

SECTION 01 1100 – SUMMARY OF WORK

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract and associated addenda, apply to this section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Work covered by the Contract Documents.
 - 2. Type of the Contract.
 - 3. Work phases.
 - 4. Work under other contracts.
 - 5. Use of premises.
 - 6. Owner's occupancy requirements.
 - 7. Work restrictions.
 - 8. Specification formats and conventions.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: Tucker Pickleball Courts
 - 1. Project Location: 4898 Lavista Road Tucker, GA 30084
- B. Owner: The City of Tucker (1975 Lakeside Pkwy., Suite 350, Tucker, GA 30084)
- C. Landscape Architect of Record: Root Design Studio, 2300 Henderson Mill Road Suite 412, Atlanta GA 30345
- D. The Work consists of the following:
 - 1. The Work includes the construction of new pickleball courts, a parking lot, a new pavilion and restroom building (Alternate 1), modifications to an existing driveway, installation of storm drainage and underground detention structure, site lighting, sports lighting and utility installation, hardscape installation, and landscape installation.

1.4 TYPE OF CONTRACT

- A. Project will be constructed under a general construction contract (sample included).

1.5 WORK PHASES

- A. The Work shall be conducted in one phase:
 - 1. Phase One: The work primarily involves but is not limited to the construction of new pickleball courts, a parking lot, a new pavilion and restroom building (Bid Alternate 1), modifications to an existing driveway, installation of storm drainage and underground detention structure, site lighting, sports lighting and utility installation, hardscape installation, and landscape installation.
- B. Before commencing Work, submit a schedule showing the sequence, commencement, and completion dates, for all aspects of the Work.
- C. A preconstruction conference between, at a minimum, the Owner, contractor, and the design professional(s) shall be conducted prior to commencement of work.

1.6 USE OF PREMISES

- A. General: Contractor shall have full use of premises for construction operations, including use of Project site, during construction period. Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

1.7 WORK RESTRICTIONS

- A. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Owner not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Owner's written permission.

1.8 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 50-division format and CSI/CSC's "MasterFormat" numbering system.
 - 1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.

2. Division 01: Sections in Division 01 govern the execution of the Work of all Sections in the Specifications.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.9 ONE YEAR WARRANTY INSPECTION

- A. The Owner and Contractor will schedule an inspection within 10 days of the one-year anniversary of the date of Final Acceptance. Any Work found not to be in accordance with the Contract Documents will be corrected on a schedule agreed upon by all parties. Work shall be corrected at the Contractor's expense.

END OF SECTION 01 1100

SECTION 01 2200**UNIT PRICES****PART 1 - GENERAL****1.1 MEASUREMENT AND PAYMENT**

- A. It is the intent of the ITB that the aggregate bid amount as submitted shall cover all work required by Contract Documents in place, complete, and ready for use.
- B. Unit prices in the Bid include all costs to fully complete the work in place, including providing all labor, materials, tools, equipment, services, supplies, incidentals, and all necessary operations.
- C. No costs in connection with work required by the Contract Documents for proper and successful completion of the Contract will be paid outside of or in addition to prices submitted in Bid.
- D. Work not specifically set forth in Bid as pay items shall be considered subsidiary obligations of Contractor and costs shall be included in prices named in Bid.
- E. Method of measurement and basis of payment shall be as stipulated in following paragraphs.

1.2 ROCK EXCAVATION

- A. Where necessary to excavate rock material in quantities of more than 1 cubic yard at a specific location, such material will be measured for payment as an extra or additional payment to ordinary excavation included in other pay items.
- B. Measurement of rock excavation volume in cubic yards (CY) will be made by profiling the average top elevation of rock visible at sides of excavation, presuming the level to which rock is removed at 0.5 feet below sewer or structure invert, and presuming trench width over its entire length to be the maximum trench bottom width permitted. At structures and miscellaneous construction, the actual necessary rock volume removed, as determined by the Engineer, will be measured. The Engineer's determination will be used as the pay quantity for this contract.
- C. In areas of rock excavation, the Contractor shall not backfill or otherwise cover adjacent exposed rock until the Engineer has completed rock excavation measurement. If the excavated area is covered, the Engineer will make the Contractor uncover the rock excavation area so that measurements can be made to determine quantities.
- D. Payment will be by unit price which shall be full compensation for labor, materials, tools, equipment, incidentals and operations necessary to completely remove rock encountered including hauling and disposal of rock.

- 1.3 REMOVAL, EXPORT & DISPOSAL OF UNSATISFACTORY SOIL AND IMPORT AND REPLACEMENT WITH SOIL MATERIAL
- A. This item will be measured by number of cubic yards (CY) for all classes of material excavated from its original position below the planned excavation as shown on the drawings and disposed of as required.
 - B. Measurement will be based on quantities derived from proposed contours, grades, sections and typical sections shown on drawings and final excavated grades. Extents and documentation of measurement shall be as determined necessary by the Project Representative and/or Geotechnical Testing Agent.
 - C. This item will be paid for by unit price which shall be full compensation for labor, tools, equipment, incidentals and operations necessary to complete excavations and to backfill the excavation to the planned elevations.
 - D. Includes excavation, loading, free hauling, dumping or spreading, compacting and off-site disposal of unsuitable materials and backfilling with compacted material.
 - E. Payment will not be made for any of the following:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products not completely unloaded from the transporting vehicle.
 - 4. Products placed beyond the lines and levels of the required Work.
 - 5. Products remaining on hand after completion of the Work.
 - 6. Loading, hauling, and disposing of rejected Products.

END OF SECTION
01 2200

SECTION 01 2500 – SUBSTITUTIONS

PART 1 GENERAL

1.01 SECTION INCLUDES:

- A. Requirements included
- B. Substitutions / prior approvals
- C. Submittal requirements
- D. Contractor's representation

1.02 REQUIREMENTS INCLUDED:

- A. Substitutions for products specified shall be allowed only under the conditions stated in this section.

1.03 SUBSTITUTIONS/PRIOR APPROVALS:

- A. If it is desired to use products different from those indicated in the Contract documents, the party requesting the substitution shall make written application as described herein. The burden of proving equality of proposed substitutions rests on the party making the request for substitution.
- B. The Owner is under no obligation to consider substitution requests if they are received less than ten (10) working days prior to the bid opening nor if they are submitted by the awarded contractor after the bid opening and anytime during construction.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 SUBMITTAL REQUIREMENTS:

- A. Submit a separate request for each substitution.
- B. Support each request with the following information:
 - 1. Date of request

2. Name of party proposing substitution.
3. Project name.
4. Specification reference.
5. Complete data substantiating compliance of proposed substitution with requirements stated in Contract Documents:
 - i. Product identification, including manufacturer's name and address.
 - ii. Manufacturer's literature, identify:
 - a. Product description.
 - b. Reference standards.
 - c. Performance and test data.
 - d. Manufacturer's recommendation for use and installation.
 - iii. Samples, as applicable.
 - iv. Name and address of similar projects on which product has been used, and date of each installation.
6. Itemized comparison of the proposed substitution with product specified, list all variations.
7. Data relating to changes in construction schedule.
8. Any effect of substitution on separate contracts.
9. List of changes required in other work or products.
10. Designation of required license fees or royalties.
11. Designation of availability of maintenance services and sources of replacement materials.

3.2 CONTRACTOR'S REPRESENTATION

- A. In connection with the use of any substitute item approved by the Design Professional(s), it shall be the General Contractor's responsibility to see that such items meet all space requirements, and that any alterations to

connecting items necessitated by use of the alternate items are properly made at no increase in cost to the Owner, and that all items are in compliance with the specification requirements. Contractor shall waive all claims for additional costs caused by substitution which may subsequently become apparent.

END OF SECTION 01 2500

SECTION 01 2600 – CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract including General and Supplementary Conditions and other Division 1 Specifications Sections, apply to this section.

1.02 SUMMARY

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

1.03 MINOR CHANGES IN WORK

- A. Supplemental instructions authorizing minor changes in the work, not involving an adjustment to the Contract Sum or Contract Time, will be issued by the Design Professional(s) in the form of a memorandum or Field Order.

1.04 CHANGE ORDER PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Proposed changes in the work that will require adjustment to the Contract Sum or Contract Time will be issued by the Design Professional(s), with a detailed description of the proposed change, and supplemental or revised Drawings and Specifications, if necessary.
 - 1. Proposal requests issued by the Design Professional(s) are for information only. Do not consider them an instruction either to stop work in progress, or to execute the proposed change.
 - 2. Unless otherwise indicated in the proposal request, within 10 days of receipt of the proposal request, submit to the Design Professional(s) for the Owner's review an estimate of cost necessary to execute the proposed change.
- B. Contractor-Initiated Change Order Proposal Requests: When latent or other unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Design Professional(s).
 - 1. Include a statement outlining the reason for making the change and the effect of the change on the work. Provide a complete description

of the change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.

- C. Proposal Request Form: Change Order Proposal Requests will be documented by memorandum.

1.05 CHANGE ORDER PROCEDURES

- A. Upon the Owner's approval of a Change Order Proposal Request; the Design Professional(s) will issue a Change Order for signatures of the Owner, and Contractor on AIA Form G 701 or other approved form, as provided in the Conditions of the Contract.

END OF SECTION 01 2600

SECTION 01 2900 – PAYMENT PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.

1.03 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Design Professional(s) and paid for by the Owner.
- B. Payment Application Times: Each progress payment date is as indicated in the Agreement. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Forms: Use AIA Document G 702 and Continuation Sheets G 703 as the form for Application for Payment unless otherwise approved by the Owner.
- D. Application Preparation: Complete every entry on the form, including notarization and execution by person authorized to sign legal documents on behalf of the Owner. Incomplete Applications will be returned without action.
 - 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions have been made.
 - 2. Include amounts of Change Orders issued prior to the last day of the construction period covered by the application.
- E. Transmittal: Submit 3 executed copies of each Application for Payment to the Owner at each monthly progress meeting. All copies shall be complete, including waivers of lien when required.

- F. Release of Lien Waivers: With final application for Payment, submit waivers from every entity (including Contractor) who may lawfully be entitled to file a lien arising out of the Contract, and related to the work covered by the Payment.
 - 1. Waiver Forms: Submit waiver on forms, and executed in a manner, as specified; utilize AIA Document G 706 A.

- F. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include the following:
 - 1. List of Subcontractors and principal suppliers and fabricators.
 - 2. Contractors construction schedule.
 - 3. Schedule of values.
 - 4. Copies of building permits.
 - 5. Certificates of insurance.
 - 6. Performance and payment bonds.
 - 7. Schedule of submittals.

END OF SECTION 01 2900

SECTION 01 2973**SCHEDULE OF VALUES****PART 1 - GENERAL****1.1 DESCRIPTION**

- A. Submit to Project Representative, schedule of values, at least ten days prior to submitting first application for payment. The Contractor shall break down the values into more detail at the request of the Engineer, so please provide sufficient detail for the Engineer to be able to determine what work has been completed at its appropriate percentage.
- B. Upon request by Project Representative, support values given with data that will substantiate their correctness.
- C. Submit quantities of designated materials.
- D. Use schedule of values only as basis for Contractor's application for payment.

1.2 FORM OF SUBMITTAL

- A. Please submit schedule of values in a PDF as well as the AIA Excel spreadsheet for the Engineer's use for this project.
- B. Use Table of Contents of this specification as basis for format for listing costs of work for sections under Division 2 through 16.

1.3 PREPARING SCHEDULE OF VALUES

- A. Itemize separate line-item cost for each of following general cost items:
 - 1. Performance and Payment Bonds.
 - 2. Field supervision and layout.
 - 3. Temporary facilities and controls.
- B. Itemize separate line item cost for work required by each section of this specification.
- C. Breakdown installed costs into:
 - 1. Delivered cost of product.
 - 2. Total installed cost with overhead and profit.
- D. Make sum of total costs of items listed in schedule equal to total Contract Sum.

1.4 REVIEW AND RESUBMITTAL

- A. After review by Project Representative, revise and resubmit schedule as required.
- B. Resubmit revised schedule in same manner.

END OF SECTION
01 2973

SECTION 01 3119**PROJECT MEETINGS****PART 1 - GENERAL****1.1 PRE-CONSTRUCTION MEETING**

- A. Owner will schedule meeting within two work days after date of notice to proceed, unless both the Owner and Contractor agree to a later date.
- B. Attendance:
 - 1. Owner.
 - 2. Project Representative and his/her consultants.
 - 3. Contractor.
 - 4. Major subcontractors.
- C. Minimum Agenda:
 - 1. List of major subcontractors.
 - 2. Tentative construction schedule
 - 3. Critical work sequencing.
 - 4. Designation of responsible personnel.
 - 5. Processing of field decisions and Change Orders.
 - 6. Adequacy of distribution of Contract Documents.
 - 7. Submittal of shop drawings, project data, and samples.
 - 8. Procedures for maintaining record documents.
 - 9. Use of premises.
 - 10. Storage areas.
 - 11. Owner's requirements.
 - 12. Safety and first-aid procedures.
 - 13. Security procedures
 - 14. Housekeeping procedures.

1.2 PROGRESS MEETINGS

- A. Contractor shall schedule regular meetings at the job site biweekly or weekly if job progress dictates.
- B. Attendance:
 - 1. Project Representative and his/her consultants.
 - 2. Contractor.
 - 3. Owner or his/her representative.
 - 4. Subcontractors as pertinent to agenda.
 - 5. Representatives of other regulatory agencies as pertinent to agenda.

- C. Minimum Agenda:
1. Review work progress.
 2. Note field observations, problems, and decisions.
 3. Identify problems which impede planned progress.
 4. Review off-site fabrication problems.
 5. Revise construction schedule as indicated.
 6. Review submittal schedules, expedite as required to maintain schedule.
 7. Maintaining of quality and work standards.
 8. Review proposed changes for effect on construction schedule and completion date.

PART 2 - MATERIALS - NOT APPLICABLE

PART 3 - EXECUTION - NOT APPLICABLE

END OF SECTION
01 3119

SECTION 01 3213
CONSTRUCTION SCHEDULE

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Provide projected construction schedule for entire work.
- B. Revise monthly.

1.2 FORM OF SCHEDULE

- A. Prepare by bar chart method.
- B. Arrange by chronological order by beginning of each item of work.

1.3 CONTENT OF SCHEDULES

- A. Provide complete sequence of construction by activity:
 - 1. Shop drawings, product data, and samples: Submittal dates and dates reviewed copies will be required.
 - 2. Product procurement and delivery dates.
 - 3. Dates for beginning and completion of each element of construction.
- B. Identify work of separate phases or other logically grouped activities.
- C. Show projected percentage of completion for each item of work as of first day of each month.
- D. Provide sub-schedules to define critical portions of entire schedule.

1.4 UPDATING

- A. This schedule when reviewed by Owner and Project Manager shall be updated prior to each application for payment.
- B. Show all changes occurring since previous month's submission of updated schedule.
- C. Indicate progress of each activity.
- D. Show completion dates.

1.5 SUBMITTALS

- A. Contractor shall submit schedule of his planned operations for work within 10 days after receipt of notice to proceed.
- B. Project Representative will review schedules and return review copy within ten days after receipt.
- C. If required, resubmit within seven days after return of review copy.
- D. Submit periodically updated schedules accurately depicting progress to first day of each month.
- E. Submit the number of copies required by Contractor plus four copies to be retained by Engineer.

1.6 DISTRIBUTION

- A. Distribute copies of reviewed schedules to:
 - 1. Project Representative.
 - 2. Job-site file.
 - 3. Subcontractors.
 - 4. The Owner or his/her representative.
- B. Instruct recipients to report any inability to comply. Provide detailed explanation with suggested remedies.

PART 2 - MATERIALS - NOT APPLICABLE

PART 3 - EXECUTION - NOT APPLICABLE

END OF SECTION
01 3213

SECTION 01 3300 – SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. This section specifies administrative and procedural requirements for submittals required for performance of the work, including:
 - 1. Contractor's construction schedule.
 - 2. Submittal schedule.
 - 3. Shop Drawings.
 - 4. Product Data.
 - 5. Samples.
 - 6. Miscellaneous work - related submittals.
- B. Administrative Submittals: Refer to other Division 1 Sections and other Contract Documents for requirements for administrative submittals.

1.03 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
- B. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.
- C. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block. Include the following information on the label for processing and recording action taken
 - 1. Project Name.

2. Date.
3. Name and address of contractor, sub-contractor and/or supplier.
4. Name of manufacturer.
5. Name of product, model number, use and location with Specification Section number.
6. Field dimensions; clearly identified as such.
7. Applicable standards, such as ASTM or Federal Specification numbers.
8. Drawing number and detail references, as appropriate.
9. Contractors stamp, initialed or signed and dated.

D. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to the Design Professional(s) using a transmittal form.

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

1.04 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar-chart type Contractor's construction schedule, submit within 30 days prior to the date established for "Commencement of the Work."
- B. Prepare the Schedule on a sheet to show data for the entire construction period.
- C. Work stages: Indicate important stages of construction for each major portion of the work, including testing and installation.
- D. Schedule Updating: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

1.05 SUBMITTAL SCHEDULE

- A. Prior to beginning major construction activities, Contractor shall provide a list of submittals required for the construction of the project to include shop drawings, product data, samples, and any other information or documentation that requires review and approval by the Owner and/or Design Professional. The Contractor shall provide an anticipated delivery date next to each submittal and identify critical path items.

1.06 SHOP DRAWINGS

- A. Submit newly-prepared information, on reproducible sheets, drawn to accurate scale, with the name of preparer indicated. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings.
- B. Shop Drawings include fabrication and installation drawings, setting diagrams, schedule, patterns, templates, sectional views, complete dimensions and details, kind of materials, thickness and finish and similar drawings.
 - 1. Sheet size: Except for templates, patterns and other full-size drawings, submit Shop Drawings in sheets at least 18" x 24", but no larger than 30" x 42".
 - 2. Initial Submittal: Submit one correctable reproducible print and/or one digital copy in PDF format for the Design Professional's review; the reproducible will be returned.
 - 3. Final Submittal: Submit three hard copy prints. Two prints will be retained; the remainder will be returned.

1.07 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, and templates. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. For each product include; manufacturer's printed recommendations, compliance with standards application of labels and seals, notation of field measurements verified, and coordination requirements.
- B. Preliminary Submittal: Submit a preliminary single copy of Product Data where selection of options is required.

- C. Submittals: Submit one digital PDF copy of each required submittal. The Design Professional(s) will return the submittal marked with action taken and corrections or modifications required. Unless noncompliance with Contract Document provisions is observed, the submittal will serve as the final submittal.

1.08 SAMPLES

- A. Submit full-size, fully fabricated samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern. Mount, display, or package samples in the manner specified to facilitate review of qualities indicated. Prepare samples to match materials as specified in the construction documents. Include information with each sample to show generic description, source, product name or manufacturer, compliance with standards, availability, and delivery time.
- B. Submit samples for review of kind, color, pattern, texture for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
 - 1. Where variation in color, pattern, texture or other characteristics are inherent in the material or product represented, submit multiple units (not less than 3), that show approximate limits of the variations.
- C. Preliminary Submittals: Where Samples are for selection of color, pattern, texture or similar characteristics from a range of standard choices, submit a full set of choices for the material or product.
 - 1. Preliminary submittals will be reviewed and returned with the Design Professional's mark indicating selection and other action.
- D. Submittal: Submit two sets; one will be returned marked with action taken. Maintain sets of Samples, as returned at the project site, for comparisons throughout the course of construction. Unless noncompliance with Contract Document provisions is observed, the submittal will serve as the final submittal.
- E. Field Samples and Mock-ups specified in individual sections are special types of Samples. Field Samples are "full-size" examples erected on site to illustrate finishes, coatings, or finish materials and to establish the standard by which work will be judged.

1.09 LETTERS OF MATERIAL CERTIFICATION

- A. General: Only when specified in individual sections, submit a Letter of Certification for specified materials, items, and when requested. Letters of Certification shall certify that materials submitted comply with the Contract Documents. The letter shall include substantiating supporting data, test results, and compliance with standards.
- B. Submittal: Submit three copies of the Letter of Material Certification for approval.

1.10 DESIGN PROFESSIONAL'S ACTION

- A. Except for submittals for record, information or similar purposes, where action and return are required or requested, the Design Professional will review each submittal, mark to indicate action taken, and return promptly. Compliance with specified characteristic is the Contractor's responsibility.
- B. Action Stamp: The Design Professional will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked; as follows, to indicate action taken
 - 1. Final Unrestricted Release: Where submittals are marked "Approved," that part of the work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
 - 2. Final-but-Restricted Release: Where submittals are marked "Approved as Noted," that part of the work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.
 - 3. Returned for Re-submittal: When submittal is marked "Not Approved, Revise and Resubmit," do not proceed with that part of the work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations, re-submit without delay. Repeat if necessary, to obtain a different action mark.

END SECTION 01 3300

SECTION 01 3323**SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

PART 1 - GENERAL

1.1 DEFINITIONS

- A. Shop drawings: Reinforcement and similar construction and assembly details, drawings, diagrams, material and equipment schedules and other data specially prepared for work by Contractor, subcontractor, manufacturer, supplier or distributor to illustrate some portion of work.
- B. Product Data: Manufacturer's instructions and recommendations, illustrations, standards, schedules, performance charts, instructions brochures, diagrams, and other information furnished by Contractor to illustrate material, product, or system for some portion of work.
- C. Samples: Physical examples which illustrate materials, equipment and workmanship and establish standards by which work will be judged.
- D. Miscellaneous Submittals. Interim erection designs and operations plans, work schedules, warranties, maintenance agreements, bonds, project photographs, survey data, and reports, work records, certificates, testing reports, and similar information applicable to work.

1.2 CONTRACTOR'S RESPONSIBILITY

- A. Prepare separate listing, organized by specification section number sequence, showing principal submittals and dates required for coordination of work.
- B. Submit listing within 10 days after notice to proceed.
- C. Review, stamp with his/her approval, and submit with reasonable promptness and in orderly sequence to cause no delay in work, shop drawings, product data, samples, and miscellaneous work-related items as described in various specification sections.
- D. Shop drawings schedules, and interim erection sketches prepared by Contractor, his/her subcontractors, or vendors are for the Contractor's use and benefit, to indicate his/her approach to fulfilling design concept.
- E. By approving and submitting shop drawings, Contractor represents that he has determined and verified all measurements at job site, field construction criteria, sequences of erection, access ports, catalog numbers, and similar data.

- F. Contractor is responsible for dimensions at the job site, quantities, coordinating component parts and trades to effect unified construction and implement construction techniques, safety of incremental units, and satisfactory performance of work in accordance with Contract Documents.
- G. Delays caused by failure of Contractor to check shop drawings and to stamp with his/her approval shall be Contractor's responsibility.
- H. Where literature is submitted covering a group or series of similar items, items intended for use shall be clearly indicated, identified, and labeled.
- I. Coordinate preparation and processing of submittals with performance of work to avoid delays.
- J. Coordinate and sequence different categories of submittals for same work and interfacing units for work.
- K. No extension of time will be allowed because of failure to properly coordinate and sequence submittals.
- L. Do not proceed with purchasing, fabrication, and delivery of work related to submittal until submittal procedure has been completed.
- M. Contractor's responsibility for errors and omissions in submittals is not relieved by Project Representative's review of submittals.
- N. Request changes separately.
- O. Submit shop drawings showing revisions to equipment layouts or modifications to work because of use of substitution items.
- P. Contractor's responsibility for deviations in submittals from Contract Document requirement is not relieved by Project Representative's review of submittal unless Project Representative gives written acceptance of specific deviation.

1.3 SPECIFIC CATEGORY REQUIREMENTS

- A. General: Except as otherwise indicated in the individual work sections, comply with general requirements specified herein for each indicated category of submittal. Submittals shall contain:
 - 1. The date of submittal and the dates of any previous submittals.
 - 2. The Project title.

3. Numerical submittal numbers, starting with 1.0, 2.0, etc. Revisions to be numbered 1.1, 1.2, etc.
4. The Names of:
 - a. Contractor
 - b. Supplier
 - c. Manufacturer
5. Identification of the product, with the Specification section number, permanent equipment tag numbers and applicable Drawing No.
6. Field dimensions, clearly identified as such.
7. Relation to adjacent or critical features of the Work or materials.
8. Applicable standards, such as ASTM or Federal Specification numbers.
9. Notification to the Project Representative in writing, at time of submissions, of any deviations on the submittals from requirements of the Contract Documents.
10. Identification of revisions on resubmittals.
11. A 6 x 3-inch blank space for Contractor and Project Representative stamps.
12. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria and coordination of the information within the submittal with requirements of the Work and of Contract Documents.
13. Submittal sheets or drawings showing more than the particular item under consideration shall have all but the pertinent description of the item for which review is requested crossed out.

1.4 ROUTING OF SUBMITTALS

- A. Submittals and routine correspondence shall be routed as follows:
 1. Supplier to Contractor (through representative if applicable)
 2. Contractor to Project Representative
 3. Project Representative to Contractor

4. Contractor to Supplier

PART 2 - PRODUCTS

2.1 SHOP DRAWINGS

- A. Unless otherwise specifically directed by the Project Representative, make all shop drawings accurately to a scale sufficiently large to show all pertinent features of the item and its method of connection to the Work.
- B. Submit all shop assembly drawings electronically as a PDF file.

2.2 PROJECT REPRESENTATIVE'S RESPONSIBILITY

- A. Review and return submittals within 10 working days.
- B. Project Representative's review is interim review of project against design concept and shall not be construed as acceptance of work or as waiver of Contract Document requirements.
- C. Review of separate items does not constitute review of assembly in which item functions.
- D. Request changes for items at variance with design concept.
- E. Affix shop drawing stamp with initials or signature.
- F. Return submittals to Contractor for distribution.

2.3 RESUBMISSION REQUIREMENTS

- A. Shop Drawings:
 - 1. Revise initial shop drawings as required and resubmit.
 - 2. Indicate on drawings changes made other than those requested by Project Representative.
- B. Product Data and Samples: Submit new data as required for initial submittal.
- C. Submit all shop assembly drawings electronically as a PDF file.
- D. A PDF for all submittals will be returned to the Contractor.

2.4 MANUFACTURER'S LITERATURE

- A. Where content of submitted literature from manufacturers includes data not

pertinent to this submittal, clearly indicate which portion of the contents is being submitted for the Project Representative's review.

- B. Submit the number of copies which are required to be returned plus one which will be retained by the Project Representative or submit electronically as a PDF file.

2.5 SAMPLES

- A. Samples shall illustrate materials, equipment or workmanship and established standards by which completed work is judged.
- B. Unless otherwise specifically directed by the Project Representative, all samples shall be of the precise article proposed to be furnished.
- C. Submit all samples in the quantity which is required to be returned plus one sample which will be retained by the Project Representative.

2.6 COLORS

- A. Unless the precise color and pattern is specifically described in the Contract Documents, wherever a choice of color or pattern is available in a specified product, submit accurate color charts and pattern charts to the Project Representative for review and selection.
- B. Unless all available colors and patterns have identical costs and identical wearing capabilities, and are identically suited to the installation, completely describe the relative costs and capabilities of each.

PART 3 - EXECUTION

3.1 CONTRACTOR'S COORDINATION OF SUBMITTALS

- A. Prior to submittal for the Project Representative's review, the Contractor shall use all means necessary to fully coordinate all material, including the following procedures:
 1. Determine and verify all field dimensions and conditions, catalog numbers and similar data.
 2. Coordinate as required with all trades and all public agencies involved.
 3. Submit a written statement of review and compliance with the requirements of all applicable technical Specifications as well as the requirements of this Section.

4. Clearly indicate in a letter or memorandum on the manufacturer's or fabricator's letterhead, all deviations from the Contract Documents.
- B. Each and every copy of the shop drawings and data shall bear the Contractor's stamp showing that they have been so checked. Shop drawings submitted to the Project Representative without the Contractor's stamp will be returned to the Contractor for conformance with this requirement.
 - C. The Owner may back charge the Contractor for costs associated with having to review a particular shop drawing, product data or sample more than two times to receive a "No Exceptions Taken" mark.
 - D. Grouping of Submittals
 1. Unless otherwise specifically permitted by the Project Representative, make all submittals in groups containing all associated items.
 2. No review will be given to partial submittals of shop drawings for items which interconnect and/or are interdependent. It is the Contractor's responsibility to assemble the shop drawings for all such interconnecting and/or interdependent items, check them and then make one submittal to the Project Representative along with Contractor's comments as to compliance, non-compliance or features requiring special attention.
 - E. Schedule of Submittals: Within 30 days of Contract award and prior to any shop drawing submittal, the Contractor shall submit a schedule showing the estimated date of submittal and the desired approval date for each shop drawing anticipated. A reasonable period shall be scheduled for review and comments. Time lost due to unacceptable submittals shall be the Contractor's responsibility and some time allowance for resubmittal shall be provided. The schedule shall provide for submittal of items which relate to one another to be submitted concurrently.

3.2 TIMING OF SUBMITTALS

- A. Make all submittals far enough in advance of scheduled dates for installation to provide all required time for reviews, for securing necessary approvals, for possible revision and resubmittal, and for placing orders and securing delivery.
- B. In scheduling, allow sufficient time for the Project Representative r's review following the receipt of the submittal.

3.3 REVIEWED SHOP DRAWINGS

- A. Project Representative Review

1. Allow a minimum of 10 working days for the Project Representative's initial processing of each submittal requiring review and response, except, allow longer periods where processing must be delayed for coordination with subsequent submittals. The Project Representative will advise the Contractor promptly when it is determined that a submittal being processed must be delayed for coordination. Allow a minimum of two weeks for reprocessing each submittal. Advise the Project Representative on each submittal as to whether processing time is critical to progress of the Work, and therefore the Work would be expedited if processing time could be foreshortened.
 2. Acceptable submittals will be marked "**No Exceptions Taken**". A copy will be retained by the Project Representative and a PDF copy will be returned to the Contractor.
 3. Submittals requiring minor corrections before the product is acceptable will be marked "**Make Corrections Noted**". The Contractor may order, fabricate and ship the items included in the submittals, provided the indicated corrections are made. Drawings must be resubmitted for review and marked "**No Exceptions Taken**" prior to installation or use of products.
 4. Submittals marked "**Revise and Resubmit**" must be revised to reflect required changes and the initial review procedure repeated.
 5. The "**Rejected**" notation is used to indicate products which are not acceptable. Upon return of a submittal so marked, the Contractor shall repeat the initial review procedure utilizing acceptable products.
- B. No work or products shall be installed without a drawing or submittal bearing the "**No Exceptions Taken**" notation. The Contractor shall maintain at the job site a complete set of shop drawings bearing the E Project Representative 's stamp.
- C. Substitutions: In the event the Contractor obtains the Project Representative 's approval for the use of products other than those which are listed first in the Contract Documents, the Contractor shall, at the Contractor's own expense and using methods approved by the Project Representative, make any changes to structures, piping and electrical work that may be necessary to accommodate these products.
- D. Use of the "**No Exceptions Taken**" notation on shop drawings or other submittals is general and shall not relieve the Contractor of the responsibility of furnishing products of the proper dimension, size, quality, quantity, materials and all performance characteristics, to efficiently perform the requirements and intent of the Contract Documents. The Project Representative 's review shall not relieve

the Contractor of responsibility for errors of any kind on the shop drawings. Review is intended only to assure conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site. The Contractor is also responsible for information that pertains solely to the fabrication processes or to the technique of construction and for the coordination of the work of all trades.

3.4 RESUBMISSION REQUIREMENTS

A. Shop Drawings

1. Revise initial drawings as required and resubmit as specified for initial submittal, with the resubmittal number shown.
2. Indicate on drawings all changes which have been made other than those requested by the Project Representative.

- B. Project Data and Samples: Resubmit new data and samples as specified for initial submittal, with the resubmittal number shown.

END OF SECTION
01 3323

SECTION 01 3500 - SPECIAL PROCEDURES

- 1.1 General: These Special Procedures are a supplement to the General Conditions of the Contract for Construction.
- 1.2 Drawings and Specifications: See Cover Sheet of Drawings for list of Contract Drawings. See Table of Contents of Project Specifications for list of Technical Specification Sections.
- 1.3 Temporary Equipment: The Contractor shall furnish, maintain, and remove at completion, all equipment such as temporary ramps, chutes and like facilities, as required for proper execution of the work of all trades. The Contractor and each subcontractor shall provide, for his/her own use, all forms required for execution of his work. Such forming shall conform to requirements of authorities having jurisdiction over such work and shall be maintained in safe condition at all times and shall be removed when no longer required.
- 1.4 Lifting & Hoisting Devices: The Contractor shall provide, operate, and maintain lifting and hoisting devices as may be required for execution of the work of all trades. Such apparatus, equipment and construction shall meet the requirements of labor laws and other applicable laws.
- 1.5 Temporary Support Facilities:
- Sanitary Facilities: Contractor shall provide self-contained toilet units of type acceptable to the Owner, adequate for use of personnel at project site.
- Water and Electric Power: The Contractor shall be responsible for obtaining or providing temporary water and electric power as necessary for construction operations. Provide temporary service, equipment, or make arrangements with the Owner for use of existing installations.
- Provide service with ground-fault circuit interrupter feature activated from each circuit at a 20-amp or less rating.
- The Contractor shall provide potable water adequate for personnel at project site.
- The Contractor shall provide temporary security and protection. The types of provisions required include, but not by way of limitation, barricades, warning signs/lights, environmental protection, and similar provisions intended to minimize property losses, personal injuries and claims for damages at project site.
- 1.6 Layout of the Work: All lines, grades, levels, and benchmarks shall be established and maintained by the Contractor.

Before commencing any work, the Contractor shall verify all grades, lines, levels and dimensions as indicated on the Drawings and report any errors or inconsistencies to the Design Professional(s).

The Contractor shall stake the entire project, both as to location of all construction items as well as finished grades. This stakeout may be accurate or rough, depending on the Contractor's preference. This stakeout shall be made early in the construction process and preserved as much as possible for reference during construction.

The purpose of the staking, with inspection and adjustment by the Design Professional(s), is to adapt the design to the site rather than allow the design to be forced upon the site. Staking is subject to various degrees of adaptation which can only be determined by the Design Professional(s). This variation is an aesthetic decision, and the amount of adjustment is most often determined by the existing trees, terrain, soil conditions, utilities, sub-surface water and by other intangible site conditions.

The Contractor shall notify the Design Professional(s) at least five working days before inspection of the stakeout must be made. During the inspection the Design Professional(s) will adjust the stakeout as necessary to fit the trees, topography, and all other objects and conditions on the site. This staking-inspection process must take place prior to any grading, construction, or other work on the site.

The General Contractor and superintendent shall be present during the inspection.

The staking inspection process shall be repeated for any work not staked and approved or adjusted during the first site visit. No work shall be done without the stakeout first being adjusted and approved by the Design Professional(s). All alignment, dimensions and elevation of any grading, excavation, construction, and planting is subject to adjustment to accommodate existing conditions and to save trees and other vegetation.

Any work progress delays caused by inadequate, incomplete or improper staking shall not merit an extension of the contract or delay charges by the contractor.

The Design Professional(s) shall be given at least two (2) business days to respond to any request to come to the site and adjust a stakeout.

The Design Professional(s) shall have a minimum of three (3) business days to resolve any problems created by unknown conditions discovered during the stakeout or construction.

- 1.7 Unknown Conditions: Subsurface Conditions: Should the Contractor encounter, during the progress of the work, subsurface latent physical conditions at the site, materially differing from those shown on the drawings or specified for unknown conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the drawings and Specifications, the Design Professional(s) shall be notified immediately to such conditions before they are disturbed. The Design Professional(s) shall investigate the conditions. If it is found that the conditions do so materially differ, the contract price shall, with the written approval of the Owner, be

increased or decreased to accommodate with such conditions. Contract modifications will be based on unit prices as established in the Bid Form.

- 1.8 Existing Utilities Shown. Existing utility lines shown on the drawings, such as, cables, ducts, conduits, and piping shall, if damaged (unless they are to be abandoned) be immediately repaired, protected, and maintained in use until relocation of same has been completed or shall be cut and capped where directed or shall be prepared for service connections when so required.
- 1.9 Utilities Not Shown. Contractor shall be responsible for securing the services of a utility locator to determine any unknown utilities that may be on the site. Any utilities encountered that are not shown on the drawings and are to remain as active utilities, if inadvertently damaged by the Contractor, shall be repaired at the Contractor's expense. Contractor shall not proceed with any excavation until the utility locator has completed his work and reported conditions to the Owner.
- 1.10 Inclusion of Accessories: Unless specifically mentioned otherwise, all anchors, bolts, screws, fittings, fillers, hardware accessories, trim and other parts required for, or in connection with, an item of material to make a complete, serviceable, finished and first quality installation shall be furnished and installed as part of the item whether or not they are shown on the drawings or specified.
- 1.11 Protection: All materials shall be shipped, stored and handled in a manner that will afford protection and ensure their being in first class condition at the time they are incorporated in the work.
- After installation all materials shall be properly protected against damage to ensure their being in first class condition when the project as a whole is completed and accepted by the Owner.
- 1.12 Installation: All items shall be installed in accordance with the best-recognized practices of the trade. Manufactured items shall be installed in strict accordance with the manufacturer's printed directions, specifications and/or recommendations. All working parts shall be properly adjusted after installation and left in perfect working order. Unless otherwise indicated, items exposed to weather or subject to flooding shall be installed so as to shed water. Items shall in all cases be installed plumb and true and/or in proper relation to surrounding materials.
- 1.13 Samples: Contractor shall be responsible for preparing samples as required in the technical specifications and to obtain approvals prior to construction of the item.
- 1.14 Reference to Standard Specifications: When standard specifications such as The American Society for Testing and Materials, Federal Specifications, Department of Commerce (Commercial Standards), American Institute of Steel Construction, or other well known public or trade associates are cited as a standard to govern materials, and/or workmanship, such specifications or portions thereof as referred to shall be equally as binding and have the full force and effect as though it were copied into these specifications. Such standards are generally recognized by and available to the trades concerned.

- 1.15 Reference to Manufacturer's Publications: Unless otherwise specifically stated, all manufacturer's catalogs, specifications, instructions or other information or literature that are referred to in the specifications shall be considered as the latest edition and/or revision of such publication that is in effect on the date of the Invitation or Advertisement for Bids.
- 1.16 Document Signatures: Within five (5) days of notification of award or prior to execution of a contract, whichever is earliest, the Contractor shall file with the Owner a list of all persons in his firm who are authorized to sign documents such as contracts, certificates, and affidavits on behalf of the firm and to fully bind the firm to all the conditions and provisions of such documents.
- 1.17 Materials Furnished by Others: Whenever the Contractor or any Subcontractor shall receive items from another contractor or from the Owner for storage, erection or installation, the Contractor or Subcontractor receiving such items shall give receipts for items delivered, and any necessary replacing of item or items received. No adjustment will be made to contract price for increased insurance premiums, except for materials and/or equipment furnished by the Owner and not listed as such in other Contract Documents.
- 1.18 Substitute Materials and Equipment: Approval by the Design Professional(s) of substitute materials and equipment shall not relieve the Contractor from the responsibility to supply and install any additional materials, equipment, or labor required to make the substitution properly function within the intent of the Contract Documents.
- 1.19 Protection of Existing Structures: The Contractor shall be liable for all damage to existing structures that occurs as a result of his/her negligence to provide proper and adequate protective measures, including but not limited to buildings, walls, fences, paving, conduits, furniture, pipe, wiring, drains, underground utilities and equipment. The Contractor shall be liable for all damage to trees, shrubs, turf and other existing vegetation.
- 1.20 Security Considerations: Construction shall not interfere with reasonable access to and use of the adjacent facilities and structures.
- 1.21 Working Hours: Working hours will typically be between sunrise and sunset, Monday through Friday, excluding government holidays and any local noise ordinance restrictions. Specific hours will be established during the pre-construction conference after award of the contract.
- 1.22 Order of Construction: The Contractor shall submit a project schedule at the pre-construction conference outlining the anticipated construction process. Priorities within this schedule shall be coordinated with the Owner. Work is to be processed in an orderly manner. The organization of the Specifications or contract drawings does not necessarily indicate the order of sequence in which work is to be performed. Contractor shall not be granted extensions or delay charges when it is deemed that Contractor could have continued work on other components of the project or locations on the site.

- 1.23 Record Drawings and As-Built Documents: The Contractor shall keep a clean set of permitted drawings on-site at all times for the duration of the project. The Contractor shall keep a second set of drawings on-site and use this set of drawings to document any field changes or actual locations or dimensions that may vary from the original plans. This set will be maintained as the official Record Drawings. All notations on the Record Drawings shall be made with permanent RED ink.

Upon completion of the work, the Contractor shall mark a clean set of the appropriate contract drawings in indelible ink showing the final locations of all underground installations including, but not limited to phone lines, power lines, irrigation lines, sanitary lines, drainage lines, etc. The Contractor shall also record the proper location of all installations above ground where they have been changed on the site from designated locations on the plans. The Contractor shall provide a reproducible set of the As-Built plans to the Owner upon completion of the project.

- 1.24 Guarantee: The Contractor shall guarantee all work under this contract, to be free from defects of material and workmanship for a period of one year from the date of acceptance by the Design Professional(s), except as otherwise agreed upon in writing by the parties to the contract. Guarantee shall begin on the day of final acceptance, not the day of substantial completion.

Certain portions of the Work may have their own warranty and guarantee. The project warranty does not override warranties provided by product manufacturers.

- 1.25 Maintenance: The Contractor shall be responsible for all maintenance, as required, until completion and final acceptance of the Work. The Owner shall become responsible for maintenance upon completion and final acceptance of the work.

END OF SECTION 01 3500

SECTION 01 7700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract and associated addenda, apply to this section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Project Record Documents.
 - 3. Operation and maintenance manuals.
 - 4. Warranties.
 - 5. Instruction of Owner's personnel.
 - 6. Final cleaning.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for Substantial Completion, the Contractor shall complete the following:
 - 1. Prepare a list of items that have not yet been completed, the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.

6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
7. Complete startup testing of systems.
8. Submit test/adjust/balance records.
9. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
10. Advise Owner of changeover in utilities, if applicable.
11. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
12. Complete final cleaning requirements, including touchup painting.
13. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection:

1. Submit a written request for Substantial Completion inspection to the Landscape Architect.
2. The Design Professional(s) will inspect the work within five (5) business days of receiving the request.
3. Upon completion of the inspection, the Design Professional(s) will prepare a written report (punch list), identifying incomplete or unsatisfactory work and any other unfulfilled requirements of the contract documents. The punch list will be distributed to the Contractor and the Owner within three (3) business days of the inspection.

1.4 FINAL ACCEPTANCE

A. Preliminary Procedures: Before requesting inspection for Final Acceptance, the Contractor shall complete the following:

1. Submit a final Application for Payment.
2. Submit a final Release of Lien Waiver signed by each subcontractor who performed work on the project.
3. Submit certified copy of the punch list, stating that each item has been completed or otherwise resolved for acceptance.
4. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection:

1. Submit a written request for Final Acceptance inspection to the Design Professional(s).
2. The Design Professional(s) will inspect the work within five (5) business days of receiving the request.
3. If all work has been satisfactorily completed, the Design Professional(s) will prepare a final Certificate for Payment within three (3) business days of the inspection.
4. If any work has not been completed, the Design Professional(s) will notify the Contractor of construction that must be completed or corrected before final Certificate for Payment will be issued.
5. The Design Professional(s) shall be reimbursed by the Contractor for any time and materials associated with the re-inspection of incomplete or unsatisfactory work after the Final Acceptance inspection.

1.5 PROJECT RECORD DOCUMENTS

- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Design Professional(s) reference during normal working hours.
- B. Record Drawings: Maintain and submit one set of Contract Drawings and Shop Drawings.
 1. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
 - b. Accurately record information in an understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 - d. Mark Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings.

2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 3. Mark important additional information that was either shown schematically or omitted from original Drawings.
 4. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
 5. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
- C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Note related Change Orders, Record Drawings, where applicable.
- D. Record Product Data: Submit one copy of each Product Data submittal. Mark one set to indicate the actual product installation where installation varies substantially from that indicated in Product Data.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. Note related Change Orders, Record Drawings, where applicable.
- E. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- 1.6 OPERATION AND MAINTENANCE MANUALS
- A. Assemble a complete set of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

Include operation and maintenance data required in individual Specification Sections and as follows:

1. Operation Data:
 - a. Emergency instructions and procedures.
 - b. System, subsystem, and equipment descriptions, including operating standards.
 - c. Operating procedures, including startup, shutdown, seasonal, and weekend operations.
 - d. Description of controls and sequence of operations.
 - e. Piping diagrams.
2. Maintenance Data:
 - a. Manufacturer's information, including list of spare parts.
 - b. Name, address, and telephone number of Installer or supplier.
 - c. Maintenance procedures.
 - d. Maintenance and service schedules for preventive and routine maintenance.
 - e. Maintenance record forms.
 - f. Sources of spare parts and maintenance materials.
 - g. Copies of maintenance service agreements.
 - h. Copies of warranties and bonds.

- B. Organize operation and maintenance manuals into suitable sets of manageable size. Bind and index data in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, with pocket inside the covers to receive folded oversized sheets. Identify each binder on front and spine with the printed title "OPERATION AND MAINTENANCE MANUAL," Project name, and subject matter of contents.

1.7 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Design Professional(s) for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 DEMONSTRATION AND TRAINING

- A. Instruction: Instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. Provide instructors experienced in operation and maintenance procedures.
 - 2. Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
 - 3. Schedule training with Owner, through Design Professional(s) with at least seven days advance notice.
 - 4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.

- B. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline. Include instruction for the following:

1. System design and operational philosophy.
2. Review of documentation.
3. Operations.
4. Adjustments.
5. Troubleshooting.
6. Maintenance.
7. Repair.

3.2 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for Substantial Completion:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural

weathering of exterior surfaces. Restore reflective surfaces to their original condition.

- g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Remove labels that are not permanent.
 - i. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - j. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - k. Replace parts subject to unusual operating conditions.
 - l. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - m. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 01 7700

SECTION 01 7800**OPERATING AND MAINTENANCE****PART 1 - GENERAL****1.1 OPERATING AND MAINTENANCE MANUALS**

- A. Accumulate during progress of work, in triplicate, service manuals, parts lists, and operating instructions pertaining to equipment and materials covered by contractual agreement.
- B. Bind and organize with index tabs according to specification section sequence.
- C. Include in mechanical equipment information as follows:
 - 1. List of manufacturers, model numbers, and catalog sheets.
 - 2. Control diagrams, composite wiring diagrams.
 - 3. Parts list and predicted life of parts subject to wear.
 - 4. Operating instruction, lubrication, and maintenance instructions.
 - 5. Test data and performance curves.
 - 6. Trouble shooting recommendations.
- D. Submit to Project Representative prior to final acceptance.

1.2 OPERATIONAL TESTS AND ADJUSTMENTS

- A. After completion of work and before final acceptance, Contractor shall notify Project Representative when he/she is ready for operational tests.
- B. Perform tests in presence of Owner and Project Representative and at time designated by Project Representative.
- C. Perform operational tests to satisfactorily demonstrate suitability for use of each entire system.
- D. In the event system is incomplete and tests cannot be consecutively performed, complete work and reschedule tests.
- E. Adjustments or repairs may be directed by Project Representative and shall be performed by Contractor.
- F. Provide instruments, facilities, and labor to properly conduct test and make necessary alterations.
- G. Arrange to have present, equipment manufacturers, start-up, representative of

each major piece of equipment at time of operational tests and notify Project Representative and Owner.

- H. Perform test on component parts of plumbing and mechanical systems as outlined in respective technical sections.

1.3 OPERATING AND MAINTENANCE INSTRUCTION

- A. Arrange for installer or manufacturer's representative to instruct Owner's personnel on equipment requiring operation and maintenance.
- B. Provide instruction as indicated in respective technical sections.
- C. Review maintenance manuals, materials, spare parts, tools, lubricants, identification systems, control sequences, hazards, and cleaning procedures.
- D. Demonstrate start-up, shut-down, emergency operations, noise and vibration adjustments, safety, and similar operations.
- E. Review maintenance and operation procedures in relationship to extended warranties and service agreements.

PART 2 – PRODUCTS – NOT APPLICABLE

PART 3 – EXECUTION – NOT APPLICABLE

END OF SECTION
01 7800

SECTION 13 34 23 – PRE-ENGINEERED RESTROOM BUILDING

Specification Date: 8/14/2024

SECTION 1: BUILDING SUPPLIER SCOPE

1.1 SUMMARY

- A. The work shall include furnishing the sealed architectural, structural, mechanical, and electrical plan sets and furnishing the structural, mechanical, and electrical building components as a complete, pre-designed restroom building package as shown on drawings and as specified herein.

1.2 GENERAL REQUIREMENTS

- A. Packaged building design and engineering and furnishing all specified building package components shall be supplied by Romtec, Inc., or pre-approved alternate, hereafter designated as the building supplier.
- B. The **building supplier** shall be a single source design, engineering, and manufacturing firm who shall meet all the following requirements.
- C. The packaged building shall be a current standard product of **building supplier**.
- D. **Building supplier** shall be regularly engaged in and have at least ten (10) years of experience in packaged building engineering, design, supply, and construction.
- E. The **building supplier** must meet or exceed the product specifications. The Romtec, Inc. building package is an approved guide and example.
- F. Alternate **building suppliers** shall demonstrate that they have designed, engineered, produced, delivered, and constructed at minimum ten (10) functioning site-built buildings of similar type. Project completion dates and a reference contact from the owner of each project must be provided.
- G. Alternate **building suppliers** must disclose all instances of any prior municipal reviewer or landscape architect's rejection of the same or similar product as an "or equal" to the specified basis of design building package.
- H. Bidders who propose and alternate **building supplier** other than Romtec, Inc. are required to provide a complete submittal package minimum of ten (10) calendar days prior to the bid opening date with full sealed plan sets, calculations, and all pre-

engineered structural items.

- I. Any products proposed as “or equal” that are not as specified must be specifically listed in the alternate **building supplier** submittal package and accompanied by manufacturers data sheets for review. These products will be approved or denied prior to the bid opening. Incomplete submittals will be rejected and returned to the bidder.
- J. The building and its concrete footings, foundation, and slab are to be engineered by the **building supplier** to meet site-specific conditions, including wind and snow loading, local frost depth, and ground conditions.
- K. Fasteners that are normally included with individual components, as well as any atypical fasteners, shall be supplied by **building supplier**.
- L. Building is to be designed and constructed to meet local codes and approvals for permanent structures. Any building that is temporary, permanently relocatable, prefabricated modular, an offsite constructed product, or constructed of precast material is not an accepted equal to permanent, onsite, conventional construction.
- M. No approval by any external entity will override the local building authority’s codes and inspections. Seals meant for modular homes and production plant certifications will not be allowed in lieu of sealed plans from a licensed engineer and conventional inspection during construction.
- N. Building sidings, treatments, and roofing are to be as specified. Precast buildings with painted textures are not considered architecturally equivalent.
- O. The **building supplier** shall provide complete, code-compliant building plans including plans, elevations, sections, and details, under seal of a National Kitchen and Bathroom Association (NKBA) certified technical designer.
- P. The **building supplier** shall provide complete structural calculations meeting code for design loads and seismic design under seal of a professional Engineer with current license in the state where the project is located.
- Q. The reviewing authority reserves the right to review or reject all submittals at its sole discretion.
- R. All work and materials shall comply with current industry building codes and regulations for the state where the project is located.
- S. Americans with Disabilities Act Accessibility Guidelines (ADAAG) will be followed in design, manufacture, and construction.

1.3 DESIGN & SUBMITTAL DOCUMENTATION

- A. The building supplier work shall include the design of the architectural, mechanical, structural, and electrical components that will be required for this building.
- B. The building will be designed as a complete building package to be delivered to the job site for construction on-site by the contractor.
- C. Within one (1) week of contract award, the building supplier shall submit the packaged building preliminary Scope of Supply and Design Submittal (SSDS), including the building plan view and elevation drawings.
- D. The building supplier will provide complete submittal documentation in the building supplier's standard electronic submittal format for review.
- E. The preliminary SSDS will be reviewed by relevant parties and returned to the building supplier with any required revisions to the terms, product data sheets, and/or building plan view and elevation drawings noted as comments.
- F. The **building supplier** shall make any required corrections or revisions and resubmit the preliminary SSDS until the preliminary SSDS is approved by the relevant parties.
- G. Once the preliminary SSDS has been approved, the **building supplier** will provide full sealed plan sets stamped by an engineer licensed in the state that the building is located for review by the permitting authority.
- H. Up to three (3) wet stamped sets of the plans and structural calculations shall be provided by **building supplier** before any additional fees apply. Standard plan set size is 11" x 17".
- I. Permitting authority will review the full sealed plan set and return with any required revisions or corrections noted as comments.
- J. **Building supplier** shall provide one full round of sealed plan revisions in response to permitting authority comments before any additional fees are allowed.
- K. The following sections shall be included in the **building supplier's** preliminary Scope of Supply and Design Submittal. Incomplete submittals will be rejected and returned to the bidder.

1. INTRODUCTION

2. BUILDING DESIGN,
 - (a) SUPPLIED ITEMS
 - (b) EXCLUDED ITEMS
 - (c) PLAN VIEW AND ELEVATION DRAWINGS
3. PRODUCT DATA
4. WARRANTY & LIMITATIONS

*Note: Overall site plan is not part of **building supplier's** scope.*

1.4 WARRANTY

- A. The building package and all associated components provided by **building supplier** shall be warranted against defects in materials and workmanship for a period of not less than one (1) year from the date of acceptance. Acceptance is the date of delivery of the building package, or, if delivery is delayed for any reason beyond **building supplier's** control, the date that the building and all its associated components were ready to deliver.
- B. **Building supplier** shall pass through to owner all relevant manufacturers warranties for individual products and components of the building package.

SECTION 2: BUILDING PACKAGE PRODUCTS

2.1 APPROVED BUILDING SUPPLIERS

- A. Romtec, Inc.,
18240 North Bank Road, Roseburg, OR 97470
Tel: 541-496-3541; Fax: 541-496-0803; Email: RIsales@romtec.com
Web: www.Romtec.com
- B. Requests for use of an alternate **building supplier** will be considered in accordance with provisions of Section 1.

2.2 BUILDING DESCRIPTION

- A. Refer to drawings for quantities, dimensions, locations, and installation methods for the materials and items described in this section.
- B. Building dimensions shall match what is indicated on drawings.

2.3 PLUMBING FIXTURES & ACCESSORIES

- A. The following plumbing fixtures and accessories shall be supplied by **building supplier**.
- B. Toilet shall be floor mount, top supply, white vitreous china. 1. Flush valve shall be a chrome, manual lever with ADA compliant metal oscillating non-hold-open handle.
- C. Urinal shall be wall mount, top supply, back discharge, white vitreous china. 1. Flush valve shall be a chrome, manual lever with ADA compliant metal oscillating non-hold-open handle.
- D. Lavatory shall be 19 in. x 17 in. white vitreous china and wall hung with anti-splash rim and concealed front overflow. 1. Faucets shall be deck mounted single hole single supply metering, sink faucet.
- E. Grab bars shall be stainless steel.
- F. Toilet paper dispenser shall be stainless steel, wall mount with two-roll capacity.
- G. Surface-mounted towel dispenser shall be fabricated of type heavy duty, 22 gauge stainless steel with exposed surfaces in satin finish. Refill indicator on face of cabinet. Tumbler lock to secure hinged front panel. Towel dispenser capacity 525 multi-fold or 400 C-fold towels.
- H. Soap/Sanitizer Dispenser shall be Bradley Corp. Diplomat Series Model 6A01, surface-mounted automatic foam soap/sanitizer dispenser, with face formed with contemporary contours, radii, and finish matching related accessories in manufacturer's designer series. Capacity 27 oz (800 ml). Equipped with hinged cover and completely concealed mounting plate. Vandal resistant filler hole cover and sight gauge. Corrosion-resistant foam soap/sanitizer valve.
- I. Drinking fountain shall include bi-level electric water cooler with bottle filling station. VRCTLDDWS shall deliver non-chilled drinking water. Units shall be stainless steel construction and include vandal-resistant bubbler. Bottle filling unit shall include an automatic 20-second shut-off timer. Shall include Green Ticker™ displaying count of plastic bottles saved from waste. Bottle filler shall provide 1.1 - 1.5 gpm flow rate with laminar flow to minimize splashing. Unit shall meet ADA guidelines. Unit shall be lead-free design which is certified to NSF/ANSI 61 and 372 and meets federal and state low-lead requirements. Unit shall be certified to UL399 and CAN/CSA 22.2 No. 120.
- J. Block restroom partitions with Bradley phenolic restroom partition doors shall be supplied by **building supplier**.
 - 1. Solid Phenolic core is composed of compressed cellulose fibers impregnated with resins. The surface laminate is fused to the resin-impregnated core. All

edges are machined and finished smooth with a 15-degree beveled edge. Materials shall be non-absorbent, impact and graffiti resistant. Materials shall be impervious to steam, soaps/detergents, and mildew.

2. Partition color shall be *Graphite Nebula (4623)*.

2.4 ELECTRICAL

- A. The following electrical fixtures shall be supplied by *building supplier*.
- B. Light fixtures shall be supplied by *building supplier*.
 1. Exterior lights to be LED downlights with cast-aluminum housing with corrosion-resistant paint in dark bronze. Polycarbonate lens.
 2. Exterior lights controlled by photocell.
 3. 84" Fanmation Stella Ceiling Fan with Light Kit for pavilion Area, color to be *black*.
 4. Interior surface mount, 48" LED light fixtures.
 5. Restroom lights controlled by motion sensor.
 6. Mech room and fan lights controlled by switch (switches by installer).
- C. Surface mount, 1000 - 2750-Watt wall heater in mechanical room only shall be supplied by *building supplier*.
- D. Mechanical exhaust package with in-line fans shall be supplied by *building supplier*.
- E. Main breaker panel shall be supplied by *building supplier*.
 1. Breaker Panel shall be 100 Amp, single-phase, indoor.

*Note: Breaker panel shall be sized to accept only the loads of the **building supplier** electrical fixture package. The **building supplier** should modify the main breaker panel as needed to be most efficient based on any design changes.*

2.5 STRUCTURE

- A. Concrete Masonry Units (CMU) shall be supplied by *building supplier*.
 1. Walls shall be constructed of 8"W x 16"L x 8"H smooth-face mortar joint concrete masonry units (concrete blocks).

2. Blocks shall be manufactured to ASTM C90 designation for load bearing concrete masonry units.
 3. Block color to be **Gray**.
- B. Exterior wall finish shall be fiber cement lap siding above stone veneer accent.
1. Siding shall be mounted over wall insulation and OSB sheathing supplied by **building supplier**.
 2. Stone veneer color shall be selected by **owner** from the manufacturer's standard color chart.
- C. Sanitary tile cove base on interior restroom walls to be supplied by **building supplier**.
- D. Door system components shall be supplied by **building supplier**.
1. Doors shall be Steelcraft® SL18 standard laminated honeycomb core and 18-gauge galvanized steel.
 2. Door frame shall be pre-welded Steelcraft® 3-Sided flush frame, 16-gauge galvanized A-60 steel.
 3. Doors and frames shall be powder coated **black**.
 4. Masonry door clips (3/16" dia.) for door frame shall be fitted between the doorframe and concrete blocks to bond frame to wall. Door clips shall allow full internal grouting of the frame during installation.
 5. Hinges shall meet ANSI A5112 with non-removable pin and two ball bearings.
 6. Hager 5100 Series Grade 1 door closer shall be constructed of cast iron.
 7. Doors shall have pull handles with stainless steel plates and deadbolt locks.
 8. Restroom doors to have 18" x 18" louvered vents.

2.6 ROOFING

- A. The following roof components shall be supplied by **building supplier**.
- B. Roof system shall consist of wood truss package.
1. **Building supplier** shall provide the following items:

- (i) Batt insulation.
 - (ii) 1"x4" Cedar Trim
 - (iii) Simpson anchors/ties
 - (iv) Roof Sheathing
 - (v) Lumber for truss blocking, top-of-wall blocking, eave/vent blocking
 - (vi) Vents
 - (vii) Ice and water shield
 - (viii) Interior trim boards
- C. Glulam beam roof extension with steel support columns and stone column wraps. 1. All exposed steel to be powder coated **black**.
- D. Roofing shall be Fabral, 26-gauge, Horizon 16, standing seam panels, with 16 in. coverage width.
- 1. Roofing package shall include inside and outside foam closures, matching trim (eaves, gables, and ridge) and fasteners, sheet metal flashing (all sides), and 30# felt (under metal).
 - 2. Roofing color to be selected by the **owner** from the manufacturers standard color chart.

2.7 DELIVERY, STORAGE, AND HANDLING

- A. The **building supplier** freight shall be based on delivering the product on a 48' to 53' flatbed or van truck and trailers, or as close to those dimensions as can legally access the site. Overall dimensions of the truck and trailers allowed to access the site are: 70' overall length, 102" wide and 168" high.
- B. **Building supplier** shall deliver organized building package components in stages as shrink-wrapped pallets that correspond to a typical sequence of construction. A bill of material stating the stages of palletized components shall be included with every delivery.
- 1. Stage 1 pallets shall include structural components such as block, frames, vents, beams, connectors, trusses, etc.
 - 2. Stage 2 pallets shall include second stage structural components such as filler wall material, windows, skylights, roofing, etc.
 - 3. Stage 3 pallets shall include structural finish components such as siding material, tile, doors etc.
 - 4. Stage 4 pallets shall include plumbing and electrical fixtures and other finish materials such as toilets, sinks, drinking fountains, electrical fixtures, accessories, etc.

SECTION 3: BUILDING INSTALLER SCOPE

The installing contractor or subcontractor, hereafter designated as the **building installer**, is responsible for building package installation. **Building installer** work will generally include foundation/pad construction and building package assembly/construction.

*Note: **Building supplier's** scope is separate from the **building installer's** scope. Romtec, Inc., is the approved **building supplier**, not a designated **building installer**.*

3.1 CONSTRUCTION SUBMITTALS

- A. If required by **owner** and/or reviewing authority, **building installer** shall submit product data sheets and relevant information about the specified **building installer** supplied products below for review and approval.

3.2 WARRANTY

- A. **Building installer's** work shall be warranted against defects in materials and workmanship for a period of not less than one (1) year from the date of acceptance. Acceptance is the date that installation work for the building package is completed, including any relevant final punch list. In the event that final acceptance of the completed building is delayed for reasons beyond **building installer's** control, the warranty shall be one (1) year from the completion of **building installer's** installation work and demobilization.
- B. **Building installer** shall pass through to owner all relevant manufacturers warranties for individual products and components supplied by **building installer**.

3.3 STRUCTURE

- A. Masonry (concrete) grout shall be supplied and installed by **building installer**.
1. Grout shall have a minimum compressive strength of 2,500 psi at 28 days, 9+/-1" slump, with max 1/2" aggregate.
 2. Fine or coarse grout may be used in accordance with 2009 UBC.
 3. All CMU block must be fully grouted and may not be wetted.

*Note: If required for installation, **building installer** will be responsible for providing appropriate equipment and labor for notching CMU block for bond beams, cutting CMU block to make any required shapes, and/or grinding CMU block for fixture mounting.*

- B. Rebar for walls shall be supplied and installed by **building installer**.
 - 1. All walls shall have # 4 and # 5 rebar. See final approved plans for spacing.
 - 2. All rebar used in the building must meet ASTM A615 manufacturing standards and is to be placed per the final approved plans.
- C. Interior block wall finish shall be latex epoxy paint supplied and installed by **building installer**.
- D. Ceiling finish shall be gypsum board supplied and installed by **building installer** per the final approved plans.
- E. Interior floors to be sealed concrete finish supplied by **building installer**.
- F. Sealant for all exposed wood shall be supplied and installed by **building installer**.
- G. Sealant for all exterior CMU block is required, to be supplied and installed by **building installer**.
- H. Fiber cement siding is primed to be painted on-site by **building installer**.
- I. Rain gutters and downspouts are supplied and installed by **building installer**.

3.4 ELECTRICAL

- A. Electrical rough-in, installation and trim shall be provided by **building installer**.
 - 1. All underground and/or overhead service to building shall be as specified in the final site plan.
 - 2. **Building installer** is responsible for all necessary wire, connectors, grounding, conduit, and related items to install the building package electrical components and meet all relevant national, state, and local codes.
 - 3. **Building installer** shall supply and install all switches and outlets required to complete the building package installation.

3.5 CAST IN-PLACE CONCRETE FOR BUILDING PACKAGE

- A. All equipment, labor, trades, and materials for cast-in-place concrete shall be provided by **building installer**.
 - 1. Includes all materials and labor for building package foundations/footings and interior slabs.

- B. Footings for the building package are to be dug by the **building installer** and poured on-site to meet local code for permanent structures. A prefabricated, modular mat placed on compacted base is not an accepted equal to a site specific, site poured, engineered foundation.
- C. Engineered fill shall be $\frac{3}{4}$ " minus crushed aggregate around footings, foundations, and slabs, or as required in the final approved plans.
- D. Slab vapor barrier shall be 6-mil continuous plastic under the concrete slab, or as required in the final approved plans.
- E. The foundation shall be installed as designed with all cast in-place concrete poured to dimensions specified, or as required in the final plans.
 - 1. Footings will be built to minimum 24" depth or greater if required by local frost depth or permitting authority.
 - 2. Minimum compressive strength of foundation concrete shall be 3,000 psi at 28 days, 4" +/-1" slump, with max $\frac{3}{4}$ " aggregate, cured in accordance with ACI 308, or as required in approved final plans.
 - 3. Slabs shall have a fine broom finish with joints required in flat work as shown on plans.
 - 4. Steel rebar shall be installed as specified in final plans.
- F. **Building installer** shall supply and install concrete slab sealer.
 - 1. Concrete slab sealer shall be a water-based, transparent curing, sealing and dust proofing compound with two (2) coats to be applied per manufacturer's instructions.

3.6 PLUMBING

- A. Plumbing rough-in, installation and trim within 10' of the building footprint shall be provided by **building installer**.
 - 1. All underground water service and sewer drain(s) from building to be as specified in final approved site plan.
 - 2. Building water shutoff valve, drain, and all rough piping shall be as shown on final building plans. Final installation location to be determined onsite.
 - 3. Install the building package plumbing fixtures per the final approved plans.

4. Piping shall be installed per the final approved plans with minimum pipe sizing per 2009 Uniform Plumbing Code Section 610.
- B. Floor drains in the building shall be supplied and installed by **building installer**. 1. All floor drains shall be as shown on final approved plans.

3.7 OTHER MATERIALS & EQUIPMENT

- A. Unless otherwise specified, the following products and materials are supplied by **building installer** (if applicable).
1. Building package installation
 2. Cast-in-place concrete foundations, footings, interior slabs
 3. Concrete slab & block sealer
 4. Mortar
 5. Concrete grout
 6. Rebar
 7. Latex epoxy paint
 8. Caulk for siding
 9. Plumbing rough in, installation and trim
 10. Electrical rough in, installation and trim
 11. Switches & outlets
 12. Typical fasteners; for example: roofing nails, staples, etc.
 13. Fasteners not included in product packaging
 14. Wood sealant for all decking, glulam beams, posts, and extensions
 15. All other items within the building footprint indicated on final plans or required by building codes to complete installation of the building package which are not specifically stated as supplied by **building supplier**.

3.8 DELIVERY, STORAGE, AND HANDLING

- A. The **building installer** will be responsible for all equipment and labor required for off-loading of the delivered building package onsite.
- B. The **building installer** will assume responsibility for adequate protection and maintenance of delivered building package materials from weather, damage, and pilferage during installation work. Any failure to adequately protect building package materials that affects the warranty of those materials will be at **building installer's** expense.
- C. **Building installer** shall collect and maintain for final delivery to owner any operation & maintenance manuals included by individual product manufacturers with their respective product packaging. Any failure to collect, maintain, and/or deliver these O&M manuals to the **owner** that results in fees from **building supplier** for additional copies shall be at **building installer's** expense.

SECTION 4: CONTRACTOR SCOPE ITEMS

The items in this section may be provided by the same **building installer** as defined in Section 3 above (typically when a single entity is acting as both the **building installer** and **contractor**), or the items in this section may be provided by a separate entity such as a general contractor or site contractor, hereafter designated as **contractor** (typically when the **building installer** is a separate subcontractor). **Contractor** work will generally include site preparation and grading, excavations for structures, backfill and/or structural backfill, and any site or utility work outside the building package footprint.

Items in this section are generally to be completed prior to **building installer** beginning its installation work described in Section 3 above.

4.1 CONSTRUCTION SUBMITTALS

- A. If required by **owner** and/or reviewing authority, **contractor** shall submit product data sheets and relevant information about the specified **contractor** supplied products below for review and approval.

4.2 WARRANTY

- A. **Contractor's** work shall be warranted against defects in materials and workmanship for a period of not less than one (1) year from the date of acceptance. Acceptance is the date that installation work for the building package is completed, including any relevant final punch list. In the event that final acceptance of the completed building is delayed for reasons beyond **contractor's** control, the warranty shall be one (1) year from the completion of **contractor's** installation work and demobilization.
- B. **Contractor** shall pass through to owner all relevant manufacturers warranties for

individual products and components supplied by *contractor*.

4.3 ELECTRICAL

- A. Incoming electrical utility lines to within approximately 10' of the building shall be provided by *contractor*.
 - 1. All underground and/or overhead service to building shall be as specified in the final site plan.
 - 2. Electric meter base and all rough wiring, switches, plugs and circuit breakers shall be as shown on final plans.
- B. *Contractor* supplies and installs the meter base and meter.

4.4 CAST IN-PLACE CONCRETE FOR BUILDING EXTERIOR

- A. All equipment, labor, trades, and materials shall be supplied by *contractor*.
 - 1. Includes all materials and labor for exterior/entry slabs and sidewalks.
- B. Refer to drawings for sidewalks and entry slabs.
 - 1. Minimum concrete compressive strength of 2,500 psi at 28 days, or as required in final approved plans.
 - 2. Remesh or rebar reinforcement shall be used in sidewalks.
 - 3. All sidewalks shall be finished with a fine broom with control joints installed per the final approved site plan.

4.5 PLUMBING

- A. Incoming plumbing to within approximately 10' of the building shall be provided by *contractor*.
 - 1. All underground water service and sewer drain(s) from building to be as specified in final approved site plan.
 - 2. Building water shutoff valve is to be supplied and installed by *contractor*.
 - 3. *Contractor* is responsible to ensure that incoming water pressure is sufficient to meet building package fixture demands.
 - 4. Minimum water pressure at toilet and urinal flush valves shall be 40 psi with minimum pipe sizing as per 2009 Uniform Plumbing Code Section 610, or as

required in final approved plans.

- B. Water line drain valve shall be supplied and installed by **contractor**.
- C. Sewer line backflow check valve shall be supplied and installed by **contractor**.

4.6 OTHER MATERIALS & EQUIPMENT

- A. Unless otherwise specified, the following products and materials are supplied by **contractor**.
 - 1. All items not specifically listed as supplied by **building supplier** or **building installer**.
 - 2. Any item listed as supplied by “contractor” or “others”.
- B. Unless specified in the plans or submittals, **contractor** supplies the following items (if applicable):
 - 1. Incoming electrical, water, sewer, and gas utilities.
 - 2. Asphalt paving
 - 3. Masonry pavers
 - 4. Sidewalks
 - 5. Landscaping
 - 6. Site grading
 - 7. Exterior/entry slabs
 - 8. Drain valves and backflow check valves
 - 9. Branch circuit breakers
 - 10. Irrigation Equipment
 - 11. Fire alarm and fire suppression equipment
 - 12. Lighting equipment not attached to the building.
 - 13. All other items exterior of the building footprint indicated on final plans or required by building codes which are not specifically stated as supplied by **building supplier** or **building installer**.

4.7 DELIVERY, STORAGE, AND HANDLING

- A. The **contractor** will assume responsibility for adequate protection and maintenance of the installed building package materials after completion of installation work by **building installer**. Any failure to adequately protect building package materials that affects the warranty of those materials will be at **contractor's** expense.

SECTION 5: OWNER'S SCOPE

5.1 ONGOING MAINTENANCE

- A. **Owner** is responsible for ongoing maintenance of the completed building after completion of work by building installer and contractor.

5.2 SITE PLAN

- A. **Owner** (or owner's site engineer) is responsible for providing the final approved site plan to **building supplier** and/or **building installer**.

5.3 SPECIAL INSPECTION

- A. If required, special inspection(s) services shall be provided by **owner**.
- B. If special inspection(s) are required by the permitting authority or relevant agency(ies), then the **building supplier**, **building installer**, and/or **contractor** shall provide reasonable assistance to the **owner** to accommodate the special inspection(s).

END SECTION 13 3423

SECTION 26 56 68 – EXTERIOR ATHLETIC LIGHTING

Lighting System with LED Light Source

PART 1 – GENERAL

1.01 SUMMARY

- A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.
- B. The purpose of these specifications is to define the lighting system performance and design standards for the Tucker Pickleball Courts using an LED Lighting source. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth in these specifications.
- C. The sports lighting will be for the following venues:
 - 1. Pickleball Courts 1-12
- D. The primary goals of this sports lighting project are:
 - 1. **Guaranteed Light Levels:** Selection of appropriate light levels impacts the safety of players and the enjoyment of spectators. Therefore, light levels are guaranteed to not drop below specified target values for a period of 25 years.
 - 2. **Environmental Light Control:** It is the primary goal of this project to minimize spill light to adjoining properties and glare to players, spectators, and neighbors.
 - 3. **Cost of Ownership:** To reduce the operating budget, the preferred lighting system shall be energy efficient and cost effective to operate. All maintenance costs shall be eliminated for the duration of the warranty.
 - 4. All lighting designs shall comply with IES RP-6-22.
 - 5. **Control and Monitoring** – To allow for optimized use of labor resources and avoid unneeded operation of the facility, customer requires a remote on/off control system for the lighting system. Fields should be proactively monitored to detect luminaire outages over a 25-year life cycle. All communication and monitoring costs for 25-year period shall be included in the bid.
 - a. Control and monitoring system shall provide contactor control of all existing circuits. Key switches shall be provided to provide field-level control of existing circuit groups.

1.02 ONFIELD LIGHTING PERFORMANCE

- A. **Illumination Levels and Design Factors:** Playing surfaces shall be lit to an average target illumination level and uniformity as specified in the chart below. Lighting manufacturers will provide a guarantee that light levels will be sustained over the life of the warranty period. Lighting calculations shall be developed, and field measurements taken on the grid spacing with the minimum number of grid points specified below.

Manufacturers will provide lumen maintenance data of the LED luminaires used per TM-21-11 and will incorporate the lumen maintenance projections into the lighting designs to ensure target light levels are achieved throughout the guaranteed period of the system. Per IES guidelines, lumen maintenance hours should be reported based on the 6x multiplier of testing hours.

Area of Lighting	Average Target Illumination Levels	Maximum to Minimum Uniformity Ratio	Grid Points	Grid Spacing
Courts 1-16	30 FC	2.5:1	420	10.0' X 10.0'

- B. Color Temperature: The lighting system shall have a minimum color temperature of 5700KK and a CRI of 75.
- C. Playability: Lighting design and luminaire selection should be optimized for playability by reducing glare onfield and providing sufficient uplight.
 - 1. Aiming Angles: To reduce glare, luminaire aiming should ensure the top of the luminaire field angle (based on sample photometric reports) is a minimum of 10 degrees below horizontal.
 - 2. Glare Control Technology – Luminaires selected should have glare control technology including, but not limited to: external visors, internal shields and louvers. No symmetrical beam patterns are acceptable.
 - 3. Mounting Heights: To ensure proper aiming angles, minimum mountings heights shall be as described below. Higher mounting heights may be necessary for luminaire with lesser glare control to meet field angle requirements of section 1.2.C.1.

# of Poles	Pole Designation	Pole Height
11	P1-P11	40'

1.03 ENVIRONMENTAL LIGHT CONTROL

- A. Light Control Luminaires: All luminaires shall utilize spill light and glare control devices including, but not limited to, internal shields, louvers, and external shields. No symmetrical beam patterns are accepted.
- B. Spill Light and Glare Control: To minimize impact on adjacent properties, spill light and candela values must not exceed the following levels taken at 3 feet above grade.

	Average	Maximum
150' Radius Specified Spill Line Horizontal Footcandles	0.125 fc	0.25
150' Radius Specified Spill Line Max Vertical Footcandles	0.25 fc	0.5 fc
150' Radius Specified Spill Line Max Candela (taken at 5 ft above grade)		7500 cd

- C. Environmental glare impact scans must be submitted showing the maximum candela from the field edge on a map of the surrounding area until 500 candela or less is achieved.
- D. Spill Scans: Spill scans must be submitted indicating the amount of horizontal and vertical footcandles along the specified lines. Light levels shall be provided in 30-foot intervals along the boundary line at 3 ft above grade.
- E. Sample Photometry: The first page of a photometric report for all luminaire types proposed showing horizontal and vertical axial candle power shall be provided to demonstrate the capability of achieving the specified performance. Reports shall be certified by a qualified testing laboratory with a minimum of five years experience or by a manufacturer’s laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products. A summary of the horizontal and vertical aiming angles for each luminaire shall be included with the photometric report.
- F. Field Verification: Lighting manufacturer shall supply field verification of environmental light control using a meter calibrated within the last 12 months:
 - 1. Spill verification: Illumination levels shall be taken in accordance with IESNA RP-6-22. The light sensing surface of the light meter should be held 36 inches above the playing surface with the sensing surface horizontal (for horizontal readings) or vertically pointed at the brightest light bank (for max vertical readings)

D. COST OF OWNERSHIP

- A. Manufacturer shall submit a 25 year Cost of Ownership summary that includes energy consumption, anticipated maintenance costs, and control costs. All costs associated with faulty luminaire replacement - equipment rentals, removal and installation labor, and shipping - are to be included in the maintenance costs.

PART 2 – PRODUCT

2.01 SPORTS LIGHTING SYSTEM CONSTRUCTION

- A. Manufacturing Requirements: All components shall be designed and manufactured as a

system. All luminaires, wire harnesses, drivers and other enclosures shall be factory assembled, aimed, wired and tested.

- B. Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion. All exposed carbon steel shall be hot dip galvanized per ASTM A123. All exposed aluminum shall be powder coated with high performance polyester or anodized. All exterior reflective inserts shall be anodized, coated, and protected from direct environmental exposure to prevent reflective degradation or corrosion. All exposed hardware and fasteners shall be stainless steel, passivated and coated with aluminum-based thermosetting epoxy resin for protection against corrosion and stress corrosion cracking. Structural fasteners may be carbon steel and galvanized meeting ASTM A153 and ISO/EN 1461 (for hot dipped galvanizing), or ASTM B695 (for mechanical galvanizing). All wiring shall be enclosed within the cross-arms, pole, or electrical components enclosure.
- C. System Description: Lighting system shall consist of the following:
1. Galvanized steel poles and cross-arm assembly.
 2. Non-approved pole technology:
 - a. Square static cast concrete poles will not be accepted.
 - b. Direct bury steel poles which utilize the extended portion of the steel shaft for their foundation will not be accepted due to potential for internal and external corrosive reaction to the soils and long-term performance concerns.
 3. Lighting systems shall use concrete foundations. See Section 2.4 for details.
 - a. For a foundation using a pre-stressed concrete base embedded in concrete backfill the concrete shall be air-entrained and have a minimum compressive design strength at 28 days of 3,000 PSI. 3,000 PSI concrete specified for early pole erection, actual required minimum allowable concrete strength is 1,000 PSI. All piers and concrete backfill must bear on and against firm undisturbed soil.
 - b. For anchor bolt foundations or foundations using a pre-stressed concrete base in a suspended pier or re-enforced pier design pole erection may occur after 7 days. Or after a concrete sample from the same batch achieves a certain strength.
 4. Manufacturer will supply all drivers and supporting electrical equipment.
 - a. Remote drivers and supporting electrical equipment shall be mounted approximately 10 feet above grade in aluminum enclosures. The enclosures shall be touch-safe and include drivers and fusing with indicator lights on fuses to notify when a fuse is to be replaced for each luminaire. Disconnect per circuit for each pole structure will be located in the enclosure. Integral drivers are not allowed.
 - b. Manufacturer shall provide surge protection at the pole equal to or greater than 40 kA for each line to ground (Common Mode) as recommended by IEEE C62.41.2_2002.
 5. Wire harness complete with an abrasion protection sleeve, strain relief and plug-in

connections for fast, trouble-free installation.

6. All luminaires, visors, and cross-arm assemblies shall withstand 150 mi/h winds and maintain luminaire aiming alignment.
 7. Control cabinet to provide remote on-off control and monitoring of the lighting system. See Section 2.3 for further details.
 8. Manufacturer shall provide lightning grounding as defined by NFPA 780 and be UL Listed per UL 96 and UL 96A.
 - a. Integrated grounding via concrete encased electrode grounding system.
 - b. If grounding is not integrated into the structure, the manufacturer shall supply grounding electrodes, copper down conductors, and exothermic weld kits. Electrodes and conductors shall be sized as required by NFPA 780. The grounding electrode shall be minimum size of 5/8 inch diameter and 8 feet long, with a minimum of 10 feet embedment. Grounding electrode shall be connected to the structure by a grounding electrode conductor with a minimum size of 2 AWG for poles with 75 feet mounting height or less, and 2/0 AWG for poles with more than 75 feet mounting height.
- D. Safety: All system components shall be UL listed for the appropriate application.

2.02 ELECTRICAL

- A. Electric Power Requirements for the Sports Lighting Equipment:
 1. Electric power: 208 Volt, 3 Phase
 2. Maximum total voltage drop: Voltage drop to the disconnect switch located on the poles shall not exceed three (3) percent of the rated voltage.
- B. Energy Consumption: The kW consumption for the field lighting system shall be 21.60kW.

2.03 CONTROL

- A. Instant On/Off Capabilities: System shall provide for instant on/off of luminaires.
- B. Lighting contactor cabinet(s) constructed of NEMA Type 4 aluminum, designed for easy installation with contactors, labeled to match field diagrams and electrical design. Manual off-on-auto selector switches shall be provided.
- C. Contactor control of lights: To minimize wear on drivers and other electrical components and prevent lights from turning on due to communication loss, circuits must be controlled via contactor switching, not dimming driver output to zero.
- D. Dimming: System shall provide for 3-stage dimming (high-medium-low). Dimming will be set via scheduling options (Website, app, phone, email).
- E. Remote Lighting Control System: System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, or email up to ten years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs.

The owner may assign various security levels to schedulers by function and/or fields. This function must be flexible to allow a range of privileges such as full scheduling capabilities for all fields to only having permission to execute “early off” commands by phone. Scheduling tool shall be capable of setting curfew limits.

Controller shall accept and store 7-day schedules, be protected against memory loss during power outages, and shall reboot once power is regained and execute any commands that would have occurred during outage.

- F. Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The controller shall determine switch position (manual or auto) and contactor status (open or closed).

- G. Management Tools: Manufacturer shall provide a web-based database and dashboard tool of actual field usage and provide reports by facility and user group. Dashboard shall also show current status of luminaire outages, control operation and service. Mobile application will be provided suitable for IOS and Android devices.

Hours of Usage: Manufacturer shall provide a means of tracking actual hours of usage for the field lighting system that is readily accessible to the owner.
 - i. Cumulative hours: shall be tracked to show the total hours used by the facility.
 - ii. Report hours saved by using early off and push buttons by users.

- H. Communication Costs: Manufacturer shall include communication costs for operating the control and monitoring system for a period of 25 years.

- I. Communication with luminaire drivers: Control system shall interface with drivers in electrical components enclosures by means of powerline communication.

J.

2.04 STRUCTURAL PARAMETERS

- A. Wind Loads: Wind loads shall be based on the 2021 International Building Code. Wind loads to be calculated using ASCE 7-16, an ultimate design wind speed of 110 and exposure category C.

- B. Pole Structural Design: The stress analysis and safety factor of the poles shall conform to 2013 AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (LTS-6).

- C. Foundation Design: The foundation design shall be based on soil parameters as outlined in the geotechnical report. If no geotechnical report is available, the foundation design shall be based on soils that meet or exceed those of a Class 5 material as defined by 2021 IBC Table 1806.2.

- D. Foundation Drawings: Project specific foundation drawings stamped by a registered engineer in the state where the project is located are required. The foundation drawings must list the moment, shear (horizontal) force, and axial (vertical) force at ground level for each pole. These drawings must be submitted at time of bid to allow for accurate pricing.

PART 3 – EXECUTION

3.01 SOIL QUALITY CONTROL

- A. It shall be the Contractor's responsibility to notify the Owner if soil conditions exist other than those on which the foundation design is based, or if the soil cannot be readily excavated. Contractor may issue a change order request / estimate for the Owner's approval / payment for additional costs associated with:
1. Providing engineered foundation embedment design by a registered engineer in the State of Georgia for soils other than specified soil conditions;
 2. Additional materials required to achieve alternate foundation;
 3. Excavation and removal of materials other than normal soils, such as rock, caliche, etc.

3.02 DELIVERY TIMING

- A. Delivery Timing Equipment On-Site: The equipment must be on-site 8-12 weeks from receipt of approved submittals and receipt of complete order information.

3.03 FIELD QUALITY CONTROL

- A. Illumination Measurements: Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, Owner's Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified. The illumination measurements shall be conducted in accordance with IESNA RP-6-22.
- B. Field Light Level Accountability
1. Light levels are guaranteed not to fall below the target maintained light levels for the entire warranty period of 25 years. These levels will be specifically stated as "guaranteed" on the illumination summary provided by the manufacturer.
 2. The contractor/manufacturer shall be responsible for conducting initial light level testing and an additional inspection of the system, in the presence of the owner, one year from the date of commissioning of the lighting.
 3. The contractor/manufacturer will be held responsible for any and all changes needed to bring these fields back to compliance for light levels and uniformities. Contractor/Manufacturer will be held responsible for any damage to the fields during these repairs.
- C. Correcting Non-Conformance: If, in the opinion of the Owner or his appointed Representative, the actual performance levels including footcandles, uniformity ratios, and offsite candela readings are not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be required to make adjustments to meet specifications and satisfy Owner.

3.04 WARRANTY AND GUARANTEE

- A. 25-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 25 years from the date of shipment. Warranty shall guarantee specified light levels. Manufacturer shall maintain specifically funded financial reserves to assure fulfillment of the warranty for the full term. Warranty does not cover weather conditions events such as lightning or hail damage, improper installation, vandalism or abuse,

unauthorized repairs or alterations, or product made by other manufacturers.

- B. Maintenance: Manufacturer shall monitor the performance of the lighting system, including on/off status, hours of usage and luminaire outage for 25 years from the date of equipment shipment. Parts and labor shall be covered such that individual luminaire outages will be repaired when the usage of any field is materially impacted. Manufacturer is responsible for removal and replacement of failed luminaires, including all parts, labor, shipping, and equipment rental associated with maintenance. Owner agrees to check fuses in the event of a luminaire outage.

PART 4 – DESIGN APPROVAL

4.01 PRE-BID SUBMITTAL REQUIREMENTS (Non-Musco)

- A. Design Approval: The owner / engineer will review pre-bid submittals per section 4.1.B from all the manufacturers to ensure compliance to the specification 10 days prior to bid. If the design meets the design requirements of the specifications, a letter and/or addendum will be issued to the manufacturer indicating approval for the specific design submitted.
- B. Approved Product: Musco's Light-Structure System™ with TLC for LED® is the approved product. All substitutions must provide a complete submittal package for approval as outlined in Submittal Information at the end of this section at least 10 days prior to bid. Special manufacturing to meet the standards of this specification may be required. An addendum will be issued prior to bid listing any other approved lighting manufacturers and designs.
- C. All listed manufacturers not pre-approved shall submit the information at the end of this section at least 10 days prior to bid. An addendum will be issued prior to bid; listing approved lighting manufacturers and the design method to be used.
- D. Bidders are required to bid only products that have been approved by this specification or addendum by the owner or owner's representative. Bids received that do not utilize an approved system/design, will be rejected.

REQUIRED SUBMITTAL INFORMATION FOR ALL MANUFACTURERS (NOT PRE-APPROVED) 10 DAYS PRIOR TO BID

*All items listed below are mandatory, shall comply with the specification and be submitted according to pre-bid submittal requirements. Complete the Yes/No column to indicate compliance (Y) or noncompliance (N) for each item. **Submit checklist below with submittal.***

Yes/No	Tab	Item	Description
	A	Letter/ Checklist	Listing of all information being submitted must be included on the table of contents. List the name of the manufacturer's local representative and his/her phone number. Signed submittal checklist to be included.
	B	Equipment Layout	Drawing(s) showing field layouts with pole locations
	C	On Field Lighting Design	Lighting design drawing(s) showing: <ul style="list-style-type: none"> a. Field Name, date, file number, prepared by b. Outline of field(s) being lighted, as well as pole locations referenced to the center of the field (x & y), Illuminance levels at grid spacing specified c. Pole height, number of fixtures per pole, horizontal and vertical aiming angles, as well as luminaire information including wattage, lumens and optics d. Height of light test meter above field surface. e. Summary table showing the number and spacing of grid points; average, minimum and maximum illuminance levels in foot candles (fc); uniformity including maximum to minimum ratio, coefficient of variance (CV), coefficient of utilization (CU) uniformity gradient; number of luminaires, total kilowatts, average tilt factor; light loss factor.
	D	Off Field Lighting Design	Lighting design drawing showing initial spill light levels along the boundary line (defined on bid drawings) in footcandles. Lighting design showing glare along the boundary line in candela. Light levels shall be taken at 30-foot intervals along the boundary line. Readings shall be taken with the meter orientation at both horizontal and aimed towards the most intense bank of lights.
	E	Photometric Report	Provide first page of photometric report for all luminaire types being proposed showing candela tabulations as defined by IESNA Publication LM-35-02. Photometric data shall be certified by laboratory with current National Voluntary Laboratory Accreditation Program or an independent testing facility with over 5 years experience.
	F	Performance Guarantee	Provide performance guarantee including a written commitment to undertake all corrections required to meet the performance requirements noted in these specifications at no expense to the owner. Light levels must be guaranteed to not fall below target levels for warranty period.
	G	Structural Calculations	Pole structural calculations and foundation design showing foundation shape, depth backfill requirements, rebar and anchor bolts (if required). Pole base reaction forces shall be shown on the foundation drawing along with soil bearing pressures. Design must be stamped by a structural engineer in the state of Georgia, if required by owner. (May be supplied upon award).

H	Control & Monitoring System	Manufacturer of the control and monitoring system shall provide written definition and schematics for automated control system. They will also provide ten (10) references of customers currently using proposed system in the state of Georgia.
I	Electrical Distribution Plans	Manufacturer bidding an alternate product must include a revised electrical distribution plan including changes to service entrance, panels and wire sizing, signed by a licensed Electrical Engineer in the state of Georgia.
J	Warranty	Provide written warranty information including all terms and conditions. Provide ten (10) references of customers currently under specified warranty in the state of Georgia.
K	Project References	Manufacturer to provide a list of ten (10) projects where the technology and specific fixture proposed for this project has been installed in the state of Georgia. Reference list will include project name, project city, installation date, and if requested, contact name and contact phone number.
L	Product Information	Complete bill of material and current brochures/cut sheets for all products being provided.
M	Delivery	Manufacturer shall supply an expected delivery timeframe from receipt of approved submittals and complete order information.
N	Non-Compliance	Manufacturer shall list all items that do not comply with the specifications. If in full compliance, tab may be omitted.
O	Cost of Ownership	Document cost of ownership as defined in the specification. Identify energy costs for operating the luminaires. Maintenance cost for the system must be included. All costs should be based on 25 Years
P	Environmental Light Control Design	Environmental glare impact scans must be submitted showing the maximum candela from the field edge on a map of the surrounding area until 500 candela or less is achieved.

The information supplied herein shall be used for the purpose of complying with the specifications for Tucker Pickleball. By signing below, I agree that all requirements of the specifications have been met and that the manufacturer will be responsible for any future costs incurred to bring their equipment into compliance for all items not meeting specifications and not listed in the Non-Compliance section.

Manufacturer: _____ **Signature:** _____

Contact Name: _____ **Date:** ____/____/____

Contractor: _____ **Signature:**
