- E. Brown out / high voltage capability: System has capability to operate at full performance well beyond brown out and high voltage line conditions (85 V – 265 V) sensing changes and adjusting automatically.
- F. [Convenience Battery: Shall be concealed in header and capable of full operation with blackout conditions, including sensor capabilities for minimum of 100 cycles.]
- G. [Digital Cycle Counter: Battery powered, 7 digit LCD cycle counter with a reset feature to track door usage cycles.]

## 2.8 ALUMINUM FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. [Anodized Finish:]
  - 2.8.B.1 [AAMA 611, Clear, AA- M12C22A41, Class I, 0.018 mm.]
  - 2.8.B.2 [AAMA 611, Dark Bronze, AA-M12C22A44, Class I, 0.018 mm.]
  - 2.8.B.3 [AAMA 611, Custom anodized to match architect's sample.]
- C. [Painted Finish:]
  - 2.8.C.1 [Powder coat painted to match architect's sample.]
  - 2.8.C.2 [Kynar finish, [2 coat] [3 coat], to match architect's sample.]
- D. [Clad Finish (protective coatings by others):]
  - 2.8.D.1 [Stainless steel with #4 satin finish.]
  - 2.8.D.2 [Stainless steel with #8 mirrorlike, reflective, non-directional finish.]
  - 2.8.D.3 [Bronze with a satin finish.]
  - 2.8.D.4 [Bronze with a polished, non-directional finish.]
  - 2.8.D.5 [Brass with a satin finish.]
  - 2.8.D.6 [Brass with a polished, non-directional finish.]
- E. [To match architects sample.]

## 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical source power to verify actual locations of wiring connections.

- C. Proceed only after such discrepancies or conflicts have been resolved.

### 3.2 INSTALLATION

- A. Do not install damaged components. Fit frame joints to produce hairline joints free of burrs and distortion. Rigidly secure non-movement joints.
- B. Entrances: Install automatic entrances plumb and true in alignment with established lines and grades without warp or rack of framing members and doors. Anchor securely in place.
  - 3.2.B.1 Install surface mounted hardware using concealed fasteners to greatest extent possible.
  - 3.2.B.2 Set headers, carrier assemblies, tracks, operating brackets and guides level and true to location with anchorage for permanent support.
- C. Door Operators: Connect door operators to electrical power distribution system as specified in Division 26 Sections.
- D. Glazing: Glaze sliding automatic entrance door panels in accordance with the Glass Association of North America (GANA) Glazing Manual, published recommendations of glass product manufacturer, and published instructions of automatic entrance system manufacturer.
- E. Sealants: Comply with requirements specified in division 7 Section "Joint Sealants" to provide a weather tight installation.
  - 3.2.E.1 Set thresholds, bottom guide and track systems and framing members in full bed of sealant.
  - 3.2.E.2 Seal perimeter of framing members with sealant.
- F. Signage: Apply signage on both sides of each door and sidelite as required by ANSI/BHMA A156.10 and manufacturers installation instructions.

### 3.3 ADJUSTING

- A. Adjust door operators, controls and hardware for smooth and safe operation and for weather tight closure. Adjust doors in compliance with ANSI/BHMA A156.10.
- B. Verify installation and alignment of all entrance weather-stripping as required for compliance with specified air infiltration requirements.



### 3.4 FIELD QUALITY CONTROL

- A. Before placing doors into operation, AAADM certified technician shall inspect and approve doors for compliance with ANSI/BHMA A156.10. Certified technician shall be approved by the manufacturer.

### 3.5 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door installation.
- B. Clean glass and metal surfaces promptly after installation. Remove excess sealants, compounds, dirt and other substances. Repair damages to match original finish.

### 3.6 DEMONSTRATION

- A. Engage a factory-authorized representative to train Owner's maintenance personnel to adjust, operate, and maintain safe operation of the door.

**END OF SECTION**

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**SECTION 105300**  
**METAL CANOPIES**

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Work in this section includes furnishing and installation of all extruded aluminum sunshades with custom designed cantilever support brackets as manufactured by Mapes Industries Inc.
- B. Related Items and Consideration
  - 1. Flashing of various designs may be required. Generic flashing supplied by Mapes. Specialty flashing to be supplied by installer.
  - 2. Determine wall construction, make-up and thickness.
  - 3. Ensure adequate wall condition to carry canopy loads where required.
  - 4. Consider water drainage away from area where necessary.
  - 5. Any necessary removal or relocation of existing structures, obstructions or materials.

1.2 QUALITY ASSURANCE

- A. Co Products meeting these specifications establish standards of quality required as manufactured by Mapes Industries, Inc. Lincoln, Nebraska 1-888-273-1132.

1.3 FIELD MEASUREMENT

- A. Confirm dimensions prior to preparation of shop drawings when possible.
- B. If requested, supply manufacturer's standard literature and specifications for canopies.
- C. Submit shop drawings showing structural component locations/positions, material dimensions and details of construction and assembly.

1.4 PERFORMANCE REQUIREMENTS

- A. Sunshades must conform to local building codes.
- B. PE Stamped calculations are available if specified and per project location.

- C. PE Stamped calculations must be signed and sealed by an engineer licensed within the state the sunshades are installed.

#### 1.5 DELIVERY, STORAGE, HANDLING

- A. Deliver and store all canopy components in protected areas.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURER

- A. MAPES CANOPIES – Lincoln, Nebraska

- 1. Phone: 1-888-273-1132 Fax: 1-877-455-6572

#### 2.2 MATERIALS

- A. Sun shading elements shall consist of extruded aluminum louver blades. (minimum .110 thickness)
- B. Intermediate framing members shall be extruded aluminum, alloy 6063-T6, in profile and thickness shown in current Mapes brochures.
- C. Cantilever support brackets shall be design engineered per application.
- D. Cantilever support brackets will have standard available finishes.
- E. Fascia shall be standard extruded 8" J style.

#### 2.3 FINISHES

- A. Finish type shall be standard or premium finish options as specified.

#### 2.4 FABRICATION

- A. All Mapes SuperShade sunshades are shipped in preassembled sections for ease of installation.
- B. All connections shall be mechanically assembled utilizing 3/16 fasteners with a minimum shear stress of 350 lb. Pre-welded or factory-welded connections are

not acceptable.

- C. Louver blades shall be all extruded aluminum set on a nominal 45 degree back slant..

### 3 EXECUTION

#### 3.1 INSPECTION

- A. Confirm that surrounding area is ready for the sunshade installation.
- B. Installer shall confirm dimensions and elevations to be as shown on drawings provided by Mapes Industries.
- C. Erection shall be performed by an approved installer and scheduled after all concrete, masonry and roofing in the area is completed

#### 3.2 INSTALLATION

- A. Installation shall be in strict accordance with manufacturer's shop drawings. Particular attention should be given to protecting the finish during handling and erection.

#### 3.3 AFTER INSTALLATION, ENTIRE SYSTEM SHALL BE LEFT IN A CLEAN CONDITION

**END OF SECTION**

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## **SECTION 129300 – SITE FURNISHINGS**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. Section includes:
  - 1. Site bench
  - 2. Planters
  - 3. Fence
- B. Related Requirements:
  - 1. Section 031313 "Cast-in-Place Concrete" for installing anchor bolts cast in concrete footings.

#### **1.3 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.
- C. Shop Drawings: For custom applications, showing critical sizes and dimensions for installation and integration with other work.

#### **1.4 CLOSEOUT SUBMITTALS**

- A. Maintenance data.

#### **1.5 DELIVERY, STORAGE AND HANDLING**

- A. Unwrap and inspect furnishings after delivery for signs of damage during transit.
- B. Protect furnishings from damage during storage and handling.
- C. Store furnishings indoors if possible. Do not stand or walk on planters or furnishings.

## 1.6 QUALITY ASSURANCE

- A. Source Limitations for Stone: Obtain each stone variety from a single quarry.
- B. Installer Qualifications: Engage experienced installer that has completed stone installation similar in material, design, and extent to that indicated for the project.
- C. Fabricator Qualifications: Engage experienced fabricator that has completed stone fabrication similar in material, design, and extent to that indicated for the project.

## 1.7 PROJECT CONDITIONS

- A. Contractor to provide adequate structural support for planter liner units. Unless otherwise specified, planters and liners should have continuous basal support.
- B. Protect units from damage by adjacent work.

## PART 2 - PRODUCTS

### 2.1 ANCHORS AND FASTENERS

- A. Anchor Material: Stainless steel, ASTM A 666, Type 304
- B. Dowels and Pins Material: Stainless steel, ASTM A 276, Type 304

### 2.2 SITE FURNISHINGS

- A. Products:
  - 1. Site benches:
    - a. Manufacturer: mmicité
    - b. Product: Landscape Compact – See plans for Length, standard width and height,
    - c. Material: Powder-coated steel structure, standard RAL color, seat made of hardwood Jatoba, surface-mounted
    - d. Quantity: 1
  - 2. Site benches:
    - a. Manufacturer: mmicité
    - b. Product: Preva Urbana, 71" x 23" x 21" park bench without backrest
    - c. Material: Powder-coated steel structure, standard RAL color, seat made of hardwood Jatoba, surface mounted
    - d. Quantity: 10
  - 3. Site Fence:
    - a. Manufacturer: Omega Fence Systems
    - b. Contact: TBD
    - c. Product: Omega10 Orsogril Style 60" and 96" Height



- d. Material: Steel
- e. Base: Per manufacturer to be secured as detailed on the plans
- f. Quantity: as indicated on plans

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 INSTALLATION

- A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of site furnishings where required.
- B. Unless otherwise indicated, install site furnishings after landscaping and paving have been completed.
- C. Install site furnishings level, plumb, true, positioned at locations indicated on Drawings.

**END OF SECTION**

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## SECTION 32 12 01 - ADDASET RESIN BOUND PAVING

### PART 1 GENERAL

#### 1.1 DESCRIPTION

- A. ADDASET is a cold applied clear resin bound aggregate or recycled glass paving system which is both flexible and resistant to cracking. The mixture is available in a wide range of colors allowing imaginative designs to be incorporated within the paved surface.
- B. ADDASET resin bound surface course consisting of aggregate particles, fully coated with two-part chemically curing, uv stable, flexible, crystal-clear resin, hand finished by trowel and roller as supplied by: Chameleon Ways, Inc., PO Box 387, Center Valley, PA 18034 Tel 877-426-5687 Fax 610-797-4654 email [info@chameleonways.com](mailto:info@chameleonways.com)  
Installation completed by a Certified Chameleon Ways, Inc Applicator.

#### 1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 31 00 00 EARTHWORK
- B. Section 32 13 13 CONCRETE PAVING

#### 1.3 SUBMITTALS

- A. General: Make submittals in accordance with Section 01 33 00 Submittal Procedures.
- B. Samples: Submit manufacturer's samples for addaset paving for finish approval and color selection.

#### 1.4 QUALITY ASSURANCE

- A. Mockups: Install 4' x 4' mockup on-site to demonstrate finish, edge restraint, color, and texture.
  - 1. The mockup should be approved by the Landscape Architect prior to commencing final sitework for the addaset paving walkway.

### PART 2 PRODUCTS

#### 2.1 AGGREGATE

- A. ADDASET aggregates consist of differing combinations of course and fine aggregates, which meet a specific mix design, dependant on the application. Mix designs take into account the final color desired and anticipated traffic / pedestrian usage. Aggregates are double washed, dried, and bagged by weight to the specific weight required to meet the mix design for the specific project. Instructions will accompany each material shipment with specific mixing and laying instructions and the number of bags of each aggregate and quantity of resin to place into mechanical mixer.
  - 1. Nominal Mixture Size: 6 mm
  - 2. Mixture Name: Pecan
  - 3. Layer Thickness: ¾" min.

- B. ADDASET Clear resin

## 2.2 EDGE PROTECTION

- A. Edge Protection to secure Addaset paving to be Border Concepts, Inc. Border Guard Steel landscape edging 3/16" x 4" black.
  - 1. Border Concepts, Inc.  
Charlotte, NC  
1-800-845-3343  
[www.borderconcepts.com/products/browse/steel-edge-iron-edge](http://www.borderconcepts.com/products/browse/steel-edge-iron-edge)

## PART 3 EXECUTION

### 3.1 BASE COURSE INSTALLATION

- A. Install and compact the dense graded aggregate base course as per the construction drawings.
- B. Install concrete deck per the detail provided by Chameleon ways.
- C. Install and compact bituminous concrete surface course as per the construction drawings.

### 3.2 SURFACE PREPARATION

- A. Clean surface course of all foreign materials and any chemical or petroleum contamination.
- B. Recommended ambient temperature for application shall be between 40°F and 85°F (5°C and 30°C)

### 3.3 MIXING

- A. Pre-weighed ADDASET resin shall be thoroughly mixed with a slow speed paddle type mixer for a minimum of 45 seconds. The pre weighed bags of aggregate shall be placed in the suitable mechanical mixer and dry mixed for 5 seconds prior to the addition of the ADDASET resin. The mixed ADDASET resin shall then be immediately added to the pre-mixed aggregate in a suitable mechanical mixer. Mix for 1 minute then discharge into a suitable wheelbarrow and move immediately to the point of application.
- B. Mixing equipment shall be a mortar mixer of ample size to place pre-measured aggregates and resin. Mixer shall have ample power to thoroughly blend aggregates and resin into homogenous mixture within 1 minute.

### 3.4 PLACEMENT

- A. The mixture shall be spread evenly across the prepared surface at the required depth using a lute. The surface shall then be hand troweled using sufficient downward pressure to compact and provide for a smooth finish.
- B. Set Time:
  - 1. 50°F (10°C)---Pedestrians 5 hours---Vehicles 12 hours
  - 2. 68°F (20°C)---Pedestrians 4 hours---Vehicles 10 hours
  - 3. 86°F (30°C)---Pedestrians 3 hours---Vehicles 6-8 hours

### 3.5 CLEAN UP

- A. Upon completion of work, the premises shall be left in a neat and orderly condition. This shall include, but not be limited to, the sweeping and washing, if required, of all sidewalks, pavements and building walls adjacent to fencing.
- B. Remove all construction material, trash, paper etc. as required.
- C. Provide Owner's representative with all manufacturers' warranty information with materials.

**END OF SECTION**

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## SECTION 32 13 13 - CONCRETE PAVING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. The Work of this Section includes all labor, materials, equipment, services and transportation required to furnish, deliver, and install cast-in-place concrete work shown on the Drawings, as specified herein, or both, including but not limited to items noted below:
1. Concrete work includes, but is not limited to, installing all:
    - a. Pedestrian Pavement: Walks and paving.
  2. Furnishing fabricating, and placement of reinforcing steel, dowels, welded wire fabric, fillers, and related accessories for concrete work.
  3. Construction and removal of all related and required formwork and centering, shoring, bracing, anchorage and related accessories. Designing and detailing of forms and shores by Contractor's Engineer.
  4. Furnishing and installing joint fillers, bonding compounds, joint sealants and other miscellaneous items specified or shown.
  5. Installing embedded items in concrete furnished as part of other work of Project such as anchor bolts, anchors, supports, sleeves, hangers, frames, and the like.

#### 1.2 RELATED SECTIONS

- A. Section 31 00 00 EARTHWORK
- B. Section 32 14 00 UNIT PAVING
- C. Section 32 13 73 – CONCRETE PAVING JOINT SEALANTS

#### 1.3 SUBMITTALS

- A. General: Make submittals in accordance with Section 01 33 00 Submittal Procedures.
- B. Product Data: Submit manufacturer's complete technical data sheets for the following:
  1. All concrete materials and concrete admixtures used for project.
- C. Design Mixes: For each type of concrete.
- D. Aggregate Mixture: Provide one sample of angular aggregate mix and one sample of rounded aggregate mix for approval.
- E. Qualification Data: For firms indicated in section 01 40 00 Quality Requirements, include a list of completed projects.

#### 1.4 QUALITY ASSURANCE

- A. Codes and Standards: Comply with provisions of following codes, specifications and standards, except where more stringent requirements are shown or specified:
1. Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice".
  2. ACI 301, Structural Concrete for Buildings.
  3. ACI 303.1, Standard Specification for Cast-In-Place Architectural Concrete.
  4. ACI 304, Recommended Practice for Measuring, Mixing, Transporting and Placing of Concrete
  5. ACI 305R, Hot Weather Concreting.
  6. ACI 306R, Cold Weather Concreting.
  7. ACI 316R, Recommendations for Construction for Concrete Pavements and Bases.
  8. ASTM C309, Standard Specification for Chemical Admixtures for Concrete.
  9. ASTM C979, Standard Specification for Pigments for Integrally Colored Concrete.
  10. AASHTO Md194, Chemical Admixtures.
- B. Materials and installed work may require testing and retesting at anytime during progress of work. Tests, including testing of rejected materials and installed work, shall be done at Contractor's expense.
- C. Mockups: Cast 2 or more tinted exposed aggregate concrete sidewalk mockups in a 5' x 8' panel to demonstrate different finish texture, tint, joints, alternate color, curing, finishing techniques (broom, trowel, and float), tolerances, and standard workmanship.
1. The mockup should be approved by the Landscape Architect prior to commencing final sitework for the concrete sidewalks.
- D. Obtain materials from same source and maintain high degree of consistency in workmanship throughout Project.
- E. Manufacturer Qualifications: Manufacturer shall have ten-years experience in the production of specified products.
- F. Installer Qualifications: Concrete shall be finished by firm with five-years experience with work of similar scope and quality.

#### 1.5 PROJECT CONDITIONS

- A. Avoid placing concrete if rain, snow or frost is forecast within 24-hours. Protect fresh concrete from moisture and freezing.
- B. Schedule placement to minimize exposure to wind and hot sun before curing materials are applied.
- C. Comply with professional practices described in ACI 305R and ACI 306R.
- D. Schedule delivery of concrete to provide consistent mix times from batching until discharge. Mix times shall meet manufacturer's written recommendations.
- E. Protect adjacent finish materials against spatter during concrete placement.



## **PART 2 - MATERIALS**

### **2.1 FORM MATERIALS**

- A. Forms for Exposed Finish Concrete: Metal forms to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings.
- B. Forms for Unexposed Finish Concrete: Plywood, lumber, metal or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.
- C. Form Coatings and release agents: Provide commercial formulating form-coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.
- D. Form Ties: Factory-fabricated, adjustable-length, removable or snapoff metal form ties, designed to prevent form deflection and to prevent spalling concrete upon removal. Provide units, which will leave no metal closer than 1-1/2" to surface.
  - 1. Provide ties which, when removed, will leave holes not larger than 1" diameter in concrete surface.

### **2.2 REINFORCING MATERIALS**

- A. Reinforcing Bars: ASTM A 615, Grade 60, deformed.
- B. Concrete reinforcing fibers: ASTM D7508 Synthetic fiber reinforcement
- C. Steel Wire: ASTM A 82, plain, cold-drawn, steel.
- D. Welded Wire Fabric: ASTM A 185, welded steel wire fabric. Mesh reinforcing shall electric welded fabric with an ultimate yield point of at least 72,000 psi. Fabric shall be provided in flat sheets, no rolled wire fabric will be permitted.
- E. Supports for Reinforcement: Bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars and welded wire fabric in place. Use wire bar type supports complying with CRSI specifications, unless otherwise acceptable.
- F. Joint Dowel Bars: Plain steel bars, ASTM A 615, Grade 60. Cut bars true to length with ends square and free of burrs.

## 2.3 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type 1.
- B. Use one brand of cement through project, unless otherwise acceptable to Landscape Architect.
- C. Fine Aggregate/Concrete: sand for concrete work shall conform to ASTM Specification C-33, and shall be composed of clean, hard, durable, uncoated grains free from silt, loam and clay, uniformly graded to meet the following grading requirements:
- 95% passing #4 sieve;
  - 35-75% passing #16 sieve;
  - not more than 10% passing #100 sieve;
  - not more than 3% lost by washing.
- D. Coarse Aggregate/Concrete: shall be crushed stone conforming to ASTM Specification C-33 and shall be composed of clean, hard, durable uncoated grains of strong material, uniformly graded to meet the following requirements:
- 100% passing 1 1/2" screen;
  - 90-100% passing 1" screen;
  - 35-65% passing 1/2" screen; and 0.8% passing #4 sieve.
- E. Normal Weight Aggregates: ASTM C 33, and as herein specified. Provide aggregates from a single source for exposed concrete.
1. For exterior exposed surfaces, do not use fine or coarse aggregates containing spalling-causing deleterious substances.
  2. Local aggregates not complying with ASTM C 33 but which have shown by special test or actual service to produce concrete of adequate strength and durability may be used when acceptable to the Architect.
- F. Water: Potable.
- G. Colored Admixture for Integrally colored concrete:
1. Chromix Admixtures for Color-Conditioned Concrete including Chromix P Admixtures, Chromix ML Admixtures or Chromix L Admixtures; all by L.M. Scofield Company.
  2. Admixture shall be a colored, water-reducing, admixture containing no calcium chloride with coloring agents that are limeproof and ultra-violet resistant.
  3. Colored admixture shall conform to the requirements of ACI 303.1, ASTM C979, ASTM C494 and ASSHTO M194.
  4. Raw pigments are not an equivalent and may not be substituted.
  5. Colors
    - a. Cement: Color shall be white
    - b. Sand: Color shall as per 2.3 C of this Section
    - c. Aggregate: Concrete producer's standard aggregate complying with specifications.
    - d. Colored Admixture: To Be Selected and approved by Owner's representative.

- H. Curing Compound for Integrally Colored Concrete: Curing compound shall comply with ASTM C309 and be of same manufacturer as colored admixture, for use with integrally colored concrete.
1. Exterior Integrally Colored Concrete: Lithochrome Colorwax by L.M. Scofield. Use to cure exterior flatwork that will be allowed to cure naturally with only occasional maintenance.
  2. Colors: Color to match integrally colored concrete.
- I. Curing and Sealing Compound: Scofield Cureseal-W (semi-gloss) and Scofield Cureseal-S (matte) by L.M. Scofield Company. Curing and sealing compound shall comply with ASTM C309 and be of same manufacturer as colored admixture, for use with integrally colored concrete.
1. Colors: Color to match integrally colored concrete.
- J. Air-Entraining Admixture:
1. ASTM C 260, certified by manufacturer to be compatible with other required admixtures.
  2. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:  
"Air-Mix"; Euclid Chemical Co.  
"Sika Aer"; Sika Corp.  
"MB-VR or MB-AE"; Master Builders.  
"Dorex AEA"; W. R. Grace.  
"Edoco 2001 or 2002"; Edoco Technical Products.  
"Air-Tite"; Gifford-Hill/American Admixtures.
- K. Water-Reducing Admixture:
1. ASTM C 494, Type A, and contain not more than 0.1 percent chloride ions.
  2. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:  
"WRDA Hycol"; W. R. Grace.  
"PSI N"; Gifford-Hill/American Admixtures.  
"Eucon WR-75"; Euclid Chemical Co.  
"Pozzolith 344"; Master Builders.  
"Plastocrete 160"; Sika Chemical Corp.  
"Chemtard"; Chem-Masters Corp.  
"Pro-Kete-N"; Protex Industries, Inc.
- L. Water Reducing, Non-Chloride Accelerator Admixture:
1. ASTM C 494, Type E, and containing not more than 0.1 percent chloride ions.
  2. Available Products: Subject to compliance with requirements, products; which may be incorporated in the work include, but are not limited to, the following:  
"Acccelguard 80"; Euclid Chemical Co.  
"Pozzolith 500"; Master Builders.  
"Gilco Accelerator"; Gifford-Hill/American Admixtures.
- M. Water Reducing, Retarding Admixture:

1. ASTM C 494, Type D, and contain not more than 0.1 percent chloride ions.
2. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:  
"Edoco 20006"; Edoco Technical Products.  
"Pozzolith 300-R"; Master Builders.  
"Eucon Retarder 75"; Euclid Chemical Co.  
"Daratard"; W. R. Grace.  
"PSI R"; Gifford-Hill/American Admixtures.  
"Plastiment"; Sika Chemical Co.  
"Protard"; Protex Industries, Inc.

N. Prohibited Admixtures: Calcium chloride thiocyanates or admixtures containing more than 0.1 percent chloride ions are not permitted.

## 2.4 RELATED MATERIALS:

### A. Non-Shrink Grout:

1. CRD-C 588, factory pre-mixed grout.
2. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:  
Non-metallic:  
"Set Grout"; Master Builders.  
"SonogROUT"; Sonneborn-Rexnord.  
"Euco-NS"; Euclid Chemical Co.  
"Supreme"; Gifford-Hill/American Admixtures.  
"Crystex"; L & M Cons. Chemical Co.  
"Sure-Grip Grout"; Dayton Superior Corp.  
"Horngrout"; A. C. Horn.  
"Five Star Grout"; U. S. Grout Corp.

### B. Bonding Compound:

1. Polyvinyl acetate or acrylic base.
2. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:  
Acrylic or Styrene Butadiene:  
"J-40 Bonding Agent"; Dayton Superior Corp.  
"Everbond"; L & M Construction Chemicals.  
"Hornweld"; A. C. Horn.  
"Sonocrete"; Master builders solutions.  
"Acrylic Bondcrete"; The Burke Co.  
"SBR Latex"; Euclid Chemical Co.  
"Daraweld C"; W.R. Grace.

C. Expansion Joint Material: expansion joint filler shall be pre-molded material (non-asphaltic) of an approved manufacturer and of a thickness as shown on the Drawings and filled with an approved two-part polysulfide or polyurethane base expansion joint sealer. Color to match concrete or as specified on drawings.

D. Expansion Joint Cap: Snap Cap plastic joints sealers by W.R. meadows.

- E. Stabilization Fabric: Mirafi 500X (or equal).

## 2.5 PROPORTIONING AND DESIGN OF MIXES

- A. Prepare design mixes for each type and strength of concrete.
- B. Submit written reports to Owner's Representative of each proposed mix for each class of concrete at least 15 days prior to start of work.
- C. Provide design mixes to obtain minimum compressive strengths indicated:
  - 1. Walks, Wheelchair Ramps, Parking Area Paving: 4500psi, 28-day compressive strength.
  - 2. Bus Lay-By Pad: 4500psi, 28-day compressive strength.
  - 3. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Engineer. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Owner's Representative before using in work.
- D. Admixtures:
  - 1. Use water-reducing admixture or high range water-reducing admixture (super plasticizer) in concrete as required for placement and workability.
  - 2. Use non-chloride accelerating admixture in concrete slabs placed at ambient temperatures below 50 degrees F (10 degrees C)
  - 3. Use air-entraining admixture in all exterior exposed concrete. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having total air content with a tolerance of plus-or-minus 1-1/2 percent within following limits:
    - a. Concrete exposed to freezing and thawing, De-icer chemicals, or subjected to hydraulic pressure:
    - b. 5.0 percent (moderate exposure); 6.0 percent (severe exposure)  $\frac{3}{4}$ " max. aggregate.
  - 4. Use admixtures for water-reducing and set-control in strict compliance with manufacturer's directions.
- E. Water-Cement Ratio: Provide water-cement ratio for maximum durability and strength per the proposed design mix.
- F. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows:
  - 1. Curbs, ramps, walks, and sloping surfaces: Not more than 3".
  - 2. Concrete containing HRWR admixture (super-plasticizer): Shall not have slump more than 8" after addition of HRWR to verified 2"-3" slump concrete.
  - 3. Other Concrete: Not more than 4".
  - 4. For concrete to be vibrated: Slump as determined by ASTM C143. Tolerances as established by ASTM C94.

## 2.6 CONCRETE MIXES

- A. Job-Site Mixing: Mix materials for concrete in appropriate drum type batch machine mixer. For mixers of one cu. yd., or smaller capacity, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released. For mixers of capacity larger than one cu. yd., increase minimum 1-1/2 minutes of mixing time by 15 seconds for each additional cu. yd., or fraction thereof.
- B. Provide batch ticket for each batch discharged and used in work, indicating project identification name and number, date, mix type, mix time, quantity, and amount of water introduced.
- C. Ready-Mix Concrete: Comply with requirements of ASTM C 94, and as herein specified.
- D. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required.
  - 1. When air temperature is between 85 degrees F (30 degrees C) and 90 degrees F (32 degrees C) reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90 degrees F (32 degrees C), reduce mixing and delivery time to 60 minutes.
- E. Admixtures: Add admixtures to concrete mix according to manufacturer's written instructions.

### **PART 3 - EXECUTION**

#### **3.1 GENERAL**

- A. Coordinate the installation of joint materials with placement of forms and reinforcing steel.

#### **3.2 PREPARATION OF SUBGRADE**

- A. The finished subgrade shall be parallel to the finished surface and shall be crowned or pitched to an even gradient parallel to finished surface. Do all necessary excavation.
- B. All soft and yielding material, and other portions of the subgrade which will not compact readily when rolled or tamped, shall be removed or broken off to a depth of not less than one (1') foot below the finished surface of the subgrade. All holes and depressions shall be filled with suitable material and the whole surface compacted uniformly by rolling the entire area with an approved power roller weighing not less than 10 tones. Any portion, which is not accessible to a roller, shall be thoroughly compacted by hand tamping. Any creepage of the grade while being rolled shall indicate insufficient compaction.
- C. Precautions shall be taken as necessary to protect the subgrade from damage. Construct and maintain the crown or pitch, in such a condition that it will drain readily and correctly.
- D. The subgrade shall in every area be compacted to 95 percent of the maximum density, except that in areas of fill, the top layer shall be compacted to 98 percent of maximum density. Subgrade shall be firm and unyielding before application of the stone base course.

#### **3.3 GRANULAR SUBBASE**

- A. The coarse aggregate shall be spread uniformly over the subgrade to a depth such as when compacted, the thickness shall be 6". Dumping of the aggregate in piles on the subgrade will not be permitted. Rolling shall be started immediately after the spreading of the aggregate with a self-propelled three-wheel roller weighing not less than 10 tons. Rolling shall continue until the coarse aggregate is firmly locked and keyed together, the appearance and surface texture is uniform and all ridges are removed. The rolled surface shall not vary more than 3/8" when measured with a 10 foot straight edge. Any variation from the above shall be corrected by loosening and reshaping and re-rolling. In places inaccessible to the roller, the aggregate shall be compacted by hand tampers.
- B. Prior to installing granular subbase, place stabilization fabric across entire surface of compacted subgrade. Install and secure over-lapping fabric panels per manufacturer's recommendations / instructions.
- C. Smoothness Test and Thickness Control: Test the completed subbase for grade and cross section with a straight edge. The surface of each layer shall not show any deviations in excess of 3/8-inch. The completed thickness shall be within 1/2-inch of the thickness as shown.
- D. Protection: Maintain the finished subbase in a smooth and compacted condition until the concrete has been placed. When Contractor's subsequent operations or adverse weather disturbs the approved compacted subbase, excavate, and reconstruct it with new material meeting the requirements herein specified, at no additional cost to the Owner.

#### 3.4 FORMS

- A. Design, erect, support, brace and maintain formwork to support vertical and lateral, static, and dynamic loads that might be applied until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation and position. Maintain formwork construction tolerances complying with ACI 301.
- B. Design formwork to be readily removable without impact, shock or damage to cast-in-place concrete surfaces and adjacent materials.
- C. Construct forms to sizes, shapes, lines, and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, drainage holes, anchorages, and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide backup at joints to prevent leakage of cement paste.
- D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, recesses, and the like, to prevent swelling and for easy removal.
- E. Provisions for Other Trades: Provide openings in the concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms.
- F. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Re-tightening

forms and bracing after concrete placement is required to eliminate mortar leaks and maintain proper alignment.

### 3.5 PLACING REINFORCEMENT

- A. Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials, which reduce or destroy bond with concrete.
- C. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.
- D. Place reinforcement to obtain at least minimum coverage for concrete protection. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

### 3.6 CONCRETE PLACEMENT

- A. Pre-placement Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast-in. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work. Moisten wood forms immediately before placing concrete where form coatings are not used.
- B. General: Comply with ACI 304R "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete", and as herein specified.
- C. Fog spray forms, reinforcing steel and subgrade just before concrete is placed.
- D. Deposit concrete, continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation.
- E. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 24" and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.
- F. Consolidate placed concrete by hand-spading, rodding and tamping.
- G. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.
- H. Bring slab surfaces to correct level with straightedge and strike-off. Use bull floats or darbies to smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.
- I. Maintain reinforcing in proper position during concrete placement operations.



- J. Cold Weather Placing: Protect concrete work from physical damage or reduced strength, which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and as herein specified.
- K. When air temperature has fallen to or is expected to fall below 40 degrees F (4 degrees C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 degrees F (10 degrees C), and not more than 80 degrees F (27 degrees C) at point of placement.
- L. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
- M. Do not use calcium chloride, salt and other materials containing antifreeze agents or chemical accelerators, unless otherwise accepted in mix designs.
- N. Hot Weather Placing: When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305 and as herein specified.
- O. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 degrees F (32 degrees C). Mixing water may be chilled, or chopped ice may be used to control the temperature provided water equivalent of ice is calculated to total amount of mixing water. Use of liquid nitrogen to cool concrete is Contractor's option.
- P. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before imbedding in concrete.
- Q. Use water-reducing retarding admixture (type D) when required by high temperatures, low humidity, or other adverse placing conditions.
- R. Install a construction joint whenever the placing of concrete is suspended for more than 30 minutes and at the end of each day's work.

### 3.7 CONCRETE FINISHES – GENERAL

- A. The sequence of operations, unless otherwise indicated, shall be as follows:
  - 1. Consolidating, floating, straight-edging, troweling, texturing, and edging of joints.
  - 2. Maintain finishing equipment and tools in a clean and approved condition.

### 3.8 CONCRETE FINISHING OF PEDESTRIAN PAVEMENT

- A. Finish the surfaces to grade and cross section with a metal float, trowel smooth and finished with a broom moistened with clear water.
- B. Brooming shall be transverse to the line of traffic with a medium finish.
- C. Finish all slab edges, including those at formed joints, carefully with an edger having a radius as shown on the drawings.
- D. Except where indicated on drawings, edge the transverse joints before brooming. The brooming shall eliminate the flat surface left by the surface of the edger. Execute the brooming

so that the corrugation, thus produced, will be uniform in appearance and not more than 1/16-inch in depth.

- E. The completed surface shall be uniform in color and free of surface blemishes and form marks. The finished surface of the pavement shall not vary more than 3/16-inch when tested with a 10-foot straightedge.
- F. The thickness of the pavement shall not vary more than 1/4-inch.
- G. Remove and reconstruct irregularities exceeding the above for the full length between regularly scheduled joints.
- H. The finished surface of the pavement shall not vary more than 1/4-inch.

### 3.9 JOINTS

- A. Provide cork, "Cementone" or equal NON-ASPHALTIC joint filler for expansion joints abutting concrete curbs, catch basins, manholes, inlets, structures, walks and other fixed objects, unless otherwise indicated.
- B. Locate expansion joints in walkways no further apart than twice the width of the walkway; i.e. 5'-0" wide walkway, expansion joints are 10'-0" on center maximum. Expansion joints in curbs shall be 10'-0" o.c. unless otherwise indicated.
- C. Extend joint fillers full-width and depth of joint, and not less than depth required for seal. If no joint sealer is specified, place top of joint filler flush with finished concrete surface.
- D. Furnish joint fillers in one-piece lengths for full width being placed. Where more than one length is required, due to excessive distances, lace or clip joint filler sections together.
- E. Protect top edge of joint filler during concrete placement with a metal cap or other temporary material. Remove protection after concrete has been placed on both sides of joint.
- F. Joint Sealer: Comply with manufacturer's printed instructions except where more stringent requirements are shown or specified, and except where manufacturer's technical representative directs otherwise.
  - 1. Clean joint surfaces immediately before installation of gaskets, sealants or caulking compounds. Remove dirt, insecure coatings, moisture and other substrates, which could interfere with seal of gasket or bond of sealant or caulking compound. Etch concrete and masonry joint surfaces as recommended by sealant manufacturer.
  - 2. Prime or seal joint surfaces where indicated, and where recommended by sealant manufacturer. Confine primer/sealer to areas of sealant bond; do not allow spillage or migration onto adjoining surfaces.
  - 3. Cure sealants and caulking compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability. Cure and protect sealants in a manner, which will minimize increases in modulus of elasticity and other accelerated aging effects. Replace or restore sealants, which are damaged or deteriorated during construction period.
- G. Score Joints: Score contraction joints in sidewalks are to be as indicated on the drawings or as specified. Sawn cut or tooled joints as shown.

### 3.10 PREPARATION OF FORM SURFACES

- A. Clean re-used forms of concrete matrix residue, repair and patch as required to return forms to acceptable surface condition.
- B. Coat contact surfaces of forms with a form-coating compound before reinforcement is placed.
- C. Thin form-coating compounds only with thinning agent of type, amount, and under conditions of form-coating compound manufacturer's directions. Do not allow excess form-coating material to accumulate in forms or to come into contact with in-place concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions.
- D. Coat steel forms with a non-staining, rust-preventative form oil or otherwise protect against rusting. Rust-stained steel formwork is not acceptable.

### 3.11 CONCRETE CURING AND PROTECTION

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- B. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting; keep continuously moist for not less than 7 days.
- C. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least 7 days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.
- D. Curing Methods: Perform curing of concrete by moist curing.
- E. Integrally Colored Concrete: Apply curing/curing and sealing compound for integrally colored concrete according to manufacturer's instructions using manufacturer's recommended application techniques. Apply compound at consistent time for each pour to maintain close color consistency. Curing/curing and sealing compound shall be same color as the colored concrete and supplied by same manufacturer as the colored admixture.
- F. Precautions shall be taken in hot weather to prevent plastic cracking resulting from excessively rapid drying at surface as described in CIP 5 'Plastic Shrinkage Cracking' published by the National Ready Mixed Concrete Association.
- G. Do not cover concrete with plastic sheeting.

### 3.12 REMOVAL OF FORMS

- A. Formwork not supporting weight of concrete, such as the sides of walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 degrees F (10 degrees C) for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.

### 3.13 RE-USE OF FORMS

- A. Clean and repair surfaces of forms to be re-used in work. Split, frayed, delaminated or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new formwork.
- B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use "patched" forms for exposed concrete surfaces.

### 3.14 CONCRETE SURFACE REPAIRS

- A. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to Owner's Representative.
- B. Cut out honeycomb, rock pockets, voids over ¼" in any dimension, and holes left by tie rods and bolts, down to solid concrete but in no case to a depth of less than 1". Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water and brush-coat the area to be patched with specified bonding agent. Place patching mortar after bonding compound has dried.
- C. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.
- D. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for trueness of slope, in addition to smoothness, using a template having required slope.
- E. Repair finished unformed surfaces that contain defects which affect durability of concrete. Surface defects, as such, include crazing, cracks in excess of 0.01" wide or which penetrate to reinforcement or completely thorough non-reinforced sections regardless of width, spalling, pop-outs, honeycomb, rock pockets, and other objectionable conditions.
- F. Correct low areas in unformed surfaces during, or immediately after completion of surface finishing operations by cutting out low areas and replacing with fresh concrete. Finish repaired areas to blend into adjacent concrete. Proprietary patching compounds may be used when acceptable to Landscape Architect.
- G. Repair defective areas, except random cracks and single holes not exceeding 1" diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least ¾" clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding compound. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact and finish to blend with adjacent finished concrete. Cure in the same manner as adjacent concrete.
- H. Repair isolated random cracks and single holes not over 1" in diameter by dry-pack method. Groove top of cracks and cut-out holes to sound concrete and clean of dust, dirt and loose particles. Dampen cleaned concrete surfaces and apply bonding compound. Mix dry-pack, consisting of one part Portland cement to 2-1/2 parts fine aggregate passing a No. 16 mesh sieve, using only enough water as required for handling and placing. Place dry-pack after bonding compound has dried. Compact dry-pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for not less than 72 hours.

- I. Repair methods not specified above may be used, subject to acceptance of Architect.

3.15 QUALITY CONTROL TESTING DURING CONSTRUCTION

- A. The Construction Manager will employ a testing laboratory to perform tests and to submit test reports.
- B. Sampling and testing for quality control during placement of concrete may include the following, as directed by Owner's Representative.
- C. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.
  - 1. Slump: ASTM C 143; one test at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed.
  - 2. Air Content: ASTM C 173, volumetric method for normal weight concrete; ASTM C 231 pressure method for normal weight concrete; one for each day's pour of each type of air entrained concrete.
  - 3. Concrete Temperature: Test hourly when air temperature is 40 degrees F (4 degrees C) and below, and when 80 degrees C (27 degrees C) and above; and each time a set of compression test specimens mad
  - 4. Compression Test Specimen: ASTM C 31; one set of 3 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field-cure test specimens are required.
  - 5. Compressive Strength Tests: ASTM C 39; one set for each day's pour exceeding 5 cu. yds. plus additional sets for each 50 cu. yds. over and above the first 25 cu. yds. of each concrete class placed in any one day; one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required.
    - a. When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used.
    - b. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.
    - c. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive by more than 500 psi.
- D. Test results will be reported in writing to Landscape Architect and Contractor on same day that tests are made. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials; compressive breaking strength and type of break for both 7-day tests and 28-day tests.
- E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as the sole basis for acceptance or rejection.
- F. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Architect. Testing service may conduct tests to determine

adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed. Contractor shall pay for such tests when unacceptable concrete is verified.

**PART 4 - CLEAN UP**

4.1 GENERAL

- A. Upon the completion of the installation, all debris created by the installation shall be removed from the premises of the Owner or disposed of as directed.

**END OF SECTION**

## **SECTION 32 13 73 - CONCRETE PAVING JOINT SEALANTS**

### **PART 1 - GENERAL**

#### 1.1 SUMMARY

- A. Work of this Section includes all labor, materials, equipment and services necessary to furnish, deliver, and install Work of the Section as shown on Drawings, as specified or as required by job conditions.
  - 1. The installation of each form and type of joint sealer as indicated on the Drawings and identified by provisions of this Section.
  - 2. General Performance: Except as otherwise indicated, joint sealers are required to establish and maintain airtight and waterproof continuous seals on a permanent basis, within recognized limitations of wear and aging as indicated for each application. They shall provide a quality bond. Failures of installed sealers to comply with this requirement will be recognized as failures of materials and workmanship.

#### 1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 32 13 13 – CONCRETE PAVING
- B. Section 32 14 00 – UNIT PAVING

#### 1.3 SUBMITTALS

- A. General: Make submittals in accordance with Section 01 33 00 Submittal Procedures.
- B. Submittals shall include actual sealant samples with color as selected by Owner's Representative.

#### 1.4 JOB CONDITIONS

- A. Weather Conditions: Do not proceed with installation of liquid sealants under unfavorable weather conditions. Install elastomeric sealants when temperature is in lower third of temperature range recommended by manufacturer for installation.
- B. Where sealant is specified for joints, bituminous expansion joint filler is NOT to be used below sealant. Use closed cell polyethylene for expansion joint filler below sealant which requires no bond breaker.

### **PART 2 - PRODUCTS**

#### 2.1 MATERIALS

- A. General Sealer Requirements: Color as selected by Landscape Architect to match pavement. Select materials for compatibility with joint surfaces and other indicated exposures, and except as otherwise indicated, select modulus of elasticity and hardness or grade recommended by manufacturer for each application indicated. Where exposed to foot traffic, select non-tracking materials of sufficient strength and hardness to withstand stiletto heel traffic without damage or deterioration of sealer system.

B. Elastomeric Sealants

1. Approved Products (or approved equal):
  - “Masterseal NP II” by Master Builders Solutions
  - “MasterSeal® NP 150™ Sealant Paving Joint Sealant” by Master Builders Solutions
- Miscellaneous Materials
2. Joint Primer/Sealer: Provide type of joint primer/sealer recommended by sealant manufacturer for joint surfaces to be primed or sealed.
3. Bond Breaker Tape: Do not use. Expansion joint and sealant materials shall be compatible so as not to require bond-breaker tape. Contact manufacturer for more information.

**PART 3 - EXECUTION**

3.1 General

- A. Apply sealant where shown on drawing details.
- B. Apply sealant where structure abuts another similar or different structure.

3.2 Inspection

- A. Contractor shall examine substrates, joint surfaces and conditions under which joint sealer work is to be performed. Do not proceed with joint sealer work until unsatisfactory conditions have been corrected.

3.3 Joint Preparation

- A. Clean joint surfaces immediately before installation of gaskets, sealants or caulking compounds. Remove dirt, insecure coatings, moisture and other substrates, which could interfere with seal of gasket or bond of sealant or caulking compound. Etch concrete and masonry joint surfaces as recommended by sealant manufacturer. Roughen vitreous and glazed joint surfaces as recommended by sealant manufacturer.
- B. Prime or seal joint surfaces where indicated, and where recommended by sealant manufacturer. Confine primer/sealer to areas of sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.4 Installation

- A. Comply with manufacturer's printed instructions except where more stringent requirements are shown or specified, and except where manufacturer's technical representative directs otherwise.

3.5 Cure and Protection

- A. Cure sealants and caulking compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability. Cure and protect sealants in a manner that will minimize increases in modulus of



elasticity and other accelerated aging effects. Replace or restore sealants that are damaged or deteriorated during construction period.

**END OF SECTION**

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## **SECTION 321400 - UNIT PAVING**

### **PART 1 - GENERAL**

#### **1.01 RELATED DOCUMENTS**

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

#### **1.02 SUMMARY**

- A. Section Includes:
  - 1. Porcelain Pavers
  - 2. Pedestals, Trays, & Bracing
- B. Related Sections:
  - 1. Section 321313 "Concrete Paving".
  - 2. Section 02300 "Earthwork".

#### **1.03 ACTION SUBMITTALS**

- A. Product Data: Manufacturer's technical information for each product specified.
- B. Sieve Analyses: For setting-bed materials, according to ASTM C 136.
- C. Samples: Color charts for selection of grout where applicable.
- D. Manufacturer's Certificates: Certify products meet or exceed specified requirements. When applicable, submit a Master Grade Certificate signed by the manufacturer and the installer certifying that products meet or exceed the specified requirements of ANSI A137.1, ANSI A137.2, and/or ANSI A137.3.
- E. Installation Instructions: Manufacturer's printed instructions for each product.
- F. Maintenance Data: Include recommended cleaning methods, cleaning materials, and maintenance coatings.

#### **1.04 REFERENCES**

- A. American National Standards Institute (ANSI):
  - 1. ANSI A108 Series/A118 Series – American National Standards for Installation of Ceramic Tile.
  - 2. ANSI A137.1 – American National Standard for Ceramic Tile.

3. ANSI A137.2 – American National Standard for Glass Tile.
  4. ANSI A138.1 – American National Standard Specifications for Green Squared Certification for Tiles and Installation Materials.
- B. ASTM International (ASTM):
1. ASTM A1064 – Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
  2. ASTM C144 – Standard Specification for Aggregate for Masonry Mortar. (Jobsite Mix)
  3. ASTM C150 – Standard Specification for Portland Cement. (Jobsite Mix)
  4. ASTM C645 – Standard Specification for Nonstructural Steel Framing Members.
- C. Handbook for Ceramic Tile, Glass, and Stone Installation; Tile Council of North America, TCNA (HB).
- D. Specifications Guide 09 30 00 – Tile Installation Manual (TTMAC).
- E. International Organization for Standardization (ISO):
1. ISO 13007 – Ceramic tiles – Grout and adhesives.
- F. Leadership in Energy and Environmental Design – U.S. Green Building Council (LEED).

#### 1.05 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of joint material and setting material from single source with resources to provide materials and products of consistent quality in appearance and physical properties.
- B. Ensure Single-Source Warranty Requirements and Compatibility of Products: Provide cleaners, sealing and maintenance products, tile grout, setting materials, underlayments, additives, accessories and factory-prepared dry-set mortars from the same manufacturer.
- C. Installer Qualifications:
1. Engage an experienced installer who has completed tile installations similar in material, design, and extent to that indicated for this project and with a record of successful in-service performance. Installer to have a minimum of five years' experience.
  2. Five-Star member of the National Tile Contractors Association or a Trowel of Excellence member of the Tile Contractors' Association of America.
  3. Installer's supervisor for the project must hold the International Masonry Institute's Foreman Certification.
  4. Installer employs Ceramic Tile Education Foundation Certified Installers or installers recognized by the U.S. Department of Labor as Journeyman Tile Layers.
- D. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Construct a 200 sf mockup within limits of mosaic paving area for approval by the Landscape Architect. Provide a minimum of 10 day's notice to schedule site visit for approval.
2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

E. Preinstallation Conference: Conduct conference at Project site.

#### 1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Prevent damage or contamination to materials by water, freezing, foreign matter and other causes.
- B. Protect setting materials from freezing and overheating in accordance with manufacturer's instructions.
- C. Store pavers and setting materials on elevated platforms, under cover and in a dry location and protect from contamination, dampness, freezing and overheating.
- D. Do not use frozen materials unless specifically allowed by manufacturer.
- E. Deliver and store materials on site at least 24 hours before work begins.
- F. Provide heated and dry storage facilities on site.

#### 1.07 PROJECT CONDITIONS

- A. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit paver work damaged by frost or freezing.
- B. Weather Limitations for Jointing Material:

Install Jointing Material only when ambient temperature is above 40°F (5°C), with no rain forecast for 24 hours.

### PART 2 - PRODUCTS

#### 2.01 MANUFACTURERS

- A. Acceptable Manufacturer: As indicated below
- B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 – Product Requirements.

C. Substitutions: Not permitted.

## 2.2 2.02 CONCRETE UNIT PAVERS

A. Concrete Pavers: Solid paving units, made from normal-weight concrete with a compressive strength not less than 5000 psi (34 MPa), water absorption not more than 5 percent according to ASTM C 140, and no breakage and not more than 1 percent mass loss when tested for freeze-thaw resistance according to ASTM C 67.

1. Concrete Unit Paver 'A' (Paver Field):
  - a. Manufacturer: Hanover Architectural Products, 5000 Hanover Road, Hanover, PA 17331 (800) 4264242. Contact: Brent Bevenour.
    - 1) Style: Appian Prest Brick- varied design.
    - 2) Thickness: 2 3/8"
  - b. Face Sizes: 6" x 9", 4" x 4".
  - c. Finish: Tudor.
  - d. Color: Traditional Matrix #B91187.
  - e. Layout and Pattern: Herringbone and grid. See materials plan for layout.
2. Concrete Unit Paver 'B' (Mosaic Paving area):
  - a. Manufacturer: Hanover Architectural Products, 5000 Hanover Road, Hanover, PA 17331 (800) 4264242. Contact: Brent Bevenour.
    - 1) Style: Prest Paver
    - 2) Thickness: 2 3/8"
  - b. Face Sizes: 4" x 4".
  - c. Finish: Tudor.
  - d. Color: Limestone Gray
  - e. Layout and Pattern: grid. See L310 plan for layout and mixture percentage.
3. Concrete Unit Paver 'C' (Mosaic Paving area):
  - a. Manufacturer: Hanover Architectural Products, 5000 Hanover Road, Hanover, PA 17331 (800) 4264242. Contact: Brent Bevenour.
    - 1) Style: Prest Paver
    - 2) Thickness: 2 3/8"
  - b. Face Sizes: 4" x 4".
  - c. Finish: Tudor.
  - d. Color: Cream

- e. Layout and Pattern: grid. See L310 plan for layout and mixture percentage.
- 4. Concrete Unit Paver 'D' (Mosaic Paving area):
  - a. Manufacturer: Hanover Architectural Products, 5000 Hanover Road, Hanover, PA 17331 (800) 4264242. Contact: Brent Bevenour.
    - 1) Style: Prest Paver
    - 2) Thickness: 2 3/8"
  - b. Face Sizes: 4" x 4".
  - c. Finish: Tudor.
  - d. Color: Brown
  - e. Layout and Pattern: grid. See L310 plan for layout and mixture percentage.

#### 2.03 AGGREGATE BED MATERIALS

- A. Graded Aggregate for Subbase: Sound, crushed stone or gravel complying with ASTM D 448 for Size No. 57.
- B. Base: Concrete under-slab complying with requirements in Division 03 Section "Cast-In-Place Concrete".
- C. Setting Bed for Concrete Unit Pavers: Sand/ Cement
  - 1. Four parts coarse, washed, concrete sand meeting the standards of ASTM C33, to one part cement.
- D. Drainage Geotextile: Nonwoven needle-punched geotextile fabric, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:
  - 1. Survivability: Class 2, AASHTO M 288.
  - 2. Apparent Opening Size: No. 40 sieve, maximum; ASTM D 4751.
  - 3. Permittivity: 0.5 per second, minimum; ASTM D 4491.
  - 4. UV Stability: 50 percent after 500 hours' exposure, ASTM D 4355.
- E. Herbicide: Commercial chemical for weed control, registered with the EPA. Provide in granular, liquid, or wettable powder form.

#### 2.05 JOINTING MATERIAL

- A. A. Joint Material: Polymeric Sand
  - 1. Color to be selected by Landscape Architect from manufacturers full range of colors.

#### 2.10 MIXES

- A. Proportion and mix materials in accordance with manufacturer's most current written instructions and applicable ANSI standards.

2.11 MISCELLANEOUS

- A. Geotextile: Geotextile shall consist of needled non-woven polypropylene fibers and meet the following:
1. Grab tensile strength (ASTM-D4632)  $\geq$  120 lbs
  2. Mullen burst strength (ASTM-D3786)  $\geq$  225 psi
  3. Flow rate (ASTM-D4491)  $\geq$  95 gal/min/ft<sup>2</sup>
  4. UV resistance after 500 hrs (ASTM-D4355)  $\geq$  70%
  5. Heat set or heat-calendared fabrics are not permitted
  6. AASHTO Class 1 or 2

PART 3 - EXECUTION

3.01 EXAMINATION

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

3.02 PREPARATION

- A. Proof-roll prepared subgrade according to requirements in Division 31 Section "Earth Moving" to identify soft pockets and areas of excess yielding. Proceed with unit paver installation only after deficient subgrades have been corrected and are ready to receive base course for unit pavers.
- B. Remove substances from concrete substrates that could impair mortar bond, including curing and sealing compounds, form oil, and laitance.
- C. Sweep concrete substrates to remove dirt, dust, debris, and loose particles.

3.03 INSTALLATION, GENERAL

- A. Do not use unit pavers with chips, cracks, voids, discolorations, or other defects that might be visible or cause staining in finished work.
- B. Mix pavers from several pallets or cubes, as they are placed, to produce uniform blend of colors and textures.
- C. Cut unit pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.



- D. Joint Pattern: As indicated on the Layout Plan. Match design pattern and configuration exactly as documented.
- E. Pavers over Waterproofing: Exercise care in placing pavers and setting materials over waterproofing so protection materials are not displaced, and waterproofing is not punctured or otherwise damaged. Carefully replace protection materials that become displaced and arrange for repair of damaged waterproofing before covering with paving.
  - 1. Provide joint filler at waterproofing that is turned up on vertical surfaces.

Tolerances: Do not exceed 1/32-inch unit-to-unit offset from flush (lippage) nor 1/8 inch in 10 feet from level, or indicated slope, for finished surface of paving.

### 3.04 AGGREGATE SETTING-BED APPLICATIONS

- A. Compact soil subgrade uniformly to at least 95 percent of laboratory density.
- B. Proof-roll prepared subgrade to identify soft pockets and areas of excess yielding. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.
- C. Place aggregate sub-base, compact by tamping with plate vibrator, and screed to depth indicated.
- D. Place concrete base, to thickness indicated.
- E. Place sand/cement leveling course and screed to a thickness of 1 inch, taking care that moisture content remains constant, and density is loose and uniform until pavers are set and compacted.
- F. Treat leveling course with herbicide to inhibit growth of grass and weeds.
- G. Set pavers with hand-tight joints, being careful not to disturb leveling base. Use string lines to keep straight lines. See construction drawings for layout and pattern.
- H. Vibrate pavers into leveling course. Use vibrator with Neoprene mat on face of plate.
- I. Apply jointing material and fill joints immediately after setting pavers into leveling course. Install jointing material per manufacturer's recommendations.
- J. Set pavers shall be vibrated into the leveling course and joints filled on the same day that they are installed. Set pavers shall not be left overnight or for any extended period of time without being vibrated and filled with jointing material. At the end of each workday, edges of all uncompleted work must be tarped and protected from foot traffic and weather conditions.

### 3.05 MORTAR SETTING-BED FOR EDGE PAVERS

- A. Saturate concrete subbase with clean water several hours before placing setting bed. Remove surface water about one hour before placing setting bed.

- B. Apply mortar-bed bond coat over surface of concrete subbase about 15 minutes before placing mortar bed. Limit area of bond coat to avoid its drying out before placing setting bed. Do not exceed 1/16-inch thickness for bond coat.
- C. Apply mortar bed over bond coat; spread and screed mortar bed to uniform thickness at subgrade elevations required for accurate setting of pavers to finished grades indicated.
- D. Mix and place only that amount of mortar bed that can be covered with pavers before initial set. Before placing pavers, cut back, bevel edge, and remove and discard setting-bed material that has reached initial set.
- E. Place pavers before initial set of cement occurs. Immediately before placing pavers on mortar bed, apply uniform 1/16-inch thick bond coat to mortar bed or to back of each paver with a flat trowel.
- F. Tamp or beat pavers with a wooden block or rubber mallet to obtain full contact with setting bed and to bring finished surfaces within indicated tolerances. Set each paver in a single operation before initial set of mortar; do not return to areas already set or disturb pavers for purposes of realigning finished surfaces or adjusting joints.
- G. Joint Widths:
  - 1. Hand-tight.
- H. Apply jointing material and fill joints immediately after setting pavers into leveling course. Install jointing material per manufacturer's recommendations.

### 3.06 REPAIRING AND CLEANING

- A. Remove and replace unit pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.
- B. Cleaning: Remove excess sand from exposed paver surfaces.

### 3.07 PROTECTION

- A. Protect completed work from damage due to subsequent construction activity on the site.

**END OF SECTION**

## SECTION 32 91 13 - SOIL PREPARATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. The Work of this Section includes but is not limited to the following:
1. Examination, preparation, and approval of subgrade in lawn and planting areas prior to placement of planting soil mix.
  2. Preparation and placement of planting soil mix in lawn and planting areas.
  3. Guarantee
  4. Disposal and Clean-up
- B. Related Sections include the following:
1. Section 31 00 00 EARTHWORK
  2. Section 32 92 00 TURF & GRASSES
  3. Section 32 93 00 PLANTS

#### 1.2 REFERENCES

- A. The following references apply to this section.
1. Agricultural Chemist: qualified, experienced public or private soils testing laboratory, capable of providing test results as specified and approved by the Architect.
  2. Modified proctor density in accordance with ASTM 01557 (ASTM: American Society for Testing and Materials).
  3. Modified Proctor Density in accordance with AASHTO T180 (AASHTO: American Association of State Highway and Transportation Officials).

#### 1.3 DEFINITIONS

- A. Topsoil is defined as the topmost layer of earth, which produces heavy growths of crops, grass or other vegetation, and is free from clay lumps and toxic substances harmful to plant growth.
- B. Planting Soil is topsoil that has been enriched with nutrients to increase the quality of the soil for planting areas.

#### 1.4 SUBMITTALS

- A. General: Make submittals in accordance with Section 01 33 00 Submittal Procedures.
1. Approval by the Landscape Architect of submitted product data, samples, test reports, and certificates does not constitute final acceptance.
- B. Testing: Submit written statement from proposed agricultural chemist that required tests can be performed in accordance with the specifications.
- C. Product Data: Submit product literature or tear sheets giving name of product, manufacturer's name, and compliance with specifications.

1. Compost: Include pH, content of woody material, water absorbing capacity, and moisture content by weight.
2. Ground Limestone: Include guaranteed analysis and weight for packaged material.
3. Dehydrated cow manure. Include guarantee that cow manure is pure, sterilized, organic cow manure that is well composted and not fresh.
4. Fertilizer

D. Samples

1. Sand: Two-pound bag.
2. Compost: One-pound bag.

E. Test Reports: Submit certified reports by an agricultural chemist. Make submittals at least three (3) weeks following stockpiling of soil on-site.

1. Topsoil: Test all topsoil stockpiled on-site, for compliance with material specifications (See 2.1 A of this Section). Have one composite sample tested from each stockpile intended for use in lawn and planting work. Include the costs of tests and amendments, if required, in the bid price. Owner reserves the right to have soil tested independently.
  - a. If topsoil does not meet specified requirements, submit a program of amendments for bringing the topsoil up to the minimum standards.
  - b. Perform the following tests:
    - 1) Fertility analysis - pH, soluble salts, nitrate, phosphate, potassium, calcium, and magnesium.
    - 2) Cation exchange capacity.
    - 3) Organic matter content (% oven-dry weight of soil).
    - 4) Particle size analysis.
  - c. Promptly submit written reports of each sample tested. Each report shall include:
    - 1) Date issued.
    - 2) Project title and Landscape Trade Contractor name.
    - 3) Testing laboratory name shall be:
      - a) Rutgers Soil Testing Laboratory  
Rutgers, The State University of New Jersey  
57 US Highway 1  
New Brunswick, NJ 08901-8554  
Phone: 848-932-9295  
Email: soiltest@njaes.rutgers.edu
    - 4) Date and time of sampling or test including temperature and weather conditions.
    - 5) Location of topsoil stockpile or off-site source.
    - 6) Type of test.
    - 7) Results of tests and interpretation of test results.
    - 8) Recommendations for soil additives, proportions, and methods for preparing soil for optimum lawn and planting conditions.
2. Sand: Provide sieve analysis report and salt content.

1.5 QUALITY ASSURANCE

- A. Testing shall be performed by a single laboratory.
- B. Installer: Perform Work with personnel totally familiar with planting soil preparation and lawns and planting installation under the supervision of an experienced landscape foreman. Notify the Construction Manager of the name and phone number of the foreman five (5) business days in advance of the first day of lawn construction.

- C. Arrange a pre-construction meeting between the Landscape Architect, Construction Manager and Landscape Contractor. Such meeting shall seek to review the soil testing and soil work schedule, phasing, review of specifications, and construction procedures.

#### 1.6 REGULATORY REQUIREMENTS

- A. Comply with all rules, regulations, laws, and ordinances of local, State, and Federal authorities having jurisdiction. Provide labor, materials, equipment, and services necessary to make Work comply with such requirements without additional cost to Owner.
- B. Investigate the conditions of public thoroughfares and roads as to availability, clearances, loads, limits, restrictions, and other limitations affecting transportation to and ingress and egress at the site. Conform to all governmental regulations regarding the transportation of materials.
- C. Procure and pay for permits and licenses required for Work.

#### 1.7 DELIVERY, STORAGE AND HANDLING

- A. All stockpiled topsoil shall be protected from erosion. Provide temporary seeding and/or erosion control measures.
- B. Before topsoil is redistributed from topsoil stockpiles to areas where planting soil mix is being prepared, re-handle and re-pile stockpiled topsoil in the following manner:
  - 1. Homogenize the topsoil to make a uniform mix, free of subsoil lenses and other irregularities.
  - 2. Aerate the topsoil to make a friable planting medium.
  - 3. Separate out all clay lumps, stone, stocks, and other debris.

#### 1.8 PROJECT CONDITIONS

- A. Environmental Requirements: Perform soil work only during suitable weather conditions. Do not disc, rototill, or work soil when frozen, excessively wet, or in otherwise unsatisfactory condition.
- B. Existing Conditions
  - 1. Carefully examine the site before submitting a bid. Be informed as to the nature and location of the Work, general and local conditions including climate, adjacent properties and utilities, conformation of the ground, the nature of subsurface conditions, the character of equipment, and facilities needed prior to and during execution of the Work.
  - 2. Shall the Landscape Contractor in the course of Work find any discrepancies between drawings and physical conditions or any omissions or errors in drawings or in layout as furnished by the Architect, it will be his duty to inform the Construction Manager immediately in writing for clarification. Work done after such discovery unless authorized by the Construction Manager shall be done at the Landscape Contractor's risk.

#### 1.9 SEQUENCING AND SCHEDULING

- A. Coordinate Work of this section with Work of all other sections of specification.

- B. Coordinate earthwork, soil preparation, and lawn and plant installation. Do not allow subgrade, topsoil or planting soil mix to be exposed for longer than 15 days without temporary or permanent cover or other erosion control cover.

1.10 GUARANTEE

- A. The Landscape Contractor shall obtain in the Owner's name the standard written manufacturer's guarantee of all materials furnished under this section where such guarantees are offered in the manufacturer's published product data. All these guarantees shall be in addition to and not in lieu of other liabilities which the Landscape Contractor may have by law or other provision of the contract Documents.

**PART 2 - PRODUCTS**

2.1 MATERIALS

- A. Topsoil: Topsoil acquired from off-site, plus required additives. In the event that stockpiled topsoil from existing site shall be depleted, off-site topsoil shall be acquired in accordance with all applicable federal, state, and local regulations.
- B. The contractor shall notify the Landscape Architect or Owner's Representative in the event requiring the importing of topsoil from off-site.
- C. Approved salvaged on-site topsoil shall meet the following minimum requirements:

- 1. Topsoil shall be fertile, friable, well drained, pH range of 6.0 to 6.5, free of sub-soil, toxic substances harmful to plant growth, without clay lumps, stones, roots, or debris. Analysis of content shall be as follows:

Sand	35% to 40%
Clay	15% to 20%
Organic Matter	2.5% Minimum
Silt	Balance

- 2. Where deemed necessary following the testing of on-site stockpiled soil, off-site topsoil shall be tested by the approved soil testing laboratory. A copy of the test report shall be submitted for approval.
- 3. A sample of the topsoil from each source shall be submitted by the Landscape Contractor to a private testing laboratory for testing and analysis. No topsoil shall be delivered to the site until test results have been received and approved by the Landscape Architect and any and all amendments have been made as necessary to comply with the results of the tests.
- 4. Chemical Analysis
  - a. Organic matter content (% oven-dry weight of soil)
    - 1) Soil Reaction (pH) 6.1 to 8.4
    - 2) Soluble salt content (conductivity) Less than 5.0 dS/m for a 1:2 soil:water ratio.
- 5. Nutrient Analysis: Have nutrient levels (nitrate, nitrogen, phosphorous, potassium, magnesium, calcium, etc.) tested and request testing laboratory recommendations for fertilizer requirements for lawn areas and planting areas if nutrient levels are below average.

## 2.2 SOIL AMENDMENT MATERIALS

- A. Ground Limestone: Minimum of 88% of calcium and magnesium carbonates. Total of 100% passing the 10 mesh sieve; minimum of 90% passing the 20 mesh sieve; minimum of 60% passing the 100 mesh sieve.
- B. Water: Potable, clean, fresh, and free from harmful materials. Water shall be furnished by Construction Manager. Provide all hoses and other irrigation equipment required by the Work shall be furnished by the Landscape Contractor.
- C. Lawn Fertilizer: Complete fertilizer recommended for grass and a standard product complying with State and Federal Fertilizer laws. Deliver fertilizer to the site in the original unopened containers bearing the manufacturer's name and guaranteed statement of analysis. At least 50% by weight of the nitrogen content of the fertilizer derived from organic materials, of the following preparation unless otherwise indicated by topsoil test results:
  - 1. Nitrogen: 10%
  - 2. Phosphorus: 20%
  - 3. Potash: 10%
- D. Sand: Natural, medium to course grained in texture, free from decomposed organic matter like roots, sticks, leaves, paper, and of any other undesirable trash like glass, plastic, or metal fragments that could interfere with soil drainage and plating operations. Sand shall be salt free.

## 2.3 ORGANIC MATTER

- A. All compost is to be US Composting Council-STA certified.
- B. Organic Content: Compost used for soil amendment should be 35%-65% organic content by dry weight.
- C. Maturity Test: Seeding germination and vigor should be >80% of the control.
- D. Salts: Soil conductivity shall be between 2.0 dS/m and 6 ds/m.
- E. Carbon: Nitrogen ration should be 14-20 for soil.
- F. Physical contaminants: Organic matter shall be free of physical contaminants including metal, glass, plastic, fabric, and plastic films.
- G. Stability: The stability of the organic matter shall be rated very stable based on CO2 respiration to avoid problems with plant growth, odor, and fungus.
- H. Pathogens and metals: Use USEPA standards for Class A Biosolids, or State Standards.
- I. Moisture Content: Organic matter shall contain a range of 35-55% moisture for ease of spreading and cultivation.

### **PART 3 - EXECUTION**

#### **3.1 STOCKPILING, AND STABILIZING PLANTING SOIL MIX**

- A. Stockpile planting soil mix in one or more approved locations on the site, or adjacent to the site.
- B. If not used within two weeks after stockpiling, stabilize stockpiled planting soil mix by netting or other covering, and maintain in non-eroding and non-dusting conditions (See Civil Engineering Drawings and Specifications for details).
- C. Surplus planting soil mix, if any, at completion of the Project Work, shall be coordinated with the Owner's Representative prior to removal.

#### **3.2 PREPARATION OF THE PLANTING SOIL MIX**

- A. Existing topsoil that has been stockpiled shall be utilized as a planting medium prior to importing and preparing any planting soil. Testing shall direct the recommended amendments based upon proposed use and application of soil and characteristics of existing soil that is stockpiled for reuse.
- B. For Lawns and Planting Beds
  - 1. 70% topsoil improved as per soil test recommendations.
  - 2. 20% compost.
  - 3. 10% sand.
  - 4. Bring to pH of 6.0 to 6.5. Verify pH by testing.
  - 5. Bring to pH of 5.0 to 5.5 for non-herbaceous plants. Verify pH by testing.
  - 6. Uniformly mix ingredients (soil, organic matter, sand) by wind rowing/tilling on an approved hard surface area. Keep organic matter moist during mixing.

#### **3.3 SUBGRADE PREPARATION TO RECEIVE PRESCRIBED SOIL**

- A. Site grading and compaction of fill material shall be as specified on Civil Engineering Drawings.
- B. Before the start of grading and excavation, establish the location and extent of underground utilities in the work area. Exercise care of underground utilities during earthwork operations. Perform excavation work near utilities by hand. Protect active utility services uncovered by excavation.
- C. Prior to dumping and spreading topsoil, verify subgrade elevations and do whatever additional grading is necessary to bring the subgrade to a true, smooth slope parallel to the finished grade for all areas to receive soil.
- D. Do not compact existing subsoil.
- E. Have subgrade observed by Construction Manager prior to placing soil. Request observation at least one week in advance. Clean up subgrade and dispose of all debris and garbage prior to observation.
- F. Correct variations, bumps, ridges, depression, and smooth to final subgrade elevation and contours.
- G. Spray all vegetation on subgrade with an emergent weed killer at a rate of application accepted by the Architect and approved by government agencies with jurisdiction.



- H. Keep unnecessary equipment off the prepared subgrade.
- I. After acceptance of subgrade, loosen subgrade in lawn area by discing or scarifying to a depth of at least 6 inches to permit bonding of the topsoil to the subsoil. Additionally, loosen subsoil in shrub/tree planting areas to a depth of 2 feet and then roll lightly to help soil settle. Do not compact to greater than 85% density as determined by the Modified Proctor Test. For subsoil or fill that has been compacted to greater than 85% (by any means), loosen top 18" to a range of 80-85% maximum dry density. Within canopies of existing trees, loosen soil to a maximum depth of 2 inches by hand method.

### 3.4 PLACING PLANTING SOIL MIX

#### A. Lawn Areas

1. Place and spread planting soil mix in sodded lawn areas where indicated on Contract Drawings.
2. Provide sufficient planting soil mix so that after cleaning, light rolling and settlement soil will have uniform minimum specified depth (See 3.6 of this Section).

#### B. Planted Areas and Tree Pits

1. See Section 32 93 00 PLANTS and Contract Drawings for specifics on placement of planting soil mix when installing trees, shrubs, groundcovers and perennial plantings.
2. Provide sufficient planting soil mix so that after settlement soil will have uniform minimum specified depth (See 3.6 of this Section).

### 3.5 PLANTING SOIL MIX AMENDMENTS FOR LAWN AREA

- A. Applying Fertilizer: Apply commercial fertilizer and work thoroughly into the top two (2) inches of the planting soil mix within one week before sodding at the rate of 35 pounds per 1,000 square feet or at rate determined by soil test results.
- B. Applying Limestone: Apply limestone to bring the pH to range of 6.5 to 7.0 at rate determined by the soil test results.

### 3.6 PLANTING SOIL MIX DEPTHS

#### A. For Sodded Lawns - minimum 6-inch depth.

#### B. For Other Planted Areas -

1. Around trees, planting soil mix with a minimum depth of 24 inches shall be installed in an area with a minimum radius of 10' around trunk locations.
2. Around shrubs, planting soil mix with a minimum depth of 18 inches shall be installed in an area with a minimum radius of 18 inches around plant center.
3. Install planting soil mix in groundcover and perennial areas to a depth of 12 inches.
4. See construction details for dimensions of planting soil mix that is to be placed directly next to plants.

### 3.7 DISPOSAL AND CLEANUP

- A. Legally dispose of off-site all refuse and debris from these operations. Do not dump or burn materials on site.

- B. Maintain the site in an orderly condition during the progress of the Work. Continuously and promptly remove excess waste materials; keep lawn areas, walks, and roads clear. Store materials and equipment where directed. Promptly remove equipment, surplus materials, debris, and trash resulting from operations under this contract upon completion and prior to initial acceptance of Work. Leave the site in a neat, orderly condition, "broom clean."

**END OF SECTION**

## SECTION 32 92 00 - TURF & GRASSES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Work of this Section includes all labor, materials, equipment and services necessary to complete the project coordination and installation of lawn and grasses as specified herein, including but not limited to the following:
1. Review and acceptance of sub-grade and planting soil mix prepared and placed as per Section 31 00 00 - EARTHWORK and Section 32 91 13 – SOIL PREPARATION.
  2. Amending of planting soil
  3. Installation of seeded lawn and grasses.
  4. Installation of sodded lawn.
  5. Protecting and maintaining all seeded and sodded areas until Substantial Completion.
  6. Provide and install erosion control fabric as required on all slopes 3:1 or greater, swale bottoms and around inlets as indicated.
  7. Final clean-up
- B. Related Sections include the following:
1. Section 31 00 00 EARTHWORK
  2. Section 32 91 13 SOIL PREPARATION
  3. Section 32 93 00 PLANTS

#### 1.2 SUBMITTALS

- A. General: Make submittals in accordance with Section 01 33 00 Submittal Procedures.
- B. Qualifications
1. Submit qualifications of the entity and its workers performing the Work of this Section to the Landscape Architect in accordance with 1.4 A. Include names of clients, telephone numbers, and contract amounts for work performed in the last three years, and experience records of workers performing the Work of this Section and evidence of license of pesticide applicator.
- C. Product Data: Submit product literature or tear sheets giving name of product, manufacturer's name, and compliance with specifications.
1. Fertilizer
  2. Ground Limestone
  3. Weed Control/Glyphosate
  4. Hydrogel
  5. Wood Cellulose Fiber Mulch
  6. Erosion Control Blanket
- D. Certification
1. Submit sod certification, in accordance with the requirements of 1.4 C.

1. Submit detailed schedule and work plan, indicating location and installation dates for each area of lawn.

F. Maintenance Program

1. Submit a program for continued maintenance of lawn areas after Substantial Completion. Program shall include a report of conditions unique to site that have been identified during contractor's maintenance of lawn.

1.3 DESIGN PERFORMANCE REQUIREMENTS

- A. Use product-testing methods adopted and published by the Association of Official Analytical Chemists, 1111 19<sup>th</sup> Street, Suite 210, Arlington, VA 22209.
- B. Fertilizers shall conform to current standards as established by the Association of American Plant Food Control Officials, Inc., Division of Regulatory Services, University of Kentucky, Lexington, KY 40546.
- C. Base standards for weather conditions on reports on the weather radio band of the National Oceanic and Atmospheric Administration, Washington Science Center, Rockville, MD 20852, and on its publication entitled "Local Climatological Data With Comparative Data", published 12 times a year as a monthly and once a year as an annual.
- D. Sod shall conform to current standards established by the American Sod Producers Association, 1855-A Hicks Road, Rolling Meadow, IL 60008.
- E. All cultural requirements for turf grass shall be in accordance with the "Cornell Cultural Recommendations for Commercial Turfgrass Management", current edition, published by Cornell University, Ithaca, NY 14850.

1.4 QUALITY ASSURANCE

A. Qualifications

1. The entity and its workers performing the Work of the Section shall be experienced in landscaping and have been engaged in work of a complexity similar to that required under this Section for a period of at least five (5) years.
2. Installation personnel shall be under the supervision of an experienced landscape foreman at all times during construction. Notify the Landscape Architect of the name and phone number of foreman five (5) business days in advance of the first day of lawn construction.
3. The entity performing pesticide applications shall be licensed as a commercial applicator by the state in which the Work is being performed.

B. General Requirements for Operations and Products

1. Products listed in PART 2 – PRODUCTS shall be approved in writing by the Landscape Architect prior to delivery to the construction site.
2. After delivery to the construction site, the General Contractor may, at his discretion, take for analysis representative samples of any item listed in PART 2 – PRODUCTS.
3. Pesticide

- a. Select to act on identified pest and use the manufacturer's recommended formula, application rate and safety instructions at all times.
- b. Mix and agitate products and use equipment according to the manufacturer's directions. Mix and agitate at the work site only in a work area designated by the General Contractor.
- c. Dispose of spills and surplus products away from project property.
- d. Keep all records that are or maybe required by Federal, State or Local laws. Submit copies of these records to the General Contractor within 5 days when so requested.
- e. Not less than forty-eight (48) hours prior to a proposed spray operation, submit to the General Contractor for his approval, a tabulated list indicating the target to be treated, the chemical trade name and quantity of mix being prepared.

C. Specific Requirements for Operations and Products

1. Each sod shipment shall be certified by Federal and State Authorities to be free of insects and diseases. Inspection certificates to this effect shall accompany each shipment invoice and shall be delivered to the General Contractor.

D. Resodding

1. Replace unsatisfactory sodded areas for a period of six months from the date on which the Certificate of Final Completion is issued. Resod all areas that are dead or have weed and/or pest infestations.
2. Perform replacement of unsatisfactory sod with products and by operations that comply with all requirements of these Specifications, and on such date(s) as ordered by the General Contractor.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver all products in the manufacturer's unopened containers bearing the trade name, manufacturer's name, weight and analysis.
- B. Store products away from moisture and extreme temperatures and in such a manner that their effectiveness will not be impaired.
- C. Formulation, Application and Equipment
  1. Use the manufacturer's recommended formula, application rate and safety instructions at all times.
  2. Dispose of spilled materials and surplus products away from project property.
- D. Specific Requirements for Sod
  1. Harvest, deliver and transplant within a 36-hour period. Before harvesting, mow uniformly to a height of 1 1/2 inches.
  2. Do not store sod on the construction site. Install upon delivery.
  3. Do not install sod that turns yellow during handling or delivery.

1.6 REGULATORY REQUIREMENTS / PERMITS AND CODES

- A. Comply with all rules, regulations, laws and ordinances of local, state and federal authorities having jurisdiction. Provide labor, materials, equipment and services necessary to make Work comply with such requirements without additional cost to Owner.
- B. Investigate the conditions of public thoroughfares and roads as to availability, clearances, loads, limits, restrictions, and other limitations affecting transportation to and ingress and egress at the site. Conform to all governmental regulations regarding the transportation of materials and secure, in advance, any necessary permits.
- C. Procure and pay for permits and licenses required for Work.

#### 1.7 EXAMINATION OF SITE AND DOCUMENTS

- A. Existing conditions:
  - 1. Carefully examine the site before submitting a bid. Be informed as to the nature and location of the Work, general and local conditions including climate, adjacent properties and utilities, conformation of the ground, the nature of subsurface conditions, the character of equipment and facilities needed prior to and during execution of the Work.
    - a. Be aware of and comply with restrictions regarding subsurface utilities and subterranean structures, including excavation and loading parameters.
  - 2. Shall the Contractor, in the course of Work, find any discrepancies between Drawings and physical conditions or any omissions or errors in Drawings, or in layout as furnished by the Landscape Architect, it will be his duty to inform the Landscape Architect immediately in writing for clarification. Work done after such discovery, unless authorized by the Landscape Architect, shall be done at the Contractor's risk.
- B. Note areas of Phasing and coordinate sequence of work with locations and limitations of access from these other areas; coordinate with the Construction Manager, Owner and Landscape Architect.

#### 1.8 ENVIRONMENTAL REQUIREMENTS

- A. Perform operations only during the following weather conditions:
  - 1. There shall be no frost in the ground and the soil temperature at each sodded area shall be above 32 degrees F.
  - 2. There shall be no form of precipitation falling or forecast to fall within the next two hours. Following a period of precipitation, resume operations only after the soil has drained.
  - 3. Apply chemicals only when wind velocity is below 5 mph, drift hazard is negligible and the air temperature is above 40 degrees F and below 70 degrees F.
  - 4. Do no perform any product application if precipitation has fallen within two hours prior to the planned application time or is forecast during the next 12-hour period.
- B. Sodding Calendar Limitations
  - 1. Sodding shall be performed only during the following two (2) periods:
    - April 1 through April 30
    - September 1 through October 31.

#### 1.9 SEQUENCING AND SCHEDULING

- A. Coordinate Work of this Section with Work of all other Sections of Specification.

#### 1.10 INSPECTION FOR SUBSTANTIAL COMPLETION

- A. Refer to Conditions of the Contract for provisions regarding guarantees for the Work.
- B. Maintain all lawn areas until Substantial Completion. Maintenance will be in accordance with requirements specified in Part 3 of this Section.
- C. The Landscape Architect will make an inspection for Substantial Completion of the Work of this Section at the time of Substantial Completion of the entire Contract. The Contractor shall furnish a full and complete written program for maintenance of the lawns for review by the Landscape Architect at the time of the request for Substantial Completion.
  - 1. Submit a written request for inspection at least ten (10) weeks prior to the day on which the inspection is requested.
  - 2. The Contractor shall prepare a list of items to be completed or corrected for review by the Landscape Architect, prior to inspection.
  - 3. All lawns shall show a uniform, thick, well-developed stand of grass. If the grass stand is unsatisfactory, as determined by the Landscape Architect, the Contractor's maintenance responsibility shall continue until an acceptable stand of grass is achieved.
- D. Upon completion of the inspection, the Landscape Architect shall amend the list of items to be completed or corrected, and indicate the time period for their completion or correction.
- E. Lawns will not be accepted until all items have been completed or corrected. The Landscape Architect, after an additional inspection, shall recommend in writing the Substantial Completion of the Work of this Section. The Contractor's responsibility for maintenance shall terminate, under issuance of a certificate of Substantial Completion for the entire Contract.

#### 1.11 GUARANTEE

- A. In addition to the specific guarantee requirements of the General Conditions and Supplementary General conditions, the Contractor shall obtain in the Owner's name the standard written manufacturer's guarantee of all materials furnished under this Section where such guarantees are offered in the manufacturer's published product data. All these guarantees shall be in addition to, and not in lieu of, other liabilities, which the Contractor may have by law or other provisions of the Contract Documents.

### **PART 2 - PRODUCTS**

#### 2.1 PLANTING SOIL MIX

- A. Planting soil mix for Lawns: See Specification Section 32 19 13 – SOIL PREPARATION.

#### 2.2 GRASS SEED MIXES

- A. Seed shall be clean and fresh, packed in sealed bags showing net weight, composition of mix, date of germination tests and suppliers name. Germination test must be done within a nine-month period prior to sale of seed.
  - 1. Upland Grass Seed Mix Composite, Type A and Type B: See Planting Schedule L6.1 for composition and quantity.

2. Wetland Seed Mix Composite: See Planting Schedule L6.1 for composition and quantity.
3. Wildflower Meadow Seed Mix Composite: See Planting Schedule L6.1 for composition and quantity.

### 2.3 SOD

A. Nursery-grown and cultivated from certified seed containing at least 90% of the seed mix as specified for fine lawn areas, not less than two years old before lifting, uniform in density, natural green color, free of noxious weeds, as supplied by Tuckahoe Turf Farms in Hammonton, NJ (phone no. 609-561-7184) or approved equal.

B. Sod shall be comprised of the following seed mixes or an approved equal:

<u>Type of Seed</u>	<u>Percentage of Mix</u>
TALL FESCUE (45% of each of the following varieties) Millennium, Plantation.	90%
BLUEGRASS (Tuckahoe Turf Farm Bluegrass Blend)	10%

C. Machine cut sod before delivery to uniform soil thickness of 3/4 inch plus or minus 1/8 inch at the time of cutting, with grass height at 1 1/2 to 2 inches, wetted before cutting. Obtain approval of sod and certify its grass types and percentages before cutting.

D. Cut individual pieces of sod 18 inches wide x 60 inches long (7-1/2 sq.ft.). When a section of sod is suspended vertically from a firm grasp on the upper 10% of the section, sod shall be strong enough to support its own weight and retain its size and shape. Do not harvest or transplant sod when moisture content may adversely affect its survival.

### 2.4 SOIL AMENDMENT MATERIALS

A. Superphosphate: 0-20-0 as distributed by J&L Adikes, 182-12 93<sup>rd</sup> Avenue, Queens, NY 11423, or Lebanon Chemical Co., PO Box 180, Lebanon, PA 17042, or approved equal conforming to the following:

1. Formulated fertilizer having a guaranteed analysis as follows:

0% N  
20% P<sub>2</sub>O<sub>5</sub>  
0% K<sub>2</sub>O

B. Soil pH Adjustment

1. Granulated dolomitic limestone conforming to the following:
  - a. Total carbonates no less than 86% of 48.2% calcium oxide equivalent. For purposes of calculation, total carbonates shall be considered as calcium oxide. Magnesium oxide content shall be between 15-22%.
  - b. A dust-free, homogenous, granular material.

### 2.5 WEED CONTROL/GLYPHOSATE



- A. 41% - Glyphosate N – (Phosphonomethyl) glycine  
59% - Inert Ingredients

## 2.6 HYDROGEL

- A. “Viterra Gelscape” as manufactured by Amereq. Inc., Agri-Products, Congers, NY 10920 **or** “Super Sorb” as manufactured by Aquatrols Corps of America, Inc., Cherry Hill, NJ 08003 **or** “Soil Moist” as manufactured by JRM Chemical Inc., Cleveland, OH 44125 **or** an approved equal.

## 2.7 PROTECTIVE FENCING

- A. All newly sodded areas shall be continuously protected from being disturbed. Where such areas will be subject to pedestrian or vehicular traffic, erect and maintain a four-foot high polypropylene fence or approved equal.

## 2.8 WOOD CELLULOSE FIBER MULCH

- A. Shall consist of especially prepared wood cellulose processed into a uniform fibrous physical state. Wood cellulose fiber mulch shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformity spread slurry. The fiber mulch, including dye shall contain no germination or growth inhibiting factors. The mulch material shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
- B. The mulch material shall contain no elements of compounds at concentration levels that will be phyto-toxic. Wood cellulose fiber must conform to the following physical requirements: fiber length to approximately 10mm., diameter approximately 1mm., ph range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.

## 2.9 EROSION CONTROL BLANKET

- A. DS75 Agricultural straw matrix stitch bonded with degradable thread to a single UV accelerated photodegradable polypropylene netting as manufactured by North American Green or approved equal.

## 2.10 WATER

- A. Water: Potable, clean, fresh and free from harmful materials. Water shall be furnished by the Owner. All hoses and other irrigation equipment required for the Work shall be furnished by the Contractor.

## **PART 3 - EXECUTION**

### 3.1 EXAMINATION OF SITE

- A. Prior to construction of lawn areas, ascertain the location of all electric cables, conduits, underdrainage systems, irrigation and utility lines. Take proper precautions so as not to disturb

or damage waterproofing or other sub-surface elements. If Contractor fails to follow this procedure, he is responsible for making requisite repairs to damaged waterproofing and utilities at this own expense.

1. Verify that required underground utilities are available, in proper location and ready for use. Coordinate with other trades.

### 3.2 PREPARING TOPSOIL

- A. Incorporate the following materials uniformly throughout the entire depth of topsoil, except starter fertilizer, which shall be spread uniformly to the surface:
  1. Limestone: Quantity as required to achieve pH of 6.5.
  2. Basic Fertilizer: 435 lbs per acre.
  3. Starter Fertilizer: 200 lbs per acre.
- B. Application of Hydrogels
  1. Mix 'hydrogel into the top two-inches (2") of soil at the rate of one (1) pound per 1000 square feet.
- C. Thoroughly wet down soil areas to be sodded the evening before sod is to be installed.

### 3.3 FINISH GRADING FOR SEEDED LAWNS

- A. Perform all finish grading necessary to bring site to required finished elevations. Finish grading shall consist of preparing subgrade and spreading topsoil ready for lawn work. Provide additional topsoil as required.
- B. If general area is hardpan, subgrade shall first be amended with a Disc Harrow or chisel-plowed at least 12 inches deep to permit proper loosening and preparation of ground.
- C. Subgrade shall be loosened and graded by harrowing, discing, or dragging, as dictated by the condition of the subgrade. The entire subgrade shall then be raked and all stones over 1" inches, grade stakes, rubbish, and general debris removed.
- D. Topsoil and planting soil shall be dumped in piles, uniformly spaced or otherwise distributed by approved equipment. The piles shall be spread with blade grader, or by any other approved method, to a minimum depth of 6 inches to permit 1 inch of settlement. Correct any surface irregularities to prevent formation of low spots and pockets that would retain water.
- E. Topsoil shall not be placed when the subgrade is frozen, excessively wet, or extremely dry, and no topsoil shall be handled when in a frozen or muddy condition. During all operations following topsoil spreading, the surface shall be kept free from stones over 1 inch in diameter or any rubbish, debris, or other materials which would be detrimental to seeding or to maintenance of the turf.
- F. Fine grade all lawn areas. Fine grading shall include the breaking up of earthen clods to no greater than one half (1/2") inch in diameter to a depth of six (6") inches.
- G. Fine grade by mechanical raking (hand raking only as necessary) leaving no exposed stones, earthen clods or debris greater than one half (1/2") inch in diameter. Turf areas are to be

brought to finish grades, filling as needed or removing surplus soil and floating areas to a smooth, uniform grade as indicated on the Grading Plan. Fine grading shall be interpreted as giving positive drainage away from buildings and toward catch basins. After settling leave no depression greater than one (1') foot diameter. Prior to fine grading, remove all existing annual type vegetation.

- H. All finish grading is to be inspected by the Landscape Architect prior to the placement of seed. The Contractor shall request the inspection three days prior to the placement of seed.

### 3.4 INSTALLATION OF SEEDED LAWN

- A. Seeding may be completed using any of the following methods:

1. Mechanical Power Drawn Seeder: Combination grass planter and land packer or pulverizer. Plant seed not deeper than one-quarter (1/4') inch. Keep seeding operation as close as possible to contours and not up and down slopes. After seeding, compact with land roller, such as a cultipacker. With proper equipment, sowing seed and cultipacking in one operation is satisfactory.
2. Hopper Type Spreader: Manually propelled or power-drawn hopper devices. Uniformly distribute the seed by sowing half the seed in one direction and the remainder at right angles to the direction of the first sowing. Cover seed an average depth of one-quarter (1/4') inch by means of chain harrow, cultipacker, or other approved method.
3. Hydroseeding: Hydraulic broadcasting of prepared material at the following rates per acre:
  - a. Water: as specified.
  - b. 1,500 pounds of wood cellulose, plus 15% for slopes 5% and steeper.
  - c. Lime: quantity as required to achieve pH of 6.5.
  - d. Soil stabilizer of type and at rate recommended by the manufacturer.
  - e. Seed Mix: as specified.
  - f. For a 3,000-gallon tank, multiply these quantities by 0.75. Mix and agitate all materials, except wood cellulose, in 2,200 gallons of water; then add wood cellulose, fill tank with water and continue the agitation. Seed promptly, under constant agitation of the mix, beginning when the complete mix is a uniform slurry. Limit coverage for the 3,000-gallon tank to a 0.75-acre.
  - g. Contractor shall be responsible for repairing all ruts and related damage to finish graded areas as a result of Hydroseeding operations.

- B. Hydraulic seeding shall be applied during favorable weather conditions and when wind is five (5) miles per hour or less. Prepared bed shall be in a moderately dry condition during seeding with a minimum three (3") inch depth of loose fluffy soil. Special care shall be taken to insure that no light standards, fire hydrants, curbs, walks and the like are touched. Hydro seed shall be mixed into top one (1") inch of soil by directing hydro-mulching nozzle at soil surface. Broadcast spraying of seed shall not be acceptable unless seed is later raked into top one (1") inch of surface soil.

- C. Add green coloring agent to mulch. This allows Contractor to gauge coverage.

- D. Sow seed at 4 lbs per 1000 sq. ft. or 175 lbs. per acre.

- E. Seed shall be applied April 1<sup>st</sup> thru May 31<sup>st</sup> or August 16<sup>th</sup> thru October 15<sup>th</sup>.

- F. Use mechanical seeding equipment where hydraulic seeding is not practical due to closeness of buildings, etc.

### 3.5 MULCHING OF SEEDED AREAS (OTHER THAN HYDROSEEDED)

- A. After seed application, wood cellulose fiber shall be applied hydraulically at a net rate dry weight of 1,500 lbs. per acre or at rates recommended by the manufacturer. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water. Mulch all seeded areas.
- B. On all slopes 3:1 or greater, use East Coast Erosion control blanket or approved equal.

### 3.6 WATERING OF SEEDED LAWN AREAS

- A. Keep newly seeded lawn areas moistened during seed germination and until the grass covers at least 75% of the seeded areas to a height of two to three (2" to 3") inches.
- B. In the event of insufficient rainfall, moisten seeded areas to a satisfactory depth every two (2) or three (3) days until seed pushes up growth above grade. Thereafter, water in absence of rain every five (5) to seven (7) days until Owner assumes acceptance.

### 3.7 MOWING OF SEEDED AREAS

- A. Mow Upland Meadow Grass Type 'B' at regular intervals. Grass height not to exceed three (3") inches. Mower blades shall be set at two and one half (2 1/2") inches unless otherwise directed.
- B. Contractor shall mow all Upland Meadow Grass Type 'B' seeded areas at least three (3) times before acceptance. For lawns seeded in autumn, the contractor shall mow three (3) times the following spring before acceptance.
- C. Contractor shall be responsible to mow Wetland Meadow Grass, Upland Meadow Grass Type 'A' and Wildflower Meadow Grass twice; once in late fall and once in early spring following final acceptance.

### 3.8 INSTALLATION OF SODDED LAWN

- A. Place sod on prepared topsoil bed as herein before specified.
- B. Ensure that the soil areas that are to receive sod are moist but not saturated; soil must not be in a dry, dusty state.
- C. Lightly roll soil areas prior to installing sod to eliminate uneven settlement.
- D. Lay sod with tight joints. Butt ends and sides of strips; do not overlap. Stagger strips to offset joints in adjacent courses. Keep rows parallel with contour lines and true to finished grade. Roll or tamp in place to establish firm contact with the topsoil bed. Water the entire sodded area immediately after placing; apply one inch of water by an approved sprinkling method.
- E. Retain sod on slopes greater than 10% using wooden pins driven into sod until top is flush with sod.

### 3.9 WATERING OF SODDED LAWN AREAS

- A. Keep newly sodded areas moistened until the grass becomes well established.
- B. In the event of insufficient rainfall, moisten sodded areas daily until rooted. Thereafter, water in absence of rain every seven (7) to ten (10) days. When watering sod, make sure that water soaks through the sod into the topsoil bed below.

### 3.10 MOWING OF SODDED LAWN AREAS

- A. The first mowing shall not be attempted until the grass is firmly rooted and secure in place. Not more than one third (1/3) of the grass blade shall be removed by the initial cutting or subsequent cuttings. Mow with a reel-type mower. Continue cutting until Substantial Completion. Grass height shall be maintained between one and one half (1 1/2") inches and two and one half (2 1/2") inches unless otherwise specified.

### 3.11 PROTECTIVE WORK

- A. All lawn areas shall be continuously protected against damage by a fence as specified herein. It shall be continuously maintained in a condition acceptable to the Landscape Architect. This fence and any protective devices remaining on site shall be removed after Substantial Completion unless directed otherwise by the Landscape Architect.
- B. The cost of replacement shall be borne by the Contractor except where it can be definitely shown that the loss resulted from vandalism or deleterious effects caused by maintenance procedures performed by the Owner without the concurrence of the Contractor. All lawn areas, damaged or disturbed by replacement or repair operations shall be fully restored to their original condition.
- C. Defer work when continuation of construction work must occur over certain lawn areas.

### 3.12 MAINTENANCE OF LAWN WORK

- A. The Contractor shall maintain all lawn areas in a first-class condition from the beginning of lawn construction until that phase of the project has been reviewed and is accepted by the Owner and the Landscape Architect. The Contractor shall advise the Owner's Representative, in writing, when the work is in condition to meet acceptance. After that acceptance, the Owner shall maintain the work.
- B. Maintenance shall include, but not be limited to watering of turf, mowing, cultivation, weeding disease and pest control, replacement of dead, stolen or unacceptable materials, filling under settlement areas, and re-sodding or reseeding wash-outs, and any other procedure consistent with good horticultural practice necessary to insure normal, vigorous and healthy growth of all work under this contract.
- C. The Contractor is responsible for the final watering of not less than one (1") inch of water for all lawn areas before leaving the site.
- D. All areas and spots, which do not show a prompt catch of grass, shall then be reseeded, and the operation repeated until complete coverage is obtained. When the area does not need to be reseeded, it shall be thoroughly wetted every time the surface shows evidence of drying out, and this shall continue through the entire period of maintenance.

- E. Maintenance shall cease after the third cutting, provided all grass areas are properly established and free of washouts, depressions, bare spots, weeds, and large off-color areas.

### 3.13 INSPECTION FOR SUBSTANTIAL COMPLETION

- A. Maintain all lawn areas until Substantial Completion.
- B. The Landscape Architect will make an observation for Substantial Completion of the Work of this Section at the time of Substantial Completion of the entire Contract. The Landscape Contractor shall furnish a full and complete written program for maintenance of the lawns for review by the Landscape Architect and The Owner at the time of the request for Substantial Completion.
  - 1. All lawns shall show a uniform, thick, well-developed stand of grass. If the grass stand is unsatisfactory, as determined by the Landscape Architect and Owner, the Landscape Contractor's maintenance responsibility shall continue until an acceptable stand of grass is achieved.
  - 2. Sodded areas shall have been mowed at least twice since time of installation.
  - 3. Sod shall have shown signs of knitting with the topsoil layer and adjoining sod pads. No open joints between sod pads nor sod slippage on slopes will be acceptable.
  - 4. Sod shall be in a thriving and vigorous condition exhibiting a healthy green color.
- C. The Landscape Contractor's responsibility for maintenance shall terminate, under issuance of a certificate of Substantial Completion for the entire Contract.

### 3.14 CLEAN UP

- A. Maintain the site in an orderly condition during the progress of Work. Continuously and promptly remove excess and waste materials; keep lawn areas, walks and roads clear. Store materials and equipment where directed. Immediately remove rejected materials from the property. Promptly remove equipment, surplus material and debris and trash resulting from operations under this Contract upon completion and prior to inspection of Work. Leave the site in a neat, orderly "broom clean" condition.

**END OF SECTION**

## SECTION 32 93 00 - PLANTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Work of this Section includes all labor, materials, equipment and services necessary to furnish, deliver, and install the following:
  - 1. Furnishing and installing trees, shrubs, ground covers, and perennials.
  - 2. Guying
  - 3. Staking
  - 4. Mulching
  - 5. Fertilizing
  - 6. Guarantee
  - 7. Maintenance
  - 8. Clean Up
- B. Related Sections include the following:
  - 1. Section 32 91 13 SOIL PREPARATION
  - 2. Section 32 92 00 TURF & GRASSES

#### 1.2 REFERENCES

- A. The following references apply to this section.
  - 1. ASNA: "American Standard for Nursery Stock," ANSI Z60.1, latest edition, published by the American Association of Nurserymen, (AAN).
  - 2. SPN: "Standardized Plant Names," latest edition, by the American Joint Committee on Horticultural Nomenclature.
  - 3. Agricultural Chemist: Qualified, experienced public or private soils testing laboratory, capable of providing test results as specified and approved by the Architect.

#### 1.3 SUBMITTALS

- A. General: Make submittals in accordance with Section 01 33 00 Submittal Procedures.
  - 1. Approval by the Landscape Architect of submitted product data, samples, test reports, and certificates, or plant material inspected at source of supply, does not constitute final acceptance.
- B. Planting Schedule: Indicating selection trips (to Nursery), delivery and planting dates (includes seasonal plantings) within 90 days of award of a contract. Provide name and location of nursery, contact person, and telephone number.
- C. Product Data: Submit product literature or tear sheets giving name of product, manufacturer's name, and compliance with specifications.
  - 1. Commercial Fertilizer: Include guarantee analysis and weight for packaged materials.
  - 2. Herbicides, pesticides, and fungicides: Include safety information.
  - 3. Anti-desiccant.

- D. Samples (with product data if applicable):
  - 1. Shredded Hardwood Mulch: Two (2) pound bag
  - 2. Stone Fines Mulch: Two (2) pound bag
  - 3. Filter Fabric
  - 4. Drainage Stone
- E. Planting soil Test Report
- F. Compost Test Report
- G. Certifications: Submit with certificate names of materials and manufacturer.
  - 1. Plant Material: Furnish certificates of inspection as may be required by Federal, State, or other authorities that plant material is free of disease or hazardous insects.
  - 2. Bulk Fertilizer Certification
- H. Schedule and Work Plan: Submit detailed schedule and work plan, indicating start and finish dates of planting activities, including layout, soil preparation, delivery of plant material from nursery sources, excavation, and installation. If planting work is being installed in phases, submit plan with definable areas outlined and keyed and provide schedule for planting work within each area.
- I. Qualifications: Submit qualifications of the entity and its workers performing the Work of this Section to the Landscape Architect. Include names of clients, telephone numbers, and contract amounts for work performed in the last three (3) years.
- J. Maintenance Program: Submit full and complete written program for maintenance of the planting. Submit prior to observation for Substantial Completion.

#### 1.4 QUALITY ASSURANCE

- A. Landscape Work shall be performed by a single firm specializing in landscape work with a minimum of 5 years of experience on projects of similar scope and size.
- B. Plant Material: Meet or exceed application AAN standards.
  - 1. Plant List: Investigate sources of supply prior to submitting bid. Confirm that size, variety, and quantity of plant material specified on plant list can be supplied. Failure to take this precaution will not relieve the successful bidder from his responsibility for furnishing and installing all plant material in strict accordance with the contract requirements and without additional expense to the Owner.
- C. Plant substitutions are permitted only with written approval by the Landscape Architect.
- D. Installer: Perform Work with personnel totally familiar with planting techniques under the supervision of an experience landscape foreman. Notify the Construction Manager of the name and phone number of the foreman five (5) business days in advance of the first day of planting operations.



- E. Arrange a pre-construction meeting between the Landscape Architect, Construction Manager and Landscape Contractor. Such meeting shall seek to review the proposed plant schedule, source of plants, consideration of substitutions, general review of specifications, and planting procedures.

#### 1.5 PLANT SELECTION AND OBSERVATION

- A. The Landscape Architect will inspect and tag all trees and at least five shrubs of each species as a representative sample at the source of supply. Trees delivered without tags and shrubs that do not equal the quality of tagged samples will be rejected. The Landscape Contractor or his representative shall locate plant materials and be present for inspection of plants at the source. The Landscape Contractor shall make all pre-selection arrangements at the source of supply to ensure a ready supply of materials, equipment, and manpower required for an efficient selection procedure. Request the visit at least 14 days in advance of the desired observation date.
  - 1. Plants will be inspected and approval given by the Landscape Architect at the source for conformity to specification requirements for size and form. Such approval shall not affect the right of inspection and rejection during delivery and installation. Contractor shall inspect the selected plants for disease and other requirements of the Contract Documents.
  - 2. All material specified as balled and burlapped (B&B) must be in the ground at the growing source at the time of inspection. Pre-dug material will not be accepted.
  - 3. Arrange for adequate manpower and equipment on site at the time of plant material inspection and installation to provide a complete staked layout and to unload, open, and handle plant material during inspection.

#### 1.6 REGULATORY REQUIREMENTS

- A. Comply with all rules, regulations, laws, and ordinances of local, State, and Federal authorities having jurisdiction. Provide labor, materials, equipment, and services necessary to make Work comply with such requirements without additional cost to the Owner.
- B. Investigate the conditions of public thoroughfares and roads as to availability, clearances, loads, limits, restrictions, and other limitations affecting transportation to and ingress and egress at the site. Conform to all governmental regulations regarding the transportation of materials.
- C. Procure and pay for permits and licenses required for Work.

#### 1.7 DELIVERY, STORAGE AND HANDLING

- A. Packaged Materials: Deliver packaged materials in clearly marked containers showing net weight, guaranteed analysis and name of manufacturer. Specified requirements for packaged material apply to bulk shipments. Protect material from deterioration during delivery and during storage at site.
- B. Plant Material:
  - 1. Notify the Landscape Architect seven (7) days in advance of any delivery of plant materials to the site.

2. Plants shall be of the quantity and quality indicated, true to name, properly labeled with scientific and common name, and in accordance with the sizes and grades specified. Plants shall be nursery-grown, have a habit of growth that is normal for the species, and shall be sound, healthy, vigorous, free from insect pests, plant diseases and injuries, and shall have normal root systems. All plants shall equal or exceed the measurements specified in the plant list, which are minimum acceptable sizes.
3. Upon delivery to the site, all nursery stock shall be planted at once. If this is not feasible, plants shall be heeled in with roots well covered. Protect plants from the sun and wind, and keep roots moist. During the planting operations, the nursery stock shall not be exposed to the sun or to drying wind.
4. Dig and handle plants with care to prevent injury to trunks, branches, and roots.
5. Plants shall be measured before pruning, with branches in normal position. Any necessary pruning shall be done at time of planting. Requirements for the measurement, branching, grading, quality, balling, and burlapping of plants in the plant list shall follow the code of standards currently recommended by the American Association of Nurserymen, Inc., in the American Standard for Nursery Stock, amended to date.
6. Deliver trees and shrubs after preparations of planting areas have been completed and approved and plant immediately.
  - a. If planting is delayed more than 24 hours after delivery, set balled and burlapped plants on the ground well protected with soil, wood chips/wood shavings, or other acceptable materials. Adequately cover all roots of bare root material with soil, wood chips/wood shavings, or other acceptable material. Protect balls and roots and container grown material from freezing, sun, drying winds, and/or mechanical damage. Provide automatic watering system as necessary until planted.
  - b. Heeling in of plants shall not be allowed for more than 3 days without approval of the Landscape Architect.
7. Immediately remove rejected plant material from the site.

#### 1.8 PROJECT CONDITIONS

- A. Environmental Requirements: Plant only within the following dates, weather permitting. Do not plant when the ground is frozen or the soil is otherwise in an unsatisfactory condition for planting.
  1. Plant ground covers and balled and burlapped broadleaf evergreens in the spring only between April 1 and June 30.
  2. Plant balled and burlapped deciduous trees and needled evergreen trees and shrubs and container grown trees and shrubs between April 1 and June 15 and September 1 and November 15.
  3. Plant perennials as soon as the ground is workable in spring until June 15 and between September 1 and November 15.
- B. Existing Conditions
  1. Carefully examine the site before submitting a bid. Be informed as to the nature and location of the Work, general and local conditions including climate, adjacent properties and utilities, conformation of the ground, the nature of subsurface conditions, the character of equipment, and facilities needed prior to and during execution of the Work.
  2. Shall the Landscape Contractor in the course of Work find any discrepancies between drawings and physical conditions or any omissions or errors in drawings or in layout as furnished by the Landscape Architect, it will be his duty to inform the Construction

Manager immediately in writing for clarification. Work done after such discovery unless authorized by the Landscape Architect shall be done at the Landscape Contractor's risk.

1.9 SEQUENCING AND SCHEDULING

- A. Coordinate Work of this section with work of all other sections of specification.

1.10 OBSERVATION FOR SUBSTANTIAL COMPLETION

- A. The Landscape Architect with the Landscape Contractor will make an observation for Substantial Completion of the Work of this section. The Landscape Contractor shall furnish full and complete written program for maintenance of the planting for review of the Landscape Architect at the time of the request for Substantial Completion.
  - 1. Submit a written request for observation at least two (2) weeks prior to the day on which the observation is requested.
  - 2. All planting shall be alive, healthy, and installed as specified in order to be accepted.
  - 3. The Landscape Contractor shall prepare a list of items to be completed or corrected for review of the Landscape Architect.
- B. Upon completion of the observation, the Landscape Architect shall amend the list of items to be completed or corrected and indicate the time period for their completion or correction.
- C. The Landscape Architect will make another observation after notification from the Landscape Contractor that all items have been completed and corrected. If the Work is complete and acceptable, the Architect will certify in writing to the Owner the Substantial Completion of the Work. The guarantee period will not begin until certification is received by the Owner.

**PART 2 - PRODUCTS**

2.1 PLANT MATERIAL

- A. Plants furnished shall be nursery-grown stock and comply with USA "Standard for Nursery Stock" for sizes shown. Standardized plant names per American Joint Committee on Horticultural Nomenclature. Deviations there from, if indicated, are intentional.
- B. Source of plant materials shall be within the same plant hardiness zone and having similar climate conditions as the Project area. Zone shall be as defined on the U.S. Department of Agriculture Plant Hardiness Zone Map.
- C. Measure plant material when the branches are in their normal position. No pruning shall be done before the plant materials are delivered to the site. Clipped or sheared plants are not acceptable unless otherwise specified. Plant material shall be natural in habit of growth and be full bodied.
- D. The accuracy of species, varieties and quantities specified for plant material shall be the Landscape Contractor's responsibility. Quantities shown on plan shall take precedence over those shown in plant schedule. Plant schedules (if any) are for Landscape Contractor's convenience.

- E. The Design Professional will accompany the Landscape Contractor on selection trip(s) to the nursery. Design Professional will select plants for proper visual formation. Landscape Contractor shall inspect the selected plants for disease and other requirements of the Contract Documents. Prior to this trip, the Landscape Contractor shall have pre-selected the Nursery(s) to ascertain that sufficient plants in size and specie required are available for proper selection.
- F. The Design Professional will tag all trees and at least five shrubs of each specie as a representative sample. Trees delivered without tags, and shrubs that do not equal the quality of tagged samples, will be rejected.
- G. The contractor shall make every effort to secure trees without wire baskets for use on site. Bid price shall reflect any additional costs for exclusive use of balled and burlapped trees.

## 2.2 PLANTING SOIL MIX

- A. As specified is Section 32 91 13 – SOIL PREPARATION.

## 2.3 MULCH

- A. Mulch shall be course fibrous shredded hardwoods, free of dyes, sufficiently aged to prevent adverse reactions to plant material and subject to approval by the Landscape Architect.

## 2.4 FERTILIZER

- A. Conforming to standards of Association of Official Agricultural Chemists, delivered in sealed and labeled bags, or in bulk with certification as to quality and analysis.

## 2.5 WATER

- A. Potable, clean, fresh, and free from harmful materials. Water shall be furnished by the Construction Manager. All hoses and other irrigation equipment required for the Work shall be furnished by the Landscape Contractor.

## 2.6 FILTER FABRIC

- A. "TYPAR" Spun bonded Polypropylene, Style 3401 or equivalent.

## 2.7 ANTI-DESICCANT

- A. "Wilt-Pruf" as manufactured by Nursery Specialty Products of New York, or approved equal.

## 2.8 ARBORTIE

- A. For all proposed trees, ¾" Green flat woven polypropylene ArborTie with tensile strength of 900 lbs.

## 2.9 ANCHOR

- A. Provide 30" Steel Eye anchors with 4" helix and 1" diameter eye opening

## 2.10 INSECTICIDE

- A. 5% solution "Cygon", systemic type or approved equal

### **PART 3 - EXECUTION**

#### **3.1 General**

- A. Coordinate installation of plant material with all other trades (including, but not limited to electrical and plumbing) to ensure that there are no conflicts between location of new site improvements and new plant material. Contact the General Contractor immediately if a conflict is evident prior to planting.
- B. All Work shall be in accordance with standards of the American Association of Nurserymen.
- C. Verify that site is ready for planting prior to delivery of materials.
- D. Install plants as promptly as possible, preferably the same day as delivered. Upon delivery to site, unless planted the day of delivery, pile earth or mulch around the earth ball so that water evaporation and soil and root drying are kept to a minimum. Keep plant ball moist. Plant materials will be subject to re-inspection before they are planted.
- E. Installation of plant material shall conform to the timetable established with the schedule outlined for the project. Out of season planting shall be at Landscape Contractor's own risk. After the plant material is placed in the planting pit, the top one third 1/3 (minimum) of burlap and twine shall be removed from the root ball at the time of installation and removed from the site.
- F. After the plant material is placed in the planting pit, the top and sides of all wire baskets (if applicable) are to be removed from the root ball and removed from the site. The bottom of the wire basket is not to be removed from the under side of the root ball.
- G. Notify the Landscape Architect at least three working days in advance of start of Work.

#### **3.2 EXAMINATION OF SITE**

- A. Prior to excavation of planting areas, ascertain the location of all electric cables, conduits, underdrainage systems, and utility lines. Take proper precautions so as not to disturb or damage sub-surface elements. If sub-surface elements are uncovered, promptly notify the Construction Manager for relocation. If Landscape Contractor fails to follow this procedure, he is responsible for making requisite repairs to damaged utilities at his own expense.

#### **3.3 PREPARATION OF SUBGRADE**

- A. See Section 31 00 00 – EARTHWORK.

3.4 Balling, Burlapping, Transporting

- A. Dig plants in a manner to retain as many fibrous roots as possible. Spray with anti-desiccant at Nursery before moving, in strict accordance with manufacturer's recommendations. Apply as required with spray equipment over trunks, branches, twigs and foliage.
- B. Balled and burlapped plants shall have balls of earth of sufficient diameter to be in accordance with the size of the plant, of sufficient depth to include an adequate root system, and shall be properly balled, burlapped, and secured. Plants with mushy, badly cracked or frozen earth balls will not be acceptable.
- C. Prevent injury to plant material when digging, moving, transporting, unloading and planting.
- D. Protect plants from the wind by wrapping with tarpaulins during transport.

3.5 LAYOUT, EXCAVATION, PREPARATION OF TREE PITS AND PLANT BEDS

- A. All tree pits and plant beds shall be located as shown in Contract Drawings and shall be properly excavated and prepared for planting in accordance with the type of plant material in each location, as indicated in 3.6 of this Section.
- B. Tree pits:
  - 1. Rootball to be placed on undisturbed sub grade. Tree pits surrounding the perimeter of the rootball shall be excavated four-inches (4") deeper than the depth of the tree root ball at undisturbed grade. All construction debris such as plaster, concrete, stone, brick and wood shall be removed.
  - 2. All tree pits shall be excavated circular with sloped sides. Diameter of pits for trees shall be at least 2.5x the diameter of the ball. If an impervious, hardpan layer remains in the bottom of the pit after excavation, the pit shall be excavated to a depth of the hardpan or 36 inches below the bottom of the ball. Pit shall then receive a 6-inch layer of AASHTO 57 stone, covered with straw, roofing paper, or similar material prior to installation of tree.
- C. Planting Beds
  - 1. All shrubs, groundcovers and perennials shall be installed in continuous plant beds excavated in accordance with the planting details and to minimum depths as indicated in 3.6 of Section 32 91 13 – SOIL PREPARATION.
- D. Exercise extreme caution during excavation to avoid damaging or interrupting existing underground utilities. Use appropriate detection equipment to locate utilities during excavation of pits to the required depth. Perform excavation work near utilities by hand.
- E. Erect barricades, warning signs, or other protective devices as is required by local, State, or Federal laws and regulations to protect open excavation.
- F. Obstruction Below Ground
  - 1. In the event that rock, underground construction work, utilities, or obstructions are encountered in any plant pit excavation work under this contract, an alternate location may be selected by the Landscape Architect.

2. Where locations cannot be changed, the obstruction shall be removed, to a depth of not less than three (3) feet below grade and no less than six (6) inches below bottom of ball or roots when plant is properly set at the required grade. Payment shall be made in accordance with the contract.
- G. Inspect tree pits and planting beds to assure that adequate drainage exists. In instances of poor drainage, advise the Design Professional and await instructions before planting.
- H. Scarify bottom and sides of tree pits and planting beds prior to placing plant material. Place a layer of planting soil mix and tamp to prevent settlement.

### 3.6 INSTALLATION OF PLANT MATERIAL

- A. Prior to planting, trees shall be inspected by Landscape Architect for injury to trunks, evidence of insect infestation, or improper pruning.
- B. Placement of Plants
1. Plants shall be spaced and set plumb and straight, in accordance with the planting plan and details, and faced to give best appearance and relationship to adjacent plants and structures. Trees shall be centered in all tree pits.
  2. Plants shall be set to such a depth that the finished grade level, after settlement, will be the same as that at which the plant was grown and so that the root flare is at finished grade.
  3. All ropes, staves and other bindings shall be cut off the tops and sides of balled and burlapped (B&B) plants and removed from plant pits/beds. Do not pull burlap out from under balls. All rot-proof, rot-resistant, plastic burlap and top half of wire basket (minimum) ball coverings shall be removed prior to planting. Cleanly cut off all broken or frayed roots.
  4. Remove plants from containers by cutting or inverting the container.
- C. Backfilling
1. Use planting soil mix as specified in Section 32 91 13 – SOIL PREPARATION for all backfilling around plant earth balls and roots.
  2. Compact planting soil mix around base of balls and roots of plants to fill all voids. Ensure at this point that all burlap and ropes have been removed from tops of root balls and that all non-biodegradable materials have been removed from plant pits/beds. Clip and fold down wire baskets.
  3. Backfill the planting soil mix in layers of not more than six-inches (6"). Thoroughly compact each layer to not greater than 85%, in order to eliminate all voids, before placing the next layer.
  4. Continue adding and tamping soil until the planting pit/bed is half full. Add water to partially fill planted area. Let the water soak into the soil and finish backfilling. Place final layer of loose planting soil mix without further packing.
  5. Secure trees smaller than 5-inch caliper immediately after planting with ArborTies. Provide a minimum of 3 guys per tree secured using anchors. Attach ArborTie to tree using an ArborKnot to provide a secure, girdle free attachment to provide stability without restricting natural tree movement. Trees shall stand plumb after staking.
  6. Contractor shall be responsible for removing stakes, ArborTies, and guys at the end of the warranty period.

3.7 Mulching

- A. Provide mulching for all plant beds and tree pits within 48 hours after planting.
- B. Mulch all plant beds with a 3-inch (3") layer of shredded bark. It shall entirely cover the area of the plant bed. Do not mulch next to the main stem of plant.
- C. Groundcover and perennial areas shall be mulched prior to planting.
- D. Mulch tree pits, where noted on Contract Drawings and in accordance with planting details, with 3-inches (3") of double shredded hardwood mulch.
- E. Mulch material shall not come in contact with the trunk of trees and shrubs. Keep approximately 3" away from all sides.

3.8 Pruning

- A. Neatly prune plant materials to preserve the natural character of the plants and in a manner appropriate to the particular requirements of each plant. Prune plants after installation.
- B. Remove broken or badly bruised branches with a clean cut. In general, remove at least one-fourth of the wood of deciduous plants by thinning of branches. Remove any dead branches by cutting flush with trunk or main limb.
- C. Do all pruning with clean sharp tools.

3.9 CARE OF SITE

- A. Landscape Contractor shall be responsible for the maintenance of any and all existing or proposed lawn or turf areas for the duration of the project. Any existing lawn or turf shall be mowed on a periodic basis following industry maintenance standards and practices.
- B. The proper care of planting areas, adjacent pavement, and existing plants shall rest with the Landscape Contractor during the progress of all Work. The Landscape Contractor shall confine planting soil mix, materials, and equipment to such limits that will not interfere with normal pedestrian and vehicular traffic, and all walks and pavement shall be kept clean at all times except when unavoidable in the actual performance of the Work.
- C. Maintenance: The Landscape Contractor shall be responsible to provide the following maintenance on all newly planted vegetation during the one-year guarantee period:
  - 1. Watering--During periods of inadequate rainfall, all plant material shall be watered to maintain a constant suitable moisture level for adequate plant growth. Landscape Contractor shall be responsible for providing water hoses, sprinklers, and automatic timers. The Owner will supply the water source.
  - 2. Weeding – Weed control shall be by hand or mechanical means. Herbicide use is acceptable with Owner approval. Under no circumstance shall pre-emergent herbicides be used on-site. Site shall be weed free when turned over to owner.
  - 3. Insect, disease, and weed control--No spraying of herbicides, insecticides, fungicides, nematicides, fumigants or other chemicals shall be done without first submitting a spray program to the Owner for approval. After approval, application will only be permitted by



licensed applicators. Applicators shall follow Notification Requirements and consult any Chemical Hypersensitivity Registries for the area.

3.10 Semi-Final Observation

- A. Review of the Work to determine its completion for beginning the guarantee period will be made by the Owner and Design Professional upon written notice requesting such inspection submitted by the Landscape Contractor at least ten days prior to the anticipated date.
- B. All plants shall be healthy and thriving at the time of semifinal observation.
- C. After review, the Landscape Contractor will be notified of the date that the Work has been approved for beginning the guarantee period or, if there are any deficiencies, of the requirements for beginning this period.

3.11 Guarantee and Maintenance

- A. Guarantee. Plants shall be guaranteed for one (1) year after planting and shall be alive and in satisfactory growth at the end of the guarantee period. Plants which die within the guarantee period shall be removed by the Landscape Contractor within ten (10) days of notice or the Owner will remove the plants and bill the Landscape Contractor accordingly. All reasonable efforts shall be made to replace plants within the period listed above following notification from Owner. All replacements shall be plants of the same kind and size as specified in the plant list. They shall be furnished and planted as specified under planting; the cost shall be borne by the Landscape Contractor, except for possible replacements resulting from removal, loss or damage due to vandalism, or act of neglect on the part of others.
- B. Guarantee deciduous trees and coniferous trees for two years from date of acceptance.
- C. The Owner's grounds maintenance crew will begin care and maintenance of the plant material after date of acceptance.
- D. Owner's grounds crew maintenance shall include watering, cultivating, weeding, mulching, control of insects and diseases; pruning, and other horticultural operations for proper growth and appearance of plant materials and beds, including fertilizing if required.
- E. Guarantee that plants will be in a vigorous and thriving condition at the end of the guarantee period. Shall any plants (excluding plants previously replaced during guarantee and maintenance period) appear to be in poor health or lack normal growth habit, remove them at once and replace in a manner as hereinbefore specified.

3.12 Exclusions From Guarantee

- A. During the Guarantee period, damage to planting not caused by the Landscape Contractor, shall be excluded from the Guarantee.
- B. Such damage shall include damage by vehicles, theft, fire, or acts of vandalism.
- C. Where evidence of such damage exists, advise Owner in writing, stating nature and location of the damage. Owner, upon receipt of such notice, may order the Landscape Contractor to

correct the damage at Owner's expense, or exclude the damaged work from the Guarantee provisions and correct the damage by any arrangement deemed by Owner in his best interest.

3.13 Final Observation

A. Final Inspection and Acceptance:

1. At the end of the guarantee period, inspection will be made by the Owner and the Landscape Contractor. Any plant required under this contract that is dead or not in satisfactory growth, as determined by the Owner, shall be removed from the site and replaced at the Landscape Contractor's expense. These plants shall be replaced as soon as conditions permit, but during the normal planting season.

**END OF SECTION**

## **SECTION 33 42 36 – STORMWATER TRENCH DRAINS**

### **PART 1 GENERAL**

#### 1.1 SECTION INCLUDES

- A. Custom Radial Stormwater Trench Drain Systems.

#### 1.2 RELATED SECTIONS

- A. Section 32 14 00: Unit paving.

#### 1.3 SUBMITTALS

- A. General: Make submittals in accordance with Section 01 33 00 Submittal Procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- C. Physical grate sample: Finish and pattern
- D. Shop Drawings – showing slope, radius, arc length, and pipe connection details to Civil stormwater infrastructure per drawings.

#### 1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
- B. Installer Qualifications: Minimum 2 year experience installing similar products.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
- B. Store materials protected from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer.
- C. Handle materials to avoid damage.

#### 1.6 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

## 1.7 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

## 1.8 WARRANTY

- A. Warranty: Provide manufacturer's standard limited warranty.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Eric'sons Inc., 574 Industrial Way N, Dallas, GA 30132, USA. ASD. Tel: (770) 505-6575. Email: info@eric-sons.com. Web: http://www.duratrench.com.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

### 2.2 SYSTEM DESCRIPTION

- A. Design: Provide the following type of drain systems.
- B. Type: Trench drains.
- C. Type: Radius trench drains.
- D. Performance:
  - 1. Provide a complete drain system made up of selected components that together shall make a functional trench drain system. The trench drain components provided and installed shall be the trench drain body, load bearing frame, trench drain grate, grate locking mechanism, channel joint sealing, and outlet connection.
  - 2. The trench drain body shall be sized for the anticipated flow rate, application, chemical resistance, and ease of installation. The trench drain body shall have specified slope without exception to meet design flow requirements.
  - 3. The load bearing frame shall be sized based on the load rating and bearing area. The frame shall have a minimum of 2 anchors per section to properly secure the frame into the concrete surround. The material and finish shall be selected based on chemical resistance and corrosion resistance anticipated, and the aesthetic design for the Project.
  - 4. The grates shall be selected based on open area and load rating required. The material and finish shall be selected based on chemical resistance and corrosion resistance anticipated, and the color, and pattern for the Project.
  - 5. Grates that are small, light, in high speed traffic, or have theft potential shall be locked down to the trench frame. The locking mechanism shall be selected based on the pullout resistance, dynamic loading, and chemical loading anticipated for the system.
  - 6. Where trench joints are required to be sealed watertight the system selected shall have 1.5" minimum width flange for applying sealant or the proper welding.
  - 7. The outlet pipe shall be sized for the anticipated flow. Pipe material shall mate with other piping, have proper load rating at the given cover depth, and have the proper corrosion resistance.
  - 8. Where the grate design is indicated as a heel proof the openings shall be less than 1/4

inch (6 mm) wide suitable for pedestrian traffic. Where the grate design is indicated as ADA compliant, the grate shall comply with the requirements of the Americans with Disabilities Act handbook section 4.5.4.

## 2.3 COMPONENTS

### A. Trench Body Material:

1. Trench drain shall be DuraTrench as manufactured by Eric'sons, 574C Industrial Way N., Dallas, GA 30132 - (770-505-6575). The trench drain body shall be cast in a true radius for a smooth, non-segmented curve. The trench drain body shall be composed of polyester fiber reinforced polymer concrete. The trench shall have a 4" clear open throat. The trench body shall be gray in color to closely resemble the color of concrete and have a smooth interior for improved flow rates and reduced debris build-up. Sections shall be 96" long (typical) and have a 2" receiving flange on the upstream end for receiving and sealing the trench sections together. Each of the sections shall be labeled to indicate proper flow and placement. The trench body shall mate to the frame and form a grate seat that shall accept the specified grate. The body shall be supplied with a factory fit top for rail alignment and fastening of the channels in the field ensuring that the rails are cast in a coplanar manner. The trench body shall have the following properties: 12,600 psi minimum tensile strength per ASTM C307, 12,000 psi minimum compressive strength per ASTM C579, 26,500 psi minimum flexural strength per ASTM C580, less than 0.35% water absorption, shall be frost proof, salt proof, and be resistant to dilute acids and alkalis per ASTM C267. This run has a ROUND bottom profile.
2. Model 4".
3. Grating shall be 05CR24SSB true radius heavy duty ADA compliant and heel guard longitudinal slotted grate. The grate shall be fabricated using T304 stainless steel per ASTM-A240. The grate shall receive a uniform brushed finish. The grate shall be 4.875" wide x 24" long x 0.75" thick and have a minimum load rating of DIN Class B.
4. The grate shall have a minimum load rating of DIN Class C.

### B. Frame:

1. MDSS - Medium duty stainless steel frame.

### C. Grate Locking:

1. Grates shall be securely locked to frame with corrosion resistant stainless steel bolt and locking toggle. Bolts shall be torqued to 35 inch-lbs. Note: this lock is not designed for traffic turning, braking, or longitudinal travel exceeding 20mphOutlet:

### D. Joint Sealant:

1. SLUR - Joints shall be fully sealed with urethane joint sealant. The joint sealant shall be applied to a clean bell and spigot joint. The sealant shall be applied as a continuous 3/8" diameter bead from the top of the joint through the bottom and back to the top on the other side to ensure a proper seal. Additional sealant can be applied to the exterior of the joint as required to provide a positive seal.

### **PART 3 EXECUTION**

#### **3.1 EXAMINATION**

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

#### **3.2 PREPARATION**

- A. Ensure ground conditions are compacted and suitable for construction. Poor soil bearing conditions or other site conditions will require engineering advise. Ensure excavation will allow for proper thickness of concrete surround before proceeding.
- B. Ensure any reinforcement is placed and firmly held in place prior to linear drain installation. All reinforcement steel shall follow concrete reinforcing steel institute standards.
- C. Prepare linear drains by ensuring they are clean and properly oriented and sequenced.

#### **3.3 INSTALLATION**

- A. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
- B. Construct expansion and control joints as indicated in construction documents. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction. The linear drain products are not to be used as a construction or control joint in the lengthwise direction. Any construction, expansion, or control joints placed traverse to the system shall be made at linear drain joints in the frame.
- C. Place concrete to completely encapsulate linear drain as shown in contract documents. The drain shall be finished 1/8" below finish grade while ensuring proper slope of adjacent areas toward the drain creating positive flow to the drain.
- D. All linear drains shall be installed to within 1/4" tolerance.

#### **3.4 PROTECTION**

- A. Protect installed products until completion of project. Protective wood trench covers shall remain in place until such time that grating can be installed with no future damage to grating finishes.
- B. Clean and remove any debris from linear drains prior to Owner's acceptance.
- C. Touch-up, repair or replace damaged products before Substantial Completion.

**END OF SECTION**