DIVISION 1 SPECIFICATIONS

Terminal 4 Gate Replacement & Western Expansion

Fort Lauderdale - Hollywood International Airport

Version: 08/15/13
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END OF SECTION
PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Precedence

1. In case of a conflict between these Division 1 Specifications and the Construction Manager At Risk (CM @ R) Agreement, the CM @ R Agreement shall govern.

B. Related Sections

1. The DIVISION 01 Specifications, CM @ R Agreement, Technical Specifications, and Supplemental Conditions (as applicable) are a reference for all individual Division 01 Sections.

1.02 DESCRIPTION

A. Project / Work Identification

1. The general overall description of the Work of the Contract for the Terminal 4 Gate Replacement is as shown on the drawings, specifications and Contract Documents.

2. The CM @ R services will be contracted in three phases:

   Phase I: Preconstruction Services and Early Investigative Work.

   Phase II: Continuation of Phase I Services and Work, as needed and Early Construction Work.

   Phase III: GMP Construction Services including but not limited to overseeing the complete building enclosure, interior finishes, furnishings, FF&E, special equipment and systems, mechanical, electrical and plumbing systems for the build-out of the Project.

3. Construction Project Management: The COUNTY has a Construction Project Management (CPM) firm that will administer this Project.

B. Contract Documents: Requirements of the Work are contained in the Contract Documents, and included cross-references herein to published information, which is not necessarily bound therein.
DIVISION 1 SPECIFICATIONS - SECTION 01010 – SUMMARY OF WORK

C. Intent: The intent of the Contract is to provide for construction and completion in an efficient manner, in every detail, of the Work described. It is further intended that the CONTRACTOR shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the Work in an efficient manner in accordance with the Contract Documents.

D. Protection of Underground Facilities: The location of all underground facilities, including but not limited to gas, liquid petroleum, and FAA communications lines MUST be verified by the CONTRACTOR prior to starting any construction.

1.03 LIMITS OF CONSTRUCTION AND CONTRACTOR USE OF PREMISES

A. The Work set forth in these Contract Documents includes the furnishing of all labor, materials, equipment, services and incidental for construction.

1.04 DESCRIPTION OF THE WORK

A. The Work of the Project, Terminal 4 Gate Replacement, includes repositioning/relocation of Certain Concourse H Gates, Western Expansion of Concourse H, a secure connector from Terminal 3 to the new Terminal 4, new office space for Broward County Aviation Department (BCAD) and related Work at Fort Lauderdale - Hollywood International Airport as indicated in the Construction Drawings and Specifications.

1.05 PRODUCTS SUPPLIED BY OTHERS

A. Items Furnished by COUNTY for Installation by COUNTY: The COUNTY may award various contracts for purchasing and installing specified materials. Material Lists from those purchase contracts are listed in the Contract Documents. The CONTRACTOR shall cooperate with the COUNTY contractors and provide access to the Work areas as necessary.

B. Items Furnished by COUNTY for Installation by CONTRACTOR: The COUNTY may award various contracts for purchasing and installing specified materials. Material Lists from those purchase contracts are listed in the Contract Documents. The CONTRACTOR shall receive, inspect, unload specified materials from the transporter, transport to secure storage, and load and deliver the materials to the site for installation.
1.06 SCHEDULING
   A. The CONTRACTOR shall be responsible for the planning and scheduling and
      coordination of all Work performed under the Contract Documents, so that
      materials will arrive on schedule and installation will proceed without delay.

1.07 LIST OF RELATED WORK
   A. During performance of the Work under this Contract, the following other contracts
      may be under construction:
      1. Terminal 4 Gate Replacement – Phase 2 (Eastern Expansion)
      2. Demolition of East Side facilities
      3. Demolition of West Side facilities
      4. Aircraft Parking Apron – Western Expansion
      5. Hydrant Fueling – Western Expansion
      6. Landside Improvements
      7. BHS/EDS Equipment
      In addition to these projects, new contracts may come up in future during the
      duration of the Project.

1.08 COOPERATION BETWEEN CONTRACTORS
   A. One or more contracts may be required to construct the Project. When separate
      contracts are awarded for different portions of the Project, the contractor in each
      case shall be the person other than the COUNTY who signs each separate
      contract.
   B. The COUNTY reserves the right to contract for and perform other or additional
      construction on or near the Work covered by this Contract.
   C. When separate contracts are let within or near the limits of the Project, the
      CONTRACTOR shall conduct its Work so as not to interfere with or hinder the
      progress of completion of the construction performed by other contractors. Contractors working on the same Project shall cooperate with each other as directed by the CPM.
D. The CONTRACTOR shall assume all liability, financial or otherwise, in connection with its Contract and shall protect and save harmless the COUNTY and the CPM from any and all damages or claims.

E. The CONTRACTOR shall arrange its Work and shall place or dispose of the materials being used as not to interfere with the operations of the other Contractors within or near the limits of the Project. The CONTRACTOR shall join its Work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

1.09 COUNTY OCCUPANCY

A. The COUNTY will occupy the adjacent parking structures, terminals and roadways during the entire period of construction.

PART 2 – PRODUCTS (Not Used)
PART 3 – EXECUTION (Not Used)

END OF SECTION 01010 - SUMMARY OF WORK
DIVISION 1 SPECIFICATIONS - SECTION 01039 COORDINATION OF WORK

PART 1 - GENERAL

1.01 COORDINATION OF WORK

A. All areas of Project site will remain in operation during the course of construction. Coordination of access and scheduling of Work in Customs and Border Protection (CBP), baggage, airside and passenger areas shall be identified and reviewed on a daily basis with CPM.

B. Coordinate scheduling, submittals, and Work of the various sections of specifications to assure efficient and orderly sequence and installation of interdependent construction elements.

C. Verify that the utility requirement characteristics of operating equipment are compatible with building utilities. Coordinate Work of various specification sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

D. Coordinate space requirements and installation of mechanical and electrical Work, which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize for other installations, for maintenance, and for repairs.

E. In finished areas, except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and clean up of Work of separate sections in preparation for Substantial Completion.

G. After COUNTY occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with the Contract Documents, to minimize disruption of COUNTY's activities.

1.02 COORDINATION OF SPECIFICATIONS (Not Used)

1.03 TIME FOR COMPLETION

A. Time limits stated in the Contract Documents are the essence of the Contract. By executing the Agreement the CONTRACTOR confirms that the Time for Completion is a reasonable period for performing the Work. The CONTRACTOR shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the time for completion.
DIVISION 1 SPECIFICATIONS - SECTION 01039 COORDINATION OF WORK

B. The CONTRACTOR, having vast experience in the construction of improvements in South Florida, recognizes that unforeseen conditions occur and that as a normal course of construction there may be rain days, difficulties in obtaining materials and labor, requests for information from the CONTRACTOR to the CPM or Consultant (Architect/Engineer), submittals, shortages and inefficiencies in operations.

1.04 DISCREPANCIES, INTERPRETATION AND OMISSIONS

A. Any doors shown on the Drawings, but not scheduled, shall be assumed to be identical to the nearest door of similar size and type for purposes of bidding and construction. Bring any apparent discrepancies to the attention of the Program Manager for interpretation prior to commencing with the Work.

B. Any room, wall, floor, or ceiling finish not scheduled shall be assumed to be identical to the nearest room of similar use and type for purposes of bidding and construction. Bring any apparent discrepancies to the attention of the Program Manager for interpretation prior to commencing with the Work.

C. Should conflict occur between the Contract Documents, the CONTRACTOR is deemed to have based its bid upon the more expensive method of performing the Work unless it has requested and received a written decision from the Program Manager before submission of its bid.

D. The term "artistic effect" as used herein refers to color, texture, profile, and relation of masses. The Consultant shall be the sole interpreter of the design intent with respect to such matters, but the Consultant's authority with respect thereto shall not circumvent any other rights of either the COUNTY or the CONTRACTOR ascribed to them by other provisions of the Contract.

1.05 DEFINITIONS

A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.

B. Furnish: To supply and deliver, unload, inspect for damage (same as supply).

C. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, and make ready for use.

D. Provide: To furnish or supply, plus install.
E. Supply: To supply and deliver, unload, inspect for damage (same as furnish).

PART 2 - PRODUCTS

2.01 EQUIPMENT ELECTRICAL CHARACTERISTICS AND COMPONENTS

A. Motors: Specific motor type is specified in individual Specification Sections.

B. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated.

C. Cord and Plug: Provide minimum six (6) foot cord and plug including grounding connector for connection to electric wiring system. Cord of longer length is specified in individual Specification Sections.

PART 3 - EXECUTION  (Not Used)

END OF SECTION 01039 - COORDINATION OF WORK
DIVISION 1 SPECIFICATIONS - SECTION 01040 PROJECT COORDINATION

PART 1 - GENERAL

1.01 DESCRIPTION

A. Minimum administration and supervisory requirements necessary for coordination of Work on the Project include but are not necessarily limited to the following:

1. Pre-Construction Conference
2. Coordination and Progress Meetings
3. Administration and Supervisory Personnel
4. Special Reports
5. Communications
6. Daily Reports
7. Record Drawings (As-Builts)
8. Pre-Installation

1.02 PRECONSTRUCTION CONFERENCE

A. Before beginning Early Construction or GMP Work at the site, the CONTRACTOR shall attend a preconstruction conference and bring the Project Management Team employed for this Project. In the event a Team member is unable to attend, the CONTRACTOR shall bring a Letter of Introduction in which it advises the full names and duties of the Team member(s) and states that they are assigned to the Project and will be in full responsible charge. This conference will be called by the CPM who will arrange for the Consultant and other interested parties to be present. The CONTRACTOR shall also notify its major Subcontractors and suppliers of this meeting if their attendance is required. At this time, all parties will discuss the Project under Contract and prepare a program of procedure in keeping with requirements of the Contract Documents. The CONTRACTOR's Project Management Team will henceforth make every effort to expeditiously coordinate all phases of the Work, including the required reporting procedure, to obtain the end result within the full purpose and intent of the Contract Documents for this Project.
DIVISION 1 SPECIFICATIONS - SECTION 01040 PROJECT COORDINATION

1.03 COORDINATION AND PROGRESS MEETINGS

A. The CPM will prepare a written memorandum on required coordination activities. Included will be such items as required notices, reports, and attendance at meetings. This memorandum will be distributed to each entity performing construction at the Project site.

B. In addition to specific coordination and pre-installation meetings for each element of Work, and other regular Project meetings for other purposes, hold general progress meetings at least every week with time coordinated with preparation of payment request. Review present and future needs including interface requirements, time, sequences, deliveries, access, site utilization, temporary facilities and services, hours of Work, hazards and risks, housekeeping, Change Orders and documentation of information for payment requests.

C. Discuss whether each element of current Work is ahead of schedule, on time, or behind schedule in relation with updated progress schedule. Determine how behind-schedule Work will be expedited and secure commitments from parties involved. Discuss whether schedule revisions are required to ensure that current Work and subsequent Work will be completed within Contract Time.

D. Review everything of significance, which could affect progress of Work.

E. The CPM records results of the meeting and distributes copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

1.04 PRE-INSTALLATION CONFERENCES

A. Record significant discussions of each conference, and record agreements and disagreements, along with final plan of action. Distribute record of meeting promptly to everyone concerned, including CPM and Consultant.

1.05 REPORTING AND SCHEDULES

A. Within three (3) days after each meeting date, the CPM shall distribute a brief summary, in narrative form, of progress of Work since previous meeting and report.

B. Schedule Updating: The CONTRACTOR shall update schedules weekly to include revisions resulting from information discussed at meetings held since the previous schedule update. The CONTRACTOR shall distribute a tabular, early start / total float report to the CPM.
1.06 SPECIAL REPORTS

A. CONTRACTOR shall prepare a report that provides information on the value engineering and constructability review phase of the Pre-Construction Work. The report will, among other things, identify: the Work items that value engineering was applied against, the cost of the initial item, the cost of the selected item, the ability of the value item to perform with the same functionality and safety level as the initial item, the decision of incorporating the value item in the design and notes; the Work items that received constructability review, aspects of the initial design, aspects of the final design, the cost or time savings of the proposed constructability review item, the decision of incorporating the constructability item in the final design, and notes; the Work items that received gap analysis shall be identified, and a solution to the gap noted. A draft copy of this report shall be submitted to the CPM within 30-calendar days after the 100% construction documents are completed, for approval. The CONTRACTOR shall update the draft report and submit the final report to the CPM within 60-calendar days after the 100% construction documents are complete.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at the site, CONTRACTOR shall prepare and submit a special report to the CPM. List chain of events, persons participating, response by the CONTRACTOR’s personnel, an evaluation of the results or effects and similar pertinent information. Advise the CPM and Consultant as soon as possible when such events are known.

PART 2 - PRODUCTS
(Not Used)

PART 3 - EXECUTION

3.01 GENERAL COORDINATION PROVISIONS

A. Inspection of Conditions: Inspect conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

END OF SECTION 01040 - PROJECT COORDINATION
DIVISION 1 SPECIFICATIONS - SECTION 01045 CUTTING AND PATCHING

PART 1 - GENERAL

1.01 DESCRIPTION

A. Cutting and patching includes cutting into existing construction to provide for installation or performance of other Work, subsequent fitting, and patching required to restore surfaces to original condition.

B. Proceed with cutting and patching at earliest feasible time and complete Work without delay except when Work will impact traffic lanes. Written approval by the CPM shall be obtained at least 72-hours before impacting traffic lanes.

C. Execute cutting, fitting, and patching, including attendant excavation and backfill, required to perform Work and to:
   1. Make several parts fit together properly.
   2. Uncover portions of Work to make provisions for installation of ill-timed Work.
   3. Remove and replace defective Work.
   4. Remove and replace Work not conforming to requirements of Contract Documents.
   5. Remove samples of installed Work as required for testing.
   6. Make routine penetrations of non-structural surfaces for installation of piping and electrical conduit.
   7. Uncover Work to allow for CPM's observation of covered Work, which has been covered prior to required observation of CPM.

D. Cutting and patching performed during manufacture of products, or during initial fabrication, erection or installation processes is not considered to be cutting and patching. Drilling of holes to install fasteners and similar operations are also not considered to be cutting and patching.

E. Refer to other sections of specifications for specified cutting and patching requirement and limitations applicable to individual units of Work.

F. Do not cut and patch the following categories of Work without CPM's written acceptance of procedures:
DIVISION 1 SPECIFICATIONS - SECTION 01045 CUTTING AND PATCHING

1. Structural steel.

2. Miscellaneous structural metals, including lintels, equipment supports, stair systems, and similar categories of Work.


4. Foundation construction.

5. Bearing and retaining walls.


7. Exterior wall construction.

8. Piping, ductwork, vessels, and equipment.

9. Water, moisture, vapor, air, and smoke barriers, membranes, and flashing.

10. Noise and vibration control elements and systems.

11. Control, communication, conveying, and electrical wiring systems.

12. Primary operational systems and equipment.

G. For new Work, retain original installer or fabricator, or another recognized experienced and specialized firm to perform cutting and patching.

1.02 SUBMITTALS

A. Procedural Proposal for Cutting and Patching

1. Where prior acceptance of cutting and patching is required, submit proposed procedures for Work well in advance of time Work will be performed.

2. Including the following information, as applicable, in submittal:

   a. Describe nature of Work and how it is to be performed, indicating why cutting and patching cannot be avoided.

   b. Describe anticipated results of Work in terms of change to existing Work, including structural operational and visual changes as well as significant elements.

   c. List products to be used and firms that will perform Work.
DIVISION 1 SPECIFICATIONS - SECTION 01045 CUTTING AND PATCHING

d. Dates when Work is expected to be performed.
e. List utilities that will be disturbed or otherwise be affected by Work, including utilities that will be relocated and utilities that will be out-of-service temporarily.
f. Indicate how long utility service will be disrupted.

B. Review of procedural proposal by CPM does not waive CPM’s right to later require complete removal and replacement of Work found to be cut and patched in unsatisfactory manner.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Use materials for cutting and patching that are identical to existing materials. If identical materials are not available, or cannot be used, use materials that match existing adjacent surfaces to fullest extent possible with regard to visual effect.

B. Use materials for cutting and patching that will result in equal-or-better performance characteristics.

C. Comply with specifications and standards for each specific product involved.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Before cutting, examine surfaces and conditions under which Work is to be performed. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding with Work.

B. Before start of cutting Work, meet at Work site with all parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict between various trades. Coordinate layout of Work and resolve potential conflict before proceeding with Work.

3.02 PREPARATION

A. Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of Work.

B. Protect other Work during cutting and patching to prevent damage. Provide protection from adverse weather conditions for that part of Project that may be exposed during or after cutting and patching operations.
DIVISION 1 SPECIFICATIONS - SECTION 01045 CUTTING AND PATCHING

C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Take precautions not to cut existing pipe, conduit, or duct serving building but schedule to be relocated until provisions have been made to bypass them.

3.03 CUTTING

A. Cut Work using methods that is least likely to damage Work to be retained or adjoining Work.

B. Use small power tools designed for sawing or grinding, not hammering and chopping. Cut through concrete and masonry using cutting machine such as carborundum saw or core drill to ensure a neat hole. Cut holes and slots neatly to size required with minimum disturbance of adjacent Work. To avoid marring existing finished surfaces, cut or drill from exposed or finished side into concealed surfaces. Temporarily cover openings when not in use.

C. Bypass utility services such as pipe and conduit, before cutting, where such utility services are shown or required to be removed, relocated, or abandoned. Cut-off conduit and pipe in walls or partitions to be removed. After bypass and cutting, cap, valve, or plug and seal tight remaining portion of pipe and conduit to prevent entrance of moisture or other foreign matter.

D. Do not cut and patch operational elements or safety related components in a manner that would result in reduction of capacity to perform in manner intended, including energy performance or that would result in increased maintenance, decreased operational life or decreased safety.

E. Do not cut and patch Work in a manner that would result in substantial visual evidence of cut and patch Work. Remove and replace Work judged by the CPM to be cut and patched in a visually unsatisfactory manner.

3.04 PATCHING

A. Patch with seams, which are durable and as invisible as possible. Comply with specified tolerances for Work.

B. Where feasible, inspect and test patched areas to demonstrate integrity of Work.

C. Restore exposed finishes of patched areas and where necessary extend finished restoration into retained adjoining Work in a manner which will eliminate evidence of patching and refinishing.
DIVISION 1 SPECIFICATIONS - SECTION 01045 CUTTING AND PATCHING

D. Install new products to complete Work in accordance with requirements of Contract Documents.

3.05 ADJUSTING

A. Restore damaged pipe covering to original conditions.

B. Remove and replace Work cut and patched in visually unsatisfactory manner.

3.06 CLEANING

A. Thoroughly clean areas and spaces where Work is performed or used as access to Work. Remove paint, mortar, oils, putting, and items of similar nature. Thoroughly clean piping, conduit, and similar features before painting or other finished is applied.

END OF SECTION 01045 - CUTTING AND PATCHING
PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. Data furnished by the COUNTY, the CPM or the Consultant will locate and reference survey base lines and will establish benchmarks at appropriate intervals along the base line to facilitate the proper layout of the Work by the CONTRACTOR. The CONTRACTOR shall preserve all reference points and benchmarks furnished by the COUNTY, the CPM or the Consultant.

B. The CONTRACTOR shall furnish all lines, grades, and measurements necessary to the proper prosecution and control of the Work under these Contract Documents. The Work shall include performing all calculations required and setting all control needed, such as offsets, reference points, and other reference marks or points necessary to provide lines and grades for construction. The data furnished by the COUNTY, CPM or the Consultant will establish horizontal and vertical control points only. The CONTRACTOR is thereafter responsible to maintain these control points for use by subsequent contractors.

C. Horizontal and Vertical Control:

The CONTRACTOR shall also establish horizontal and vertical controls for carrying out utility relocation or construction Work when such Work is included in the Contract.

D. The CONTRACTOR shall establish the building grades, lines, levels, column, wall and partition lines required.

E. The CONTRACTOR shall calculate and measure required dimensions indicated within recognized tolerances and should not scale drawings to determine dimensions.

F. The CONTRACTOR shall advise Subcontractors performing Work of marked lines and levels provided for use in layout of Work.

1.02 SURVEY

A. Surveyor: Engage land surveyor or professional engineer experienced and specializing in land survey Work, who is registered by the State of Florida to perform specified service.

B. The CONTRACTOR shall retain a competent registered professional engineer or registered land surveyor, who shall establish the exterior lines and required elevations of all buildings and structures to be erected on the site and shall establish sufficient lines and grades for the construction of associated Work such
as, but not limited to, roads, utilities and site grading. The engineer or land surveyor shall certify as to the actual location of the constructed facilities in relation to property lines, building lines, easements, and other restrictive boundaries.

C. Procedure: The CONTRACTOR shall:

1. Verify layout information indicated in relation to property survey and existing benchmarks, before proceeding with layout of actual Work.
2. As Work proceeds, check major element for line, levels, and plumb.
3. Maintain accurate surveyor’s log or record book of such checks, available for CPM’s and Consultant’s reference at reasonable times.
4. Record deviations from required lines and levels.
5. Advise CPM promptly upon detection of deviations exceeding indicated or recognized tolerances.
6. Record deviations, which are accepted on Project Record Drawings.

1.03 RECORDS

A. The CONTRACTOR shall:

1. Maintain complete, accurate log of control and survey Work as it progresses.
2. On completion of foundation walls and major site improvements, prepare certified survey showing dimensions, locations, angles, and elevations of construction.
3. Final Property Surveys: The CONTRACTOR shall:
   a. Immediately before time of Substantial Completion, prepare final property survey showing significant features resulting from construction of Project.
   b. Include on survey certification, signed by surveyor, to the effect that principal lines and levels of Project are accurately positioned as shown on survey.
4. Survey Copies: Furnish two (2) copies of survey data, except furnish ten (10) copies of final property survey. Surveys shall also be provided in CAD and PDF Format on a CD.
DIVISION 1 SPECIFICATIONS - SECTION 01050 FIELD ENGINEERING

5. Records of Actual Work: Furnish four (4) copies, one of which will be returned for inclusion in Project Record Documents as specified in Contract Closeout Section 01700. Records of Actual Work shall also be provided in ACAD and PDF format on a CD when required by the CPM.

1.04 UNDERGROUND OBSTRUCTIONS

A. Pipe lines, existing underground installation, and underground structures in vicinity of Work are shown on Drawings according to best information available.

B. The CONTRACTOR shall verify location of underground pipelines, conduits, and structures by hand probing in advance of excavation.

C. The CONTRACTOR shall request written permission from the CPM five (5) business days before initiating new construction or demolitions over existing utilities including irrigation.

D. The CONTRACTOR shall repair cuts to existing utilities made during construction process as part of Project Work to the satisfaction of the CPM without an increase to the GMP.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 EXAMINATION

A. General: Verify layout information shown on the Drawings, in relation to the property survey and existing benchmarks, before proceeding to lay out the Work. Locate and protect existing benchmarks and control points. Preserve permanent reference points during construction.

1. Do not change or relocate benchmarks or control points without prior written approval. Promptly report lost or destroyed reference points or requirements to relocate reference points because of necessary changes in grade or locations.

2. Promptly replace lost or destroyed Project control points. Base requirements on the original survey control points.

B. Establish and maintain a minimum of 2 permanent benchmarks on the site, referenced to data established by survey control points.

1. Record benchmarks locations, with horizontal and vertical data, on As-built drawings. Datum for horizontal and vertical controls shall be as established in the Project Contract Documents.
DIVISION 1 SPECIFICATIONS - SECTION 01050 FIELD ENGINEERING

C. Existing Utilities and Equipment: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities and other construction.

1. CONTRACTOR procedures to be followed as defined in the CM @ R AGREEMENT.

3.02 PERFORMANCE

A. Surveyor's Log: Maintain a surveyor's log of control and other survey work. Make this log available for reference.

B. Existing Utilities: Furnish information necessary to adjust, move, or relocate existing structures utility poles, lines, services, or other appurtenances located in or affected by demolition operations. Coordinate with local authorities having jurisdiction.

C. Final Property Survey: Prepare a final property survey for the Project. Include on the survey certification, signed by the surveyor, that principal metes, bounds, lines, and level of the Project are accurately positioned as shown on the drawings in hard copy along with ACAD and PDF format on a CD.

END OF SECTION 01050 - FIELD ENGINEERING
DIVISION 1 SPECIFICATIONS - SECTION 01061 POSTING OF NOTICES

PART 1 - GENERAL

3.03 REQUIREMENTS INCLUDED

A. Schedule of Wage Rates and Benefits U.S. Department of Labor.

B. Non-Discrimination Clause and CONTRACTOR’s Commitments under Section 202 of Executive Order No. 11246.

1.02 SCHEDULE OF WAGE RATES AND BENEFITS

A. The CONTRACTOR, and each Subcontractor under him, shall post in a conspicuous place on the site (1) the schedule of the specified overall hourly rate for each applicable classification; (2) the amount of liquidated damages for any failure to pay such rates; and (3) the name and address of the responsible official in Broward County or the U.S. Department of Labor (whichever is applicable) to whom complaints should be given.

Copy of this Notice will be provided to the CONTRACTOR by the Owner.

1.03 NON-DISCRIMINATION CLAUSE

A. The CONTRACTOR shall post the non-discrimination clause as required by Executive Order 11246.

The following is a copy of the required notice:

"Equal Employment Opportunity is the Law--Discrimination is Prohibited by the Civil Rights Act of 1964 and by Executive Order No. 11246

Title VII of the Civil Rights Act of 1964--Administered by:

The Equal Employment Opportunity Commission

Prohibits discrimination because of Race, Color, Religion, Sex, or National Origin by Employers with 25 or more employees, by Labor Organizations with a hiring hall of 25 or more members, by Employment Agencies, and by Joint Labor-Management Committees for Apprenticeship or Training.

ANY PERSON - Who believes he or she has been discriminated against SHOULD CONTACT the:

The Equal Employment Opportunity Commission
2401 E Street, NW
Washington, DC 20506
1.04 EXECUTIVE ORDER NO. 11246 – ADMINISTERED BY:

The Office of Federal Contract Compliance Programs

Prohibits discrimination because of Race, Color, Religion, Sex, or National Origin, and requires affirmative action to ensure equality of opportunity in all aspects of employment.

By all Federal Government Contractors and Subcontractors, and by Contractors Performing Work Under a Federal Assisted Construction Contract, regardless of the number of employees in either case.

ANY PERSON - Who believes he or she has been discriminated against SHOULD CONTACT:

The Office of Federal Contract Compliance Programs
U.S. Department of Labor
Washington, DC 20210

END OF SECTION 01061 – POSTING OF NOTICES
DIVISION 1 SPECIFICATIONS - SECTION 01095 REFERENCE STANDARDS AND DEFINITIONS

PART 1 - GENERAL

1.01 DEFINITIONS

A. General: Basic contract definitions are included in the Conditions of the Contract.

B. Indicated: The term indicated refers to graphic representations, notes, or schedules on the Drawings; or to other paragraphs or schedules in the specifications and similar requirements in the Contract Documents. Terms such as shown, noted, scheduled, and specified are used to help the user locate the reference. Location is not limited.

C. Directed: Terms such as directed, requested, authorized, "selected, approved, required, and permitted mean directed by the CPM or Consultant, requested by the CPM or Consultant, and similar phrases.

D. Approved: The term approved, when used in conjunction with the CPM's or Consultant's action on the CONTRACTOR's submittals, applications, and requests, is limited to the CPM's or Consultant's duties and responsibilities as stated in the Conditions of the Contract.

E. Regulations: The term regulations includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.

F. Furnish: The term furnish by CONTRACTOR means to supply and deliver to the Project storage site, and unload, unpack, assemble, and perform similar operations.

G. Install: The term install describes operations at the Project site including the actual unloading, temporary storage, unpacking assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

H. Provide: The term provide means to furnish and install, complete and ready for the intended use.

I. Installer: An installer is the contractor or another entity engaged by the CONTRACTOR, either as an employee, Subcontractor, or contractor of lower tier, who performs a particular construction activity including installation, erection, application, or similar operations. Installers are required to be experienced in the operations they are engaged to perform.

1. Experienced: The term experienced, when used with the term installer, means having successfully completed a minimum of five (5) previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.
DIVISION 1 SPECIFICATIONS - SECTION 01095 REFERENCE STANDARDS AND DEFINITIONS

2. Trades: Using terms such as carpentry does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as carpenter. It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.

3. Assigning Specialists: Certain sections of the specifications require that specific construction activities shall be performed by specialists who are recognized experts in those operations. The specialists must be engaged for those activities, and their assignments are requirements over which the CONTRACTOR has no option. However, the ultimate responsibility for fulfilling contract requirements remains with the CONTRACTOR.

   a. This requirement shall not be interpreted to conflict with enforcing building codes and similar regulations governing the Work. It is also not intended to interfere with local trade-union jurisdictional settlements and similar conventions.

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

K. Testing Agencies: A testing agency is an entity engaged by the CONTRACTOR, Consultant, or COUNTY to perform specific inspections or tests, either at the Project site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

1.02 SPECIFICATION FORMAT AND CONTENT EXPLANATION

A. Specification Format: These specifications are organized into Divisions and sections based on the Construction Specifications Institute's 18-division format and "MasterFormat" numbering system.

B. Specification Content: These 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 interpolated as the sense requires. Singular words shall be interpreted as plural and plural words 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
DIVISION 1 SPECIFICATIONS - SECTION 01095 REFERENCE STANDARDS AND DEFINITIONS

performed by the CONTRACTOR. At certain locations in the text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the CONTRACTOR or by others when so noted.

1.03 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards shall have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: CONTRACTOR shall comply with the standards in effect as of the date of the Contract Documents.

C. Conflicting Requirements: Where compliance with two (2) or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, CONTRACTOR shall comply with the most stringent requirement, and shall refer uncertainties and requirements that are different but apparently equal to the CPM for a decision before proceeding.

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

D. Copies of Standards: Each entity engaged in construction on the Project shall be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, the CONTRACTOR shall obtain copies directly from the publication source and make them available on request.

E. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where abbreviations and acronyms are used in the specifications or other Contract Documents, they shall mean the recognized name of the trade association, standards-generating organization, authorities having jurisdiction, or other entity applicable to the context of the text provision.
DIVISION 1 SPECIFICATIONS - SECTION 01095 REFERENCE STANDARDS AND DEFINITIONS

1.04 SUBMITTALS

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01095 - REFERENCE STANDARDS AND DEFINITIONS
DIVISION 1 SPECIFICATIONS - SECTION 01110 AIRPORT PROJECT PROCEDURES

PART 1 - GENERAL

1.01 AIRPORT OPERATIONS

A. Airport operations shall be maintained throughout this Contract. The CONTRACTOR shall in no way curtail or handicap normal operational characteristics of the Airport facility except as specifically indicated and specified in the Contract Documents.

1.02 PERMITS, LICENSES AND TAXES

A. CONTRACTOR shall secure all permits, arrange for all inspections and similar procedural items as required by the code enforcement authorities having jurisdiction.

B. The CONTRACTOR shall procure all necessary and required licenses in accordance with the General Conditions provisions of the CM @ R Agreement.

1.03 VERIFICATION OF EXISTING CONDITIONS

A. The CONTRACTOR shall familiarize himself as to the existing conditions. Should the CONTRACTOR discover any inaccuracies, errors, or omissions between the actual existing conditions and the Contract Documents, it shall notify the CPM in writing within three (3) calendar days.

1.04 MAINTENANCE OF TRAFFIC

A. It is the explicit intention of the Contract that the safety of aircraft, the public, as well as the CONTRACTOR's equipment and personnel, is the most important consideration. It is understood and agreed that the CONTRACTOR shall provide for the free and unobstructed movement of aircraft in the air operations areas of the Airport with respect to its own operations and the operations of all its Subcontractors as specified in Section 01540 - CONSTRUCTION SAFETY PLAN AND SECURITY REQUIREMENTS. It is further understood and agreed that the CONTRACTOR shall furnish and install for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft.

B. The cost of maintaining the vehicular traffic specified in the Contract Documents shall be included in CONTRACTOR's Construction General Conditions.

C. Active aviation and other public areas exist in and around the Airport. The CONTRACTOR shall not prevent traffic from using these areas. The Work shall be coordinated with the CPM, the Director of Aviation, FAA, CBP, TSA and other...
DIVISION 1 SPECIFICATIONS - SECTION 01110 AIRPORT PROJECT PROCEDURES

agencies having an interest in the capability of the Airport and shall be programmed and stated accordingly, so that public traffic may be routed over partially completed Work. Appropriate safety precautions shall be provided by the CONTRACTOR to protect employees, the public and the Work.

D. Should it be necessary for the CONTRACTOR to complete portions of the Contract Work for the beneficial occupancy of the COUNTY prior to completion of the whole Work, such “phasing” of the Work shall be specified herein or indicated on the Drawings. When so specified, the CONTRACTOR shall complete such portions of the Work on or before the date specified or as otherwise specified.

E. If the CONTRACTOR, with the concurrence of the CPM, elects to complete one increment of Work prior to completion of the whole Work, the COUNTY may at its sole discretion accept the Work for beneficial occupancy.

F. When the Work is in, or near vehicular traffic and pedestrian areas, arrange the Work so as to avoid disruption of normal traffic patterns. Provide, erect and maintain effective barricades, danger signals, signs and equipment to provide protection of the Work and the safety of the public throughout the area.

G. The CONTRACTOR shall maintain traffic within the limits of the Project for the duration of the construction period, including all temporary suspensions of Work. It shall include the construction and maintenance of all necessary detour facilities; the furnishing, installing and maintaining of traffic control and safety devices during construction, the control of dust, and any other special requirements for safe and expeditious movement of aircraft, vehicular traffic and pedestrians.

1. Beginning Date of CONTRACTOR’s Responsibility: The CONTRACTOR’s responsibility for maintenance of traffic (MOT) shall begin on the day it starts any field construction Work including Early Construction and GMP Construction Work on the Project or on the date of any Notice to Proceed, whichever is earlier, and shall continue until the date of Final Completion and Acceptance of the Work. However, a portion of Early Construction Work or Early Investigative Work may also require MOT. The need for MOT will be decided at the time of the beginning of such Work at the discretion of the Contract Administrator (CA).

2. Number of Traffic Lanes: CONTRACTOR shall close no more than one (1) lane on each roadway and ramp. Unless otherwise specified, the effective width of each lane used for MOT shall be at least as wide as the traffic lanes existing in the area prior to commencement of construction. Traffic control and warning devices shall not encroach on lanes used for
MOT. All closures on any traffic lanes shall be coordinated with the CPM a minimum of seventy-two (72) hours prior to any closure.

3. High Traffic Areas: When the Work is in or near vehicular traffic and pedestrian areas, arrange the Work so as to avoid disruption of normal traffic patterns. Provide, erect and maintain effective barricades, danger signals, signs and equipment to provide protection of the Work and the safety of the public throughout the area.

H. At appropriate times during the performance of Construction Services, the CONTRACTOR shall be responsible for performing daily inspections, including weekends and holidays with some inspection at night time, of the installations on the Project and replacing all equipment and devices not conforming to the approved standards during the inspection. The CPM will be advised of the schedule of these inspections and be given the opportunity to join in the inspection as deemed necessary.

I. Sections Not Requiring Traffic Maintenance: CONTRACTOR shall not be required to maintain traffic over those portions of the Project where no Work is to be accomplished or where construction operations will not affect existing roads. CONTRACTOR, however, shall not obstruct nor create a hazard to any traffic during the prosecution of the Work and shall be responsible for repair of all damage to existing pavement or facilities caused by its operations.

J. Traffic Plan: The CONTRACTOR shall present its MOT Plan at the Pre-Construction Conference. MOT Plan(s) shall be in written form and include a minimum of four (4) full-size sets of plan sheets which indicate the type and location of all signs, lights, barricades, arrow boards, striping and barriers to be used for the safe passage of pedestrians and vehicular traffic through the Project. The plan shall indicate conditions and set-up for each phase of the CONTRACTOR's activities. In no case may the CONTRACTOR begin Work until the CPM has approved a MOT Plan in writing. Modifications to any existing MOT Plan(s) that may become necessary shall also be approved in writing. Except in an emergency, no changes to the approved plan will be allowed until approval to change such plan has been received.

K. Traffic During Construction: All construction vehicles are required to use existing public traffic routs. Normal public traffic lanes are not to be used as staging areas for arriving delivery vehicles. The CONTRACTOR's employees shall utilize the designated CONTRACTOR employee parking area.

1. Adequate accommodations for intersecting and crossing traffic shall be provided and maintained and, except where specific permission is given, no road or street crossing the Project shall be blocked or unduly restricted.
DIVISION 1 SPECIFICATIONS - SECTION 01110 AIRPORT PROJECT PROCEDURES

L. The State of Florida, Manual of Traffic Control and Safe Practices for Street and Highway Construction, Maintenance and Utility Operations, sets forth the basic principles and prescribes minimum standards to be followed in the design, application, installation, maintenance, and removal of all traffic control devices and all warning devices and barriers, which are necessary to protect the public and workmen from hazards within the Project limits. The standards established in the aforementioned manual constitute the minimum requirements for normal conditions and additional traffic control devices, warning devices, barriers or other safety devices will be required where unusual, complex or particular hazardous conditions exist.

M. Installation: The responsibility for installation and maintenance of adequate traffic control devices, warning devices and barriers, for the protection of the traveling public and workmen, as well as to safeguard the Work shall rest with the CONTRACTOR. The required traffic control devices, warning devices and barriers shall be erected by the CONTRACTOR prior to creation of any hazardous condition and in conjunction with any necessary re-routing of traffic. The CONTRACTOR shall immediately remove, turn or cover any devices or barriers that do not apply to existing conditions.

1. The CONTRACTOR shall make the CPM aware of any scheduled operation, which will affect patterns or safety, sufficiently in advance of commencing such operation to permit its review of the plan for installation of traffic control devices or barriers proposed by the CONTRACTOR.

2. When needed, the CONTRACTOR shall assign one of its employees the responsibility of maintaining the positions and condition of all MOT control devices, warning devices and barriers throughout the duration of the Contract. The CPM shall be kept advised at all times as to the identification and means of contacting this employee on a twenty-four (24) hour basis.

N. Furnishing of Devices and Barriers: The CONTRACTOR shall furnish all traffic control devices (including signs), warning devices, arrow boards, and barriers.

1. When the Work requires closing an Air Operations Area (AOA) of the Airport or portion of such area, the CONTRACTOR shall furnish, erect, and maintain temporary markings and associated lighting conforming to the requirements specified in the Contract Documents as applicable, or of FAA Advisory Circular 150/5340-1E, "Marking of Paved Areas on Airports."

2. The CONTRACTOR shall furnish and erect all barricades, warning signs, and markings for hazards prior to commencing Work, which requires such erection and shall maintain the barricades, warning signs, and markings for hazards until their dismantling is directed by the Consultant.
3. Refer to Section 01540 - CONSTRUCTION SAFETY PLAN AND SECURITY REQUIREMENTS for additional requirements.

O. Maintenance of Devices and Barriers: Traffic control devices, warning devices and barriers shall be kept in the correct position, properly directed, clearly visible and clean, at all times. Damaged, defaced, or dirty devices or barriers shall immediately be repaired, replaced or cleaned as directed.

P. Flagmen: The CONTRACTOR shall provide competent flagmen to direct traffic where one-way operation in a single lane is in effect, where airside traffic movement is affected by CONTRACTOR's operations, and in other situations as may be required by the standards established herein.

Q. CONTRACTOR Signage: The CONTRACTOR may furnish and install construction traffic directional signs along the existing traffic route. The signs shall depict CONTRACTOR's logo or name, directional arrows and deliveries. Signs shall be of sufficient size to have 6" high message and shall be located at each decision point. The CPM shall approve all signs and their locations. NO OTHER SIGNS ARE PERMITTED WITHIN THE AIRPORT COMPLEX.

R. Material Deliveries: The CONTRACTOR shall make its own material and equipment deliveries. Vendors or suppliers shall make no deliveries without a representative of the CONTRACTOR being present to coordinate it.

S. All dollies, floats or other conveyances used for debris removal shall be rubber tired, box type, and lined with plastic barrier to prevent debris falling from the cart. All carts are to be loaded within the confines of the dust barrier. Transport of debris through public spaces, if permitted, will be made only after coordination of times and routes with the CPM.

T. Notification: On days when construction traffic is expected to be extra heavy or when oversized pieces of equipment are to be delivered, give the CPM a minimum of seventy-two (72) hours notice prior to the event.

U. Interference Request:

1. The CONTRACTOR shall be responsible for notifying the CPM in writing and securing approval for any and all interruptions or interference with traffic (pedestrian, automobile, or other necessary function of the Airport or any of the Airlines).

2. The request shall include a traffic control plan indicating barricades, lighting and flagmen where required.
DIVISION 1 SPECIFICATIONS - SECTION 01110 AIRPORT PROJECT PROCEDURES

3. Such notification shall be made as soon as possible but in no case less than seventy-two (72) hours prior to the interference.

4. It is suggested that the CONTRACTOR utilize a standard form addressed to the CPM with a blank space for a description of the interference, the exact area affected, the exact times and dates the interference will take place and blanks for CPM's approval. The forms shall be submitted in duplicate. No interference will be allowed until the CONTRACTOR has received back a copy of the approved interference request form.

V. Personnel Traffic:

1. General: All construction personnel shall be restricted to construction areas. Construction personnel working in areas outside the Project limits shall wear shirts and sleeves and long pants at all times.

2. Walkways: When walking from the CONTRACTOR's parking lot to the job site, existing walkways and crossings shall be used. The CONTRACTOR shall not use vehicle traffic lanes as walkways.

3. Elevators/Escalators: Existing elevators and escalators shall not be used at any time for the transporting of construction personnel or construction materials.

4. Use of Public Areas: The CONTRACTOR's workmen shall not utilize public areas for taking their "work breaks" or "lunch breaks." The CPM upon request can designate areas for this purpose. Any workmen shall use no Public Toilets at any time.

5. Use of Restaurants: The CONTRACTOR's personnel shall not use restaurants, lounges, or other concession areas within the Airport.

W. Character of Workmen:

1. The CONTRACTOR shall, at all times, employ sufficient labor and equipment for prosecuting the Work to full completion in the manner and time required by the Contract Documents.

2. All workers shall have sufficient skill and experience to properly perform the Work assigned to them. Workers engaged in special Work or skilled Work shall have sufficient experience in such Work and in the operation of the equipment required to perform the Work satisfactorily.
3. Any person employed by the CONTRACTOR or by a Subcontractor who, in the opinion of the CPM, does not perform its Work in a proper and skillful manner or is intemperate or disorderly shall, at the written request of the CPM, be removed forthwith by the CONTRACTOR or Subcontractor employing such person, and shall not be employed again in any portion of the Work without the approval of the CPM.

4. Should the CONTRACTOR fail to remove such person or persons or fail to furnish suitable and sufficient personnel for the proper prosecution of the Work, the CPM may suspend the Work by written notice until compliance with such orders.

1.05 METHODS AND EQUIPMENT

A. All equipment that is proposed to be used on the Work shall be of sufficient size and in such mechanical condition as to meet requirements of the Work and to produce a satisfactory quality of Work. Equipment used on any portion of the Work shall be such that no injury to previously completed Work, adjacent property, or existing Airport facilities will result from its use.

B. When the methods and equipment to be used by the CONTRACTOR in accomplishing the Work are not prescribed in the Contract, the CONTRACTOR is free to use any methods or equipment that will accomplish the Work in conformity with the requirements of the Contract Documents.

C. When the Contract specifies the use of certain methods and equipment, such methods and equipment shall be used unless others are authorized by the CPM. If the CONTRACTOR desires to use a method or type of equipment other than specified in the Contract, it may request authority from the CPM to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval is given, it will be on the condition that the CONTRACTOR will be fully responsible for producing Work in conformity with the Contract Documents. If, after trial use of the substituted methods or equipment, the CPM determines that the Work produced does not meet Contract Documents, the CONTRACTOR shall discontinue the use of the substitute method or equipment and shall complete the remaining Work with the specified methods and equipment. The CONTRACTOR shall remove any deficient Work and replace it with Work of specified quality, or take such other corrective action as the CPM may direct. No change will be made in basis of payment for the Contract Items involved or the Contract Time as a result of authorizing a change in methods or equipment under this section.
DIVISION 1 SPECIFICATIONS - SECTION 01110 AIRPORT PROJECT PROCEDURES

1.06 HOURS OF WORK
A. Work hours shall comply with the Project schedule requirements. Work may proceed at any time (24 hours a day).

1.07 DAILY CLEAN-UP AND TRASH REMOVAL
A. Debris from this Work shall be promptly removed from the site as required or at least weekly as required by the CPM. Debris shall not be allowed to become a hazard to the safety of the public or enter the AOA. Areas occupied by the COUNTY and building tenants shall be kept clean at all times. Any dumpsters utilized shall be covered sufficiently to prevent debris from entering or contaminating the airfield.

B. The CONTRACTOR shall be responsible for clean-up and trash removal. Accumulation of trash debris will not be allowed and the CPM may at any time direct the CONTRACTOR to immediately remove its trash and debris from the site of the Work when in the opinion of the CPM such trash constitutes a nuisance or in any way hinders the Work or the Airport's operations. If the CONTRACTOR should fail to remove its trash and debris from the site of the Work in a timely manner, the CPM may have this Work performed and deduct the cost of such from CONTRACTOR's payment.

1.08 CLEANING AND PROTECTION
A. During handling and installation of Work at the Project site, CONTRACTOR shall clean and protect Work in progress and adjoining Work on the basis of continuous daily maintenance. CONTRACTOR shall also apply protective covering on installed Work to ensure freedom from damage or deterioration.

B. CONTRACTOR shall clean and perform maintenance on installed Work as frequently as necessary through the remainder of the construction period and adjust and lubricate operable components to ensure operability without damaging effects.

C. Limiting Exposures of Work: To the extent possible through appropriate control and protection methods, CONTRACTOR shall supervise performance of the Work in such a manner and by such means which will ensure that none of the Work, whether completed or in progress, will be subjected to harmful, dangerous, damaging or otherwise deleterious exposure during the construction period. Such exposures include, where applicable, but not by way of limitation the following:

1. Excessive static or dynamic loading.
DIVISION 1 SPECIFICATIONS - SECTION 01110 AIRPORT PROJECT PROCEDURES

2. Excessive internal or external pressures.


5. Light.

6. Puncture.

7. Abrasion.

8. Heavy Traffic.


11. High speed operation, improper lubrication, unusual wear.

12. Improper shipping or handling.

13. Theft.


D. Protection at Openings: CONTRACTOR shall provide protection at all openings in structures and finishes to maintain the building weather and dust tight as required to protect fixtures and equipment. All protection shall be of solid material and substantial so that it will not be disturbed by wind and weather normal to the area and season, and also tight-fitting to prevent noise infiltration.

E. Protection of Improvements:

1. Damage to Existing Facilities: Existing surfaces and materials of the COUNTY's property not requiring Work by the Contract Documents that are damaged by the CONTRACTOR's operation shall be immediately repaired. Repaired surfaces and materials shall reasonably match existing adjacent undamaged surfaces and materials as determined by the Consultant / CPM. Repair Work shall be coordinated with the CPM with regard to time and method.

2. All Airport roads used by the CONTRACTOR during construction shall be restored and/or replaced to their original condition.
3. Accidental Demolition: All structures or parts thereof that may become damaged due to accident or CONTRACTOR's error shall be restored to their original condition without increasing the GMP. Materials and equipment being used in the repair or replacement resulting from damage shall be new and shall perform at the manufacturer's published capacities. If the existing equipment or materials cannot be identified, or if unavailable, the selection of the replacement will be subject to approval by the CPM in writing.

4. New Carpet: Where separate contractor in areas has installed new carpeting, CONTRACTOR shall fully protect such new carpeting from all damage and staining by CONTRACTOR's forces. In the event of any damages, the CONTRACTOR shall be responsible for repairing or replacing such new carpeting without increasing the GMP.

F. COUNTY's Standards of Construction

1. Hazardous Materials:
   a. ANY PRODUCT OR MATERIAL THAT CONTAINS ASBESTOS MATERIAL SHALL NOT BE PERMITTED ON THIS PROJECT.
   b. ANY LEAD-CONTAINING PAINT SHALL NOT BE USED ON THIS PROJECT.

2. Building:
   a. Materials and finishes used in the Work shall have a fire rating at least equal to the rating required for the type space in which the Work is to be performed.
   b. No Work shall be performed which, when complete, will result in the degradation of the fire rating for the space.
   c. Any penetration of existing ceilings or walls which will break the fire rating of the ceiling or wall shall be patched with 5/8" Type X fire code sheetrock to the satisfaction of the CPM.
   d. Any ceiling access panel now existing shall remain in its present location and cannot be covered in a manner to prevent access.
   e. Any ceiling, other than CONTRACTOR's own space, that must be accessed or crossed from above, will be done only with prior permission of the CPM.

3. Electrical and Building Permits:
   a. All Broward County Permits shall be obtained and displayed at the Work site.
DIVISION 1 SPECIFICATIONS - SECTION 01110 AIRPORT PROJECT PROCEDURES

b. All Work shall conform to all applicable codes.

In addition, the COUNTY requires:

i. All conductors (power, lighting, control or communication) shall be placed in conduit or routed by way of existing approved cable trays.

ii. ALL CONDUITS SHALL BE CONCEALED. (Special permission may be granted for exposed conduit in shop areas or some other places that are completely removed from office, commercial and public areas).

iii. Drawings show all Work to be performed. Drawings show new branch or feeder circuits and identify panel and breaker numbers where originating, size of conduit, size of wire, number of conductors and full load current.

iv. A manufacturers drawing shall be submitted on all new light fixtures showing type and size.

G. Overhead Protection:

1. No crane loads or other construction equipment shall cross over non-construction personnel, their travel ways to include, but not be limited to: walkways, roadways, or passenger transfer system tracks unless approved in writing by the CPM.

2. The plan of operation of cranes and other hoisting equipment shall be established in writing by the CONTRACTOR. This plan of operation shall be subject to approval by the CPM.

3. Specific areas affected by construction may require protective covering. These protective coverings, if required, shall be adequate to insure the protection of life and property and the continuous operation of the Airport. The layout and location of the protective systems shall be subject to review and rejection by the CPM. Structural integrity of protection systems shall be the responsibility of the CONTRACTOR.

4. The use of helicopters to lift, place or otherwise maneuver equipment is expressly prohibited.

1.09 CONSERVATION AND SALVAGE

A. General.
DIVISION 1 SPECIFICATIONS - SECTION 01110 AIRPORT PROJECT PROCEDURES

1. It is a requirement for supervision and administration of the Work that construction operations be carried out with the maximum possible consideration given to conservation of energy, water and materials. In addition, maximum consideration shall be given to salvaging materials and equipment involved in performance of the Work but not incorporated therein.

2. Refer to other sections for required disposition of salvage materials, which are the COUNTY’s property.

PART 2 - PRODUCTS  (Not Used)

PART 3 - EXECUTION  (Not Used)

END OF SECTION 01110 - AIRPORT PROJECT PROCEDURES
PART 1 - GENERAL

1.01 SUBMITIALS

A. Submit name of the individual authorized to execute CPEAM documents, and be responsible for informing others in CONTRACTOR's employ or Subcontractors of changes to the Contract Price Elements and the Work.

1.02 DOCUMENTATION OF CHANGE IN CONTRACT PRICE ELEMENTS

A. Maintain detailed written daily records of the Work, provide full information required for evaluation of proposed changes, and to substantiate costs and time adjustments as may be necessitated by changes in the Contract Price Elements.

B. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation. Provide additional data as requested by the CPM.

C. For all proposed changes to the Contract Price Elements, provide additional data to support computations:
   1. Quantities of products, labor, and equipment.
   2. Taxes, insurance, and bonds.
   3. Overhead and profit.
   5. Credit for deletions from Contract, similarly documented.

D. Time Impact Analysis

1. For all proposed CPEAM's where a change of Project time is anticipated, CONTRACTOR shall prepare and submit a Time Impact Analysis illustrating the influence of each change upon the current Baseline Schedule. The Time Impact Analysis shall document:

   a. A schedule sub-net demonstrating how the CONTRACTOR proposes to incorporate the Work of a proposed change of Contract Price Element into the Baseline Schedule based upon the anticipated date an authorizing CPEAM is issued to the CONTRACTOR.
   b. The status of construction at that point in time.
   c. The start/finish dates of all affected Critical Path activities utilizing the dates included in the latest updated detailed construction schedule closest to proposed change of Contract Price Element(s).

2. Submit the Time Impact Analysis as an attachment to each submitted
DIVISION 1 SPECIFICATIONS - SECTION 01255 CPEAM PROCEDURES


3. When the CONTRACTOR does not submit a Time Impact Analysis for a proposed change of Contract Price Element as an attachment to 01260B, Change Order Request (Proposal), then it is mutually agreed that the particular resulting CPEAM has no effect on Contract Time except as otherwise allowed elsewhere within the Contract Documents.

4. When approved by the COUNTY, the sub-nets associated with that particular CPEAM shall be incorporated into the Baseline Schedule by the CONTRACTOR during the first update after such approval.

1.03 CONTRACT PRICE ELEMENT CHANGE PROCEDURES

A. Contract Change Orders:

1. The Consultant or CPM may issue a Document 01260A Proposal Request which may include a detailed description of a proposed change to the Contract Price Elements with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime Work required and the period of time during which the requested price will be considered valid.

   a. CONTRACTOR shall prepare and submit an estimate within 14 days after receipt of the Proposal Request in the form of Document 01260B, Change Order Request (Proposal) and supporting documentation as specified above and as might be required by the Consultant or the COUNTY.

   b. Such requests are informational and are not authorizations or instructions to execute the changes or stop the Work in progress.

2. The CONTRACTOR may propose a change to the Contract Price Elements by submitting a request for change on Document 01260B, Change Order Request (Proposal) to the CPM or Consultant, by describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum/Price and Contract Time with full documentation as required above and a statement describing the effect on Work by separate or other contractors.

   a. Provide additional detail regarding the proposed change as required by CPM, CA or Consultant including the cause and origin of the proposed change.

   b. Such proposals by the CONTRACTOR are informational and are not authorizations or instructions to execute the changes or stop the Work in progress.

B. Contract Price Element Reallocation, Preparation of Proposed CPEAM's:

1. CA shall provide standardized CPEAM forms (including final CPEAM documents necessary for the calculation of shared savings).
CONTRACTOR shall utilize CA's standardized CPEAM forms. Customization of the CA's standardized CPEAM forms may be allowed with the CA's prior written authorization if necessary to accurately portray unique Project conditions.

2. When CPM, Consultant and CA's staff have reviewed and conceptually approved the CONTRACTOR's proposal (Document 01260A), the CONTRACTOR shall prepare a draft Contract Price Element Adjustment Memorandum (CPEAM) for the CA's consideration.

3. CONTRACTOR shall submit draft CPEAM's to the CPM and Consultant for review and signature. Once signed by CPM, the CONTRACTOR shall convene a meeting with the CA to review the draft CPEAM. That meeting shall include the Consultant, CONTRACTOR, CA and CPM, the COUNTY's Project Manager and members of the CA's administrative staff. CONTRACTOR shall provide final CPEAM's reflecting the outcome of the review and approval meeting for the CA's signature with appropriate backup to illustrate the transactions delineated on the CPEAM.

4. Changes to the Contract Price Elements or CPEAM's which are critically needed to facilitate the continuing progress of the Work should be so identified on the submitted Document 01260B, Change Order Request (Proposal). The CA may issue Document 01260E: Construction Change Directive, directing the CONTRACTOR to proceed with Work related to a critically required CPEAM.

1.04 EXECUTION OF CPEAM's

A. CONTRACTOR shall prepare CPEAM forms and obtain CA's signature through the CPM. CPEAM's shall not be considered in effect until signed by the CA.

1.05 CORRELATION OF CONTRACTOR SUBMITTALS

A. Promptly revise Schedule of Values and Application for Payment forms to record each authorized CPEAM.

B. Promptly revise progress schedules to reflect any change in Contract Time, revise sub schedules to adjust times for other items of Work affected by the CPEAM, and resubmit.

C. Promptly enter changes in Project As-Built Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01255 - CPEAM PROCEDURES
DIVISION 1 SPECIFICATIONS - SECTION 01260 CONTRACT MODIFICATION
PROCEDURES

PART 1 - GENERAL

1.01 SUBMITTALS

A. Submit name of the individual authorized to receive change documents, and be responsible for informing others in CONTRACTOR's employ or Subcontractors of changes to the Work.

1.02 DOCUMENTATION OF CHANGE IN CONTRACT SUM/PRICE AND CONTRACT TIME

A. Maintain detailed records of the Work: Provide full information required for evaluation of proposed changes, and to substantiate costs and time adjustments as may be necessitated by changes in the Work.

B. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.

C. For all Change Order Proposals, provide additional data to support computations:
   1. Quantities of products, labor, and equipment.
   2. Taxes, insurance, and bonds.
   3. Overhead and profit.
   5. Credit for deletions from Contract, similarly documented.

D. Support each claim for additional costs, and for Work done on a cost plus price basis, with additional information:
   1. Origin and date of claim.
   2. Name of the COUNTY's authorized agent who ordered the Work and the date of the order.
      a. Dates and times Work was performed, and by whom.
      b. Time records, summary of hours worked and wage rates paid.
      c. Original invoices and receipts for:
         i. Products used, including a listing of quantities.
         ii. Equipment used, including a listing of dates and times of use.
         iii. Subcontracts, similarly documented.
E. Time Impact Analysis:

1. For all Change Orders and Supplemental Instructions where there has been no agreement as to the change’s impact on Project time, the CONTRACTOR shall prepare and submit a Time Impact Analysis illustrating the influence of each change or delay upon the current contract schedule. The Time Impact Analysis shall document:
   a. A schedule sub-net demonstrating how the CONTRACTOR proposes to incorporate the Change Order or delay into its detailed schedule based upon the date the Change Order or Construction Supplemental Instruction is issued to the CONTRACTOR.
   b. The status of construction at that point in time.
   c. The start/finish dates of all affected activities utilizing the dates included in the latest updated detailed construction schedule closest to the time of delay or change.

2. Submit the Time Impact Analysis as an attachment to each submitted Document 01260B, Change Order Request (Proposal) or within seven (7) days of receipt of a Construction Supplemental Instruction or other event which might delay with progress of the Work.

3. When the CONTRACTOR does not submit a Time Impact Analysis for a specific Change Order or delay as an attachment to 01260B, Change Order Request (Proposal) or within the time frames specified for supplementary instructions or other delays, then it is mutually agreed that the particular Change Order, or supplementary instruction delay has no effect on Contract Time except as otherwise allowed elsewhere within the Contract Documents.

4. When approved by the COUNTY, the sub-nets associated with that particular Change Order, Supplementary Instruction or other delay shall be incorporated into the detailed construction schedule by the CONTRACTOR during the first update after such approval.

1.03 CHANGE PROCEDURES

A. Consultant will advise of minor changes in the Work not involving an adjustment to Contract Sum/Price or Contract Time by issuing Supplemental Instructions on Document 01260F: Consultant’s Supplemental Instructions.

B. The Consultant may issue a Document 01260A: Proposal Request which includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime Work required and the period of time during which the requested price will be considered valid.

1. CONTRACTOR shall prepare and submit an estimate within 14 days after receipt of the Proposal Request in the form of Document 01260B, Change
DIVISION 1 SPECIFICATIONS - SECTION 01260 CONTRACT MODIFICATION
PROCEDURES

Order Request (Proposal) and its required supporting documentation including Documents 01260C (Proposal Worksheet Detail), 01260D (Proposal Worksheet Summary) and other required documentation as specified above and as might be required by the Consultant or the COUNTY.

2. Such requests are informational and are not authorizations or instructions to execute the changes or stop the Work in progress.

C. The CONTRACTOR may propose a change by submitting a request for change on Document 01260B, Change Order Request (Proposal) to the Consultant, by describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum/Price and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors, the COUNTY's forces or others.

1. Required supporting documentation includes Documents 01260C (Proposal Worksheet Detail), 01260D (Proposal Worksheet Summary), a Time Impact Analysis, and other required documentation as specified above and as might be required by the Consultant or the COUNTY.

2. Such proposals by the CONTRACTOR are informational and are not authorizations or instructions to execute the changes or stop the Work in progress.

D. Preparation of Change Order Items:

1. The CPM will prepare a Change Order Item for the COUNTY and submit it to the Program Manager for consideration by the CA and other professionals on the COUNTY's staff.

2. Upon the recommendation of the CPM, the Change Order will be prepared for consideration by the Broward County Board of County Commissioners.

3. Change Orders which are critically needed to facilitate the continuing progress of the Work should be so identified on the submitted Document 01260B, Change Order Request (Proposal). The COUNTY may issue Document 01260E: Supplemental Instruction, directing the CONTRACTOR to proceed with Work related to a critically required Change Order which is under consideration, but not yet approved, by the Broward County Board of County Commissioners.

1.04 CONSTRUCTION CHANGE DIRECTIVE

A. CPM may issue Document 01260E: Construction Change Directive, signed by the COUNTY, instructing the CONTRACTOR to proceed with a change in the Work, for subsequent inclusion in a Change Order.

B. Document 01260E, Construction Change Directive, is a written order prepared by the CPM and signed by the COUNTY and the Consultant, directing a change in
DIVISION 1 SPECIFICATIONS - SECTION 01260 CONTRACT MODIFICATION PROCEDURES

the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. The COUNTY may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

C. A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order or where Broward County’s process for consideration of a Change Order would unreasonably, at the COUNTY’s discretion, prohibit the CONTRACTOR from completing time critical elements of the Work.

D. If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on the methods specified in this specification section and in the other applicable Contract Documents.

E. Upon receipt of Document 01260E, Construction Change Directive, the CONTRACTOR shall promptly proceed with the change in the Work involved and advise the CPM of the CONTRACTOR’s agreement or disagreement with the method provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum.

F. A Construction Change Directive signed by the CONTRACTOR indicates the agreement of the CONTRACTOR therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded and issued as a Change Order upon subsequent approval of the proposed Change by the COUNTY.

G. Actual adjustments to the Contract Sum and Contract Time shall not become effective until the changes are formally approved by a COUNTY approved Change Order. As such, the CONTRACTOR may not submit requisitions for payment in an amount that exceeds the amount set forth in the Construction Change Directive or make adjustments to the construction schedule until such time as the COUNTY approves the changes and a Change Order, is issued to the CONTRACTOR.

1.05 LUMP SUM PRICE CHANGE ORDER

A. Content of Lump Sum Price Change Orders shall be based on:


2. Contractor’s Document 01260B, Change Order Request (Proposal) as recommended by the CPM and approved by the COUNTY.

3. COUNTY and CPM will issue and sign, Change Order as authorization for the CONTRACTOR to proceed with the changes.
DIVISION 1 SPECIFICATIONS - SECTION 01260 CONTRACT MODIFICATION PROCEDURES

4. CONTRACTOR shall sign and date the Change Order to indicate agreement with the terms therein.

1.06 UNIT PRICE CHANGE ORDER

A. Content of Unit Price Change Orders shall be based on either:
   1. The Consultant's definition of the scope of the required changes.
   2. CONTRACTOR's Document 01260B, Change Order Request (Proposal) for a change as recommended by the CPM and approved by the COUNTY.

B. Amounts of the unit prices:
   1. Shall be those unit prices previously submitted on Document 01270a, Schedule of Unit Prices during bidding or, as applicable, those submitted on Document 00410, Bid Form.
   2. Or, in the absence of previously submitted unit prices, unit prices shall be developed and mutually agreed to by the COUNTY and the CONTRACTOR. In cases where the COUNTY and the CONTRACTOR cannot mutually agree, a reasonable unit price will be determined by the CPM and utilized by the COUNTY and CONTRACTOR as the basis of similar Unit Price Change Orders that may occur during the remainder of the Contract term.

C. When quantities of each of the items affected by the Change Order can be determined prior to the start of the Work related to that Change Order:
   1. COUNTY and CPM will sign and date the Change Order as authorization for the CONTRACTOR to proceed with the changes.
   2. CONTRACTOR shall sign and date the Change Order to indicate agreement with the terms therein.

D. When quantities of the items cannot be determined prior to the start of the Work:
   1. The CPM and COUNTY will issue Document 01260E, Construction Change Directive, directing the CONTRACTOR to proceed with the change on the basis of the established Unit Prices and will list the applicable Unit Prices.
   2. At the completion of the changes:
      a. The CONTRACTOR shall submit documentation to establish the number of units of each item and any claims for modifications to the Contract Time.
      b. The CPM will review and evaluate the cost of such Work based on the established unit prices and quantities used.
DIVISION 1 SPECIFICATIONS - SECTION 01260 CONTRACT MODIFICATION PROCEDURES

3. CPM will prepare a Change Order to establish the change in the Contract Sum and will submit Change Order for approval.

4. Changes to the Contract shall only become effective upon approval of the Change Order by the Broward County Board of County Commissioners.

1.07 COST PLUS PRICE CHANGE ORDER

A. The CPM and COUNTY will issue Document 01260E, Construction Change Directive directing the CONTRACTOR to proceed with the changes.

B. At completion of the change, the CONTRACTOR shall submit an itemized accounting and supporting data as required in Article 1.04 above.

C. CPM will review and evaluate the cost of such Work, the required documentation, and the CONTRACTOR’s calculations of dollar cost and time.

D. The CPM or the COUNTY may observe the progress of the Work related to Cost Plus Price Change Orders on a full-time basis or as necessary to substantiate the Work.

E. CPM will prepare a Change Order to establish the change in the Contract Sum and will submit Change Order for approval.

F. Changes to the Contract shall only become effective upon approval of the Change Order by the Broward County Board of County Commissioners.

1.08 EXECUTION OF CHANGE ORDERS

A. Execution of Change Orders: CA, through the CPM will issue Change Orders for signatures of parties.

1.09 CORRELATION OF CONTRACTOR SUBMITTALS

A. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum/Price.

B. The original contract sum and scheduled values shall be copied in all updated Schedule of Values and Request for Payment forms, and the changes, where necessary, shall be noted and itemized separately at the bottom of the forms.

C. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of Work affected by the change, and resubmit.

D. Promptly enter changes in Project Record Documents.
DIVISION 1 SPECIFICATIONS - SECTION 01260 CONTRACT MODIFICATION PROCEDURES

PART 2 - PRODUCTS  
(Not Used)

PART 3 - EXECUTION  
(Not Used)

END OF SECTION 01260
DIVISION 1 SPECIFICATIONS - SECTION 01260 CONTRACT MODIFICATION PROCEDURES

Document 01260A – Proposal Request

To: (Contractor)

Project No:
Project Title: (One Proposal request per form)
Facility Name:

Please submit an itemized quotation for changes in the Contract Sum and/or Time incidental to proposed modifications to the Contract Documents described below.

This is not a Change Order nor a direction to proceed with the Work described below.

Description: (Written description of the Work)

Attachments: (List attached documents that support description):

Project
Consultant:

By: (Signature)

Broward County Aviation Department

Document 01260A
DIVISION 1 SPECIFICATIONS - SECTION 01260 CONTRACT MODIFICATION PROCEDURES

Broward County Aviation Department
100 Aviation Boulevard
Fort Lauderdale, FL 33315

Document 012608 - Change Order Request (Proposal)
To:

(Project Consultant)
Change Order Request No.: Date:

Project No: Project Title: (One Request (Proposal) per form)

Facility Name:

This Change Order Request (Proposal) contains an itemized quotation for changes in the Contract Sum and/or Time in response to proposed modifications to the Contract Documents based on Proposal Request No. ___ or other conditions which require this Proposal.

Description of Proposed Change:

Attachments

Reason for Change:

Does Proposed Change involve a change in Contract Sum or Time? □ Yes □ No
If yes: Proposed Change in Contract Sum:

Proposed Change in Contract Time:

Attached Pages: □ Proposal Worksheet Summary □ Proposal Worksheet Detail(s)

Contractor: By: (Signature)

Attached is supporting information from: □ Subcontractor □ Supplier □

Broward County Aviation Department
Change Order Request (Proposal)
V. 7/27/2016

Document 012608
DIVISION 1 SPECIFICATIONS - SECTION 01260 CONTRACT MODIFICATION PROCEDURES

Document 01260C: Proposal Worksheet Detail

To: Project Consultant

Request No.: Proposal: ________ Change Order: ________

Date Prepared: ____________________

From/Trade: ____________________

Facility Name: ____________________

Shaded Areas for Project Consultant's Use Only

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Subtotal: (Enter this number on Worksheet Summary)

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Subtotal: (Enter this number on Worksheet Summary)
# Division 1 Specifications - Section 01260 Contract Modification Procedures

## Broward County Aviation Department
100 Aviation Boulevard
Fort Lauderdale, FL 15

### Document 01260D – Proposal Worksheet Summary

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<th>To:</th>
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<td>(Project Consultant)</td>
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**Project No:**

**Project Title:**

**Facility Name:**

**Date Prepared:**

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<th>From/Trade:</th>
<th>Contact</th>
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### Additions:

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*Subtotal Additions:*

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*Subtotal Deductions:*

*Subtotal (Additions - Deductions):*

- 10% Subcontractor’s Overhead
- 10% Subcontractor’s Profit
- 1%
- Bond Allowance

*Total:* 

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Broward County Aviation Department
Proposal Worksheet Summary
V. 7/27/2010

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Section 01260 Contract Modification Procedures
DIVISION 1 SPECIFICATIONS - SECTION 01260 CONTRACT MODIFICATION PROCEDURES

Broward County Aviation Department
100 Aviation Boulevard
Fort Lauderdale, FL 33315

Document 01260E – Construction Change Directive

To: [Contractor]  
Directive No.: [ ] Date: [ ]

Project No: [ ]  
Project Title: [ ] (One Directive per form)

Facility Name: [ ]

Description of Directed Change:

You are hereby directed to make the following change(s) in this Contract:

<table>
<thead>
<tr>
<th>Proposed Adjustments</th>
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<tr>
<td>1. The Proposed basis of adjustment of the Contract Sum or Guaranteed Maximum price is:</td>
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<tr>
<td>□ Lump Sum □ Increase □ Decrease of $———</td>
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<td>□ Unit Price of $——— per</td>
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<td>□ As provided in Specification Section 01250, Contract Modifications.</td>
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<tr>
<td>□ As follows:</td>
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<td>2. The Contract Time is proposed to □ be adjusted □ remain unchanged. The proposed adjustment, if any, is an</td>
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<td>□ increase of _______ days.</td>
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<td>□ decrease of _______ days.</td>
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</table>

When signed by the Consultant and the County and received by the Contractor, this document becomes effective immediately as a Construction Change Directive and the Contractor shall proceed with the change(s) described above.

Project Consultant By: [ ] Date [ ]
Owner By: [ ] Date [ ]
Contractor By: [ ] Date [ ]

Signature by the Contractor indicates the Contractor's Agreement with the Proposed Adjustments in Contract Sum and Contract Time as set forth in this Construction Change Directive.

Broward County Aviation Department  
Construction Change Directive  
V. 7/27/2010  
Document 01260E

Section 01260 Contract Modification Procedures Page 55
Document 01260F – Consultant’s Supplemental Instructions

To: (Contractor)

Project No: 
Project Title: 
Facility Name: 

You are hereby notified that the Work shall be carried out in accordance with the following supplemental instructions issued in accordance with and reasonably inferable from the Contract Documents without change in Contract Sum or Contract Time. Prior to proceeding with these instructions, indicate your acceptance of these instructions for a minor change to the Work as consistent with the Contract Documents and return a copy to the Project Consultant.

Description of Interpretation or Minor Change: (Written description of the Work)

Attachments: (List attached documents that support description):

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<th>Accepted</th>
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<tr>
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<td>Contractor:</td>
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<tr>
<td>By: (Signature)</td>
<td>By: (Signature)</td>
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</table>

Copies: [ ] Project Manager  [ ] Consultants  [ ] Other: 

Broward County Aviation Department  
Supplemental Instructions  
V. 7/27/2010  

Document 01260F
DIVISION 1 SPECIFICATIONS - SECTION 01315 PROGRESS SCHEDULES  
(COMPUTERIZED CPM)

PART 1 - GENERAL

1.01 REQUIREMENT INCLUDED

A. Procedures of preparation and submittal of schedules, updated progress schedules and periodic updating. The CONTRACTOR shall prepare and maintain a schedule in accordance with the requirements of this section. The requirement for a schedule is included to:

1. Assure adequate planning and execution of the Work by the CONTRACTOR.
2. Assure coordination of the Work of the CONTRACTOR with other contractors, Subcontractors, and suppliers.
3. Assure coordination of the Work between the CONTRACTOR and the Design Professional, BCAD, or the CPM.
4. Assure coordination of any adjacent Work being performed for BCAD.
5. The CONTRACTOR and CPM shall evaluate:
   b. Monitor Monthly Work Progress / Progress Payments
   c. Proposed changes to Contract or schedule.

B. The CONTRACTOR and major Subcontractors (i.e. MEP Subcontractors) shall participate in joint review meetings.

C. All updated progress schedule submittals shall include:

1. Schedule
   a. Preliminary Schedule or
   b. Current approved Baseline Schedule
2. Network Diagram
3. Summary Bar Chart
4. Two Week Look-ahead Schedule
5. Electronic copy of schedule files

D. The CONTRACTOR shall meet with the Consultant, CPM and the BCAD Project Manager within seven (7) calendar days after notice of Contract Award to conduct a joint review meeting to evaluate the Consultant’s schedule, the PMO’s schedule and Controlling Items of Work to assure mutual understanding of the Work constraints. Some activities may be contemplated, even though those...
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activities are without specific start/stop dates or durations, for purposes of developing the schedule(s). Such activities shall consider reasonable estimated start/stop times and durations, (i.e. Early Investigative Work), while conforming to the Substantial Completion and intermediate milestone dates.

E. The CONTRACTOR shall be responsible for assuring all Work sequences are logical and the Network shows a coordinated plan for complete performance of the Work. Failure of the CONTRACTOR to include any element of Work required for performance of the Contract in the Network shall not excuse the CONTRACTOR from completing all Work within the Contract Time.

F. CONTRACTOR is responsible for monitoring the accuracy and updating the schedules as of the end of each month, or as required by the CPM, to validate current schedule. The updated schedule shall be included in the monthly report.

1.02 GENERAL

A. The construction of the Project shall be planned, recorded and updated utilizing the Critical Path Method (CPM) Scheduling. In addition, all schedules will be cost loaded and resource loaded. The CONTRACTOR shall use scheduling software for Windows based operating software, or such other type of cost loaded schedule as the CPM may approve, but must be 100% compatible with Primavera P6. In connection with the Work, the CONTRACTOR, with prior approval of the COUNTY, may provide an alternative plan that meets the requirements of a cost and resource loaded schedule. The alternative must provide the following: (1) The full cost of the Work anticipated per month for the length of the Agreement. (2) Anticipated workforce per month anticipated per activity over the length of the Agreement. (3) Include major equipment and other materials as directed by the COUNTY. (4) The plan will be submitted with the required Baseline Schedule and will predict the cost and workforce to the end of the Agreement. The plan will be updated monthly to reflect the reporting month's actual cost and total workforce and recalculate the remaining cost and workforce requirements to the end of the Agreement. It will be used for coordination, monitoring and payment of all Work under the Contract including all activities of the CONTRACTOR, Subcontractors, vendors and suppliers.

B. The CONTRACTOR's and/or Subcontractor's timely execution or performance of all construction related activities shall be in strict compliance with the approved Baseline Schedule. Means and methods of construction in accordance with the Contract Documents will remain the sole responsibility of the CONTRACTOR.

1. Schedule Representative / Qualifications: Within seven (7) calendar days after notice of Contract Award, the CONTRACTOR shall designate in writing a schedule representative in the CONTRACTOR's organization who shall be responsible for coordinating with the CPM during preparation and maintenance of the schedule. The CONTRACTOR shall submit documentation stating their scheduling representative has minimum of five (5) years experience in scheduling construction Work of a complexity comparable to this Project.
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C. Computer Produced Schedule:

1. The Schedule shall be developed with software compatible with Primavera Project Planner (P6) in order to facilitate the Precedence Diagram Method (PDM).

2. When applicable, the CONTRACTOR shall use the following "Schedule / Level Calculation Options:"
   a. When scheduling activities apply Retained logic
   b. Calculate start-to-start lag from Early start
   c. Show open-ends as non-critical
   d. Schedule durations as Contiguous
   e. Calculate total float as Finish float

3. When applicable, the CONTRACTOR shall use the following "Automatic Cost / Resource Calculation Rules:"
   a. Subtract actual from EAC (Estimate At Completion)
   b. When quantities change, use current unit prices to recompute costs: Budget and Estimate to Complete
   c. Link actual to date and actual this period
   d. Link budget and EAC for non-progressed activities; calculate variance as Budget – EAC.
   e. Float or slack is defined as the amount of time between the early start date, and the late start date, or the early finish date and the late finish date, of any of the activities in the schedule. Float or slack time is not for the exclusive use of or benefit of either the COUNTY or CONTRACTOR.

1.03 PROCEDURES

A. CONTRACTOR is solely responsible for the preparation, revision and updating of the Baseline Schedule, updated Progress Schedule and all 2 week look-ahead schedules in the form and content prescribed in this section. The timely execution or performance of all construction related activities and the duration and sequencing of those activities in accordance with the approved schedules is the CONTRACTOR's responsibility.

B. The CPM and BCAD Project Manager will review the Preliminary Baseline Schedule, and 2 week look-ahead schedule, for compliance with the contract requirements as to staging, phasing and time of completion. Acceptance of these schedules does not imply the CPM's or the COUNTY's endorsement and/or responsibility of activity durations or sequence of activities.

C. The Baseline Schedule may be revised from time to time as conditions require, and as accepted by the CPM and CA, provided that nothing in this section should be construed as authorizing or approving any extension of time, or increase in Contract Price. It is expressly understood and agreed that Contract Time
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extensions, or increase in the Contract Price, if any, will only be granted in accordance with the applicable requirements of the Agreement.

D. The currently approved schedule will be the basis for interpreting any and all Contract Time associated provisions of the Agreement.

1.04 FORMAT

A. The schedules shall be in the form of a graphical layout illustrating logic ties with an accompanied activity listing identifying detailed predecessors and successors and associated computer analysis and shall consist of detailed activities and their restraining relationships as required to complete the Project from Contract Award through Final Completion and shall indicate the following:

1. Early Start and Early Finish date and total duration in Work days (not exceeding 20-days) for each activity. (Activities in occupied areas and activities requiring premium time labor rates shall be differentiated from each other and from the balance of Project activities).

2. Beginning and end date and total duration in Work days for each Area or portion thereof.

3. Significant milestones, including, but not limited to those agreed upon by the CPM and BCAD Project Manager.

4. Identification of each contractor and subcontractor for each Work activity.

5. Specific location of each Work activity (i.e. floor level, column and row).

6. Detailed schedule of all "Utility Shut-downs" which could impact BCAD, airlines, tenants and other building operations or functions including but not limited to: power, telephone, airline computers, communication systems, air conditioning systems, fire sprinklers, alarm systems, domestic water systems and sanitary sewer systems.

7. Detailed schedule of all procurement activities including Request for Bid (RFB), tabulation, selection, CPM and BCAD Project Manager approval and contract execution.

8. The CONTRACTOR shall also provide the following information: Work days per week, holidays, number of hours per shift, number of shifts per day, Work hours, and proposed schedule of "Utility Shut-downs". The CONTRACTOR shall notify the CPM if more than one shift is planned to Work on the Project. The CONTRACTOR shall also indicate Work activities that must be performed during restricted or special working hours and the Work that must be performed by others to maintain the Project schedule.

9. Schedules shall show the sequence and interdependence of all activities required for complete performance of all items of Work under this contract,
including shop drawing submittals and approvals and fabrication and delivery activities.

10. Construction activities shall be broken down into recognizable sub-activities so that the activity or sub-activity is no longer than twenty (20) calendar days.

11. The Baseline Schedule submitted by the CONTRACTOR shall be cost loaded, accompanied by a computer generated and plotted schedule. CONTRACTOR shall exercise sufficient care to produce clear, legible and accurate diagrams. The Baseline Schedule shall group activities related to specific physical areas on the diagram for ease of understanding.

12. Trade Codes shall be assigned to each activity corresponding to the trade responsible for performing the Work described by the activity. Additional Trade coverage shall be added by CONTRACTOR or as required by the CPM and incorporated into the CONTRACTOR’s schedule. These additional codes shall follow the general CSI Divisions for all Vertical Construction and Contract Schedule of Values for Horizontal construction.

13. Responsibility Codes shall be assigned to each activity corresponding to the organization responsible for completing the Work described by the activity description. As a minimum, a separate responsibility code shall be used for each Subcontractor.

1.05 PREPARATION GUIDELINES

A. The Baseline Schedule shall represent a practical plan to complete the Work within the Contract Time.
   1. A schedule extending beyond the Contract Time will not be acceptable.
   2. A schedule showing the Work completed in less than the Contract Time may be found by the CPM to be impractical.
   3. A schedule found by the CPM to be impractical for the preceding reason or any other reason will be revised by the CONTRACTOR and resubmitted.
   4. A schedule showing the Work completed in less than the Contract Time, which is found to be practical by the CPM, will be considered to have float. Float is the time between the scheduled completion of the Work and the contract Substantial Completion date.

B. The Updated Progress Schedule shall:
   1. Be in sufficient detail to assure adequate planning and execution of the Work.
   2. Be suitable, in the judgment of the CPM, to allow monitoring and evaluation of progress in the performance of the Work.
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3. Be a calendar time-scaled logic diagram with a graphical layout illustrating logic ties with an accompanied activity listing identifying detailed predecessors and successors.

4. Include time for the CPM and the Consultant to review submittals or inspect the Work.

5. Identify the activities, which constitute the Controlling Items of Work or Critical Path.

C. COST CORRELATION - EARNED VALUE ANALYSIS (Not Used)

1.06 SCHEDULE SUBMITTALS

A. General Schedule Submittal Format:

1. Logic drawings shall be submitted flat (11" x 17") and reproducible as copies without loss of legibility. Size of plot and number of copies shall be at the discretion of the CPM.

2. Hard copies of listings shall be prepared on separate sheets of 11" x 17" or legal size paper; include three (3) copies of each report.

3. Electronic Format: All Project files in original file format, as well as pdf file format, shall be copied and submitted on a (CD) compact disk. A Project CD shall accompany all CONTRACTOR submissions.

B. Preliminary Baseline Schedule:

1. Within twenty-one (21) calendar days after date of Contract Award Notice-to-Proceed, CONTRACTOR shall provide a Preliminary Baseline Schedule that shall be used to monitor the progress of Work during development and acceptance of the Baseline Schedule. The Preliminary Baseline Schedule submittal shall be based on the joint review meeting between the CONTRACTOR, CPM and Consultant. The Preliminary Baseline Cost Loaded schedule shall be submitted no later than the submission of the first pencil copy of the Application for Payment for the sub-contracted Work.

2. The Preliminary Baseline Schedule must show in detail the activities to be accomplished through the first phase of Pre-Construction Services and Early Investigation Work, as well as an overall preliminary schedule indicating a comprehensive overview of the Work including an activity line for each major element of the Work segments.

3. Additional Preliminary Baseline Schedules may be required to detail the activities for continued phases of Pre-Construction Services and Early Construction Work, as required by the CPM.
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C. Schedule Development:

1. Within ten (10) calendar days after date of Early Construction Work Notice-to-Proceed, CONTRACTOR shall revise the Preliminary Schedule for approval by the CPM. This revised schedule must include detailed Early Work activities, and should further detail activities of the comprehensive overview, including development and approval of the GMP. This revised Preliminary Baseline Schedule shall not change the date of Final Completion except as otherwise provided by approved Change Order.

2. Within ten (10) calendar days of the GMP Notice to Proceed, the CONTRACTOR shall revise the Preliminary Baseline Schedule for approval by the CPM. This revised schedule shall become the Baseline Schedule used to monitor the GMP Work. The CONTRACTOR shall revise the Baseline Schedule for each subcontract awarded, but not less than weekly, and include the provisions for a cost loaded and resource loaded schedule. The Final Completion date cannot be changed by any revision incorporating subcontract awards, except as otherwise provided by approved Change Order.

3. Construct the Baseline Schedule to indicate a logical sequence of Work activities and durations. Incorporate major restrictions from the availability and use of manpower, material, and equipment. Utilize the Baseline Schedule in planning, scheduling, coordinating and performing the Work under this CONTRACT (including all activities of Subcontractors, equipment vendors, suppliers, and relevant third parties – BCAD, FPL, CPM, related / adjacent projects, or others).

4. The Baseline Schedule shall provide sufficient detail and clarity of form and technique so that the Work can be properly monitored by the CPM. The Baseline Schedule shall comply with the various limits imposed by the Scope of Work and by any contractually specified intermediate milestone dates and completion dates. The degree of detail shall be to the satisfaction of the CPM and shall be sufficient to identify:

   a. Structural breakdown of the Project
   b. Types of Work being performed
   c. Labor trades involved in performing Work
   d. Submittal, review, procurement, fabrication, delivery, installation, and testing of major materials and equipment
   e. Delivery / Installation of COUNTY-furnished equipment
   f. Interfaces and dependencies with preceding, concurrent, and follow-on contractors
   g. Plans for subcontract Work
   h. Manpower, material and equipment restrictions
   i. Commissioning / Close Out Processes
   j. Contract milestones and phasing
   k. Allow for holidays, vacations and non-work days applicable to the schedule
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D. Summary Bar Chart

1. The Summary Bar Chart shall be based on activity durations and logic indicated on the Baseline Schedule and Updated Progress Schedules.

2. The CONTRACTOR and the CPM shall jointly select summary level activities.

3. Each summary level activity shall include:
   a. A concise description of the Work represented by the activity.
   b. A time bar indicating planned / actual activity start and finish dates and actual cumulative percent complete at the end of each monthly reporting period.
   c. A status line as of the end of the reporting period.

E. Two Week Look-Ahead Schedule: CONTRACTOR shall provide copies of applicable sections of any Baseline Schedule at the weekly progress meetings to show the subsequent Work to be performed during the next two weeks. Such 2-week look ahead schedules shall be further detailed to include coordination activities necessary to perform the Work in accordance with the Contract Documents.

F. Schedule Review and Approval

1. The CONTRACTOR and the CPM shall meet within seven (7) calendar days of receipt of the CONTRACTOR's Preliminary Baseline Schedule Submittal for joint review of the proposed Preliminary Baseline Schedule. The CONTRACTOR shall revise any areas, which, in the opinion of the CPM, conflict with either the intent of this section or the timely completion of the Project.

2. In the event the CONTRACTOR fails to define any element of Work activity or logic currently designed and the CPM's review does not detect this omission or error, such omission or error, when discovered by the CONTRACTOR or the CPM, shall be corrected by the CONTRACTOR at the next Updated Progress Schedule (discussed hereinafter).

3. Within seven (7) calendar days after the joint review between the CONTRACTOR and the CPM, the CONTRACTOR shall revise the Preliminary Baseline Schedule in accordance with agreements reached during the joint review and submit the revised Preliminary Baseline Schedule in the same form and detail as the Preliminary Baseline Schedule Submittal.

4. The CPM will review all schedule submissions (Preliminary Baseline Schedule, Baseline Schedule, and monthly Updated Progress Schedules) and return reviewed copy within seven (7) calendar days after receipt. If required, the CONTRACTOR will resubmit the schedule within seven (7) calendar days after return of reviewed copy.
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5. Submittal of the CONTRACTOR's Baseline Schedule will be a condition precedent to the making of any progress payments under the Contract. All or part of the progress payments may be withheld for Work performed during the first fifteen (15) calendar days without a submittal of a Preliminary Baseline Schedule, or after the first thirty (30) calendar days without a submitted Baseline Schedule. Failure of the CONTRACTOR to obtain approval for the Baseline Schedule during the first ninety (90) days following the date of Notice to Proceed to start GMP Work may result in all of the progress payments after 90-calendar days being withheld.

6. Acceptance of the Baseline Schedule by the CPM does not relieve the CONTRACTOR of any of its responsibility for the accuracy or feasibility of the Schedule.

7. In the event that the accepted Baseline Schedule indicates the CONTRACTOR's plan to finish prior to the Contract completion date, the CONTRACTOR and the CPM may execute a Contract modification adjusting the Contract completion date to coincide with the CONTRACTOR's planned finish date at no expense to the COUNTY.

G. Updated Progress Schedules:

1. After the Preliminary Baseline Schedule is accepted, it shall be updated monthly until the Baseline Schedule is approved.

2. After the Baseline Schedule is accepted, the Schedule shall be updated monthly until Final Completion.

3. The Baseline Schedule shall be updated monthly and this monthly update should generate a report that indicates the remaining duration and percent completion for each activity. This report shall be included in the CONTRACTOR's monthly report and is required as a pre-condition of approval of the CONTRACTOR's Request for Payment. Updated Progress Schedules shall:

   a. Indicate progress of each activity to date of submittal and projected completion date of each activity.
      i. Actual dates for activities started and / or completed
      ii. Percentage of Work completed by activity
      iii. Estimated remaining duration for each activity in progress
      iv. Cost Percentage Complete

   b. Identify activities modified since previous submittal, major changes in scope and other identifiables.

   c. Provide narrative report to define problem areas, anticipated delays and impact on schedule.

   d. Report corrective action taken or proposed, and its effect including the effect of changes on schedules of separate contracts, if any.
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All of the above will be subject to approval by the CPM.

4. The data date for each Monthly Update schedules shall be the 1st day of the month succeeding that month's update period, or as approved by the CA.

5. Each request for payment must be accompanied by a monthly report, which shall include an updated report of both time and costs, together with all required sorts and compact disk copies, based on the Updated Progress of the approved Baseline Schedule. Requests for payment will not be processed unless properly submitted as specified.

6. A draft-copy of the monthly Updated Progress Schedule shall be forwarded to the CPM with the Draft-copy of the Application for Payment.

7. A final-copy of the monthly Updated Progress Schedule shall be included in the monthly report and forwarded to the CPM with the Final-copy of the Application for Payment.

8. The Updated Progress Schedule in the monthly report shall include the following:

a. Sorts and Groups: Activity listings shall be provided sorted by activity identification number and shall include the following fields:

   i. Activity ID
   ii. Early start and finish
   iii. Description
   iv. Late start and finish
   v. Calendar #
   vi. Target start and type
   vii. Duration
   viii. Target finish and type
   ix. Codes (as required)
   x. Total float
   xi. Percent Completion (Periodic Reports)
   xii. Remaining duration (Periodic Reports)
   xiii. Successor ID, Relationship Type and Lag
   xiv. Predecessor ID, Relationship Type and Lag

b. A written narrative report describing the Work physically completed during the progress period; percentage of Work physically completed; milestone summary status; plan for the forthcoming report period; discussion of current Critical Paths; problem areas, current and anticipated; delaying factors and their impact; explanation of corrective actions taken or proposed; and anticipated outcome if corrective action is taken. This written narrative progress summary describing the following:

   i. Physical progress during the report period.
ii. Plans for the forthcoming report period.

iii. Potential delays and problems and their estimated effect on performance schedule and overall completion and an explanation of corrective action taken or proposed and its expected effect.

iv. Identity of current Critical Path items and those items of Work with less than fifteen (15) days of float listed by early completion.

v. Current projected start and completion dates.

vi. Percentage progress during the last period of each major activity.

vii. Percentage of Change Order completion. Percentage of total schedule period consumed.

viii. Whether the Project is on, ahead of or behind schedule.

ix. Amount of remaining schedule float.

x. Goals for next reporting period (such as progress on activities, or problems).

xi. Proposed revisions to logic and relationships of non-critical activities.

xii. A financial report with cash expenditure curves and other appropriate graphics from P3. The CONTRACTOR shall submit the narrative progress report to the CPM once a month or on established dates as scheduled by the CPM at least 48 hours before each pencil copy meeting for the Pay Application.

c. Printout of the Summary Bar Chart indicating progress to the schedule status date.

d. Periodic Reports: Periodic reporting frequency shall be as specified. The following reports shall be prepared by the CONTRACTOR:

i. Activity progress and updating information report. This report shall be comprised of an activity listing showing percent completion, remaining duration and actual start and finish dates.

ii. Schedule modification report. This report documents all changes made to Project schedule information, i.e. changes in logic, durations, descriptions, etc. If the type and quantity of modifications become significant, the CPM may request a new logic diagram at no additional cost to the COUNTY.

iii. Current Updated Progress Schedule Activity vs. Baseline Schedule Report. This report documents all activities and its early and late drift or variance from the Baseline early and late dates.

9. If the CONTRACTOR's monthly Updated Progress Schedule reflects, or the CPM determines, that the CONTRACTOR is at least fifteen (15) or more calendar days behind the recognized Baseline Schedule for the Project Milestones or an item of Work on which is on the Critical Path, then the CONTRACTOR shall submit with the monthly Updated Progress Schedule, or within seven (7) days of a written request from the CPM, its proposed
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plan for bringing the Work back on schedule and completing the Work by the contract completion date(s).

10. If the monthly Updated Progress Schedule is rejected, the CONTRACTOR shall resubmit the update for approval within seven (7) calendar days. If the resubmittal of the schedule does not occur within seven (7) calendar days, the withholding of progress payments may occur, per paragraph G. 9. of this Specification Section.

1.07 REVISIONS TO BASELINE SCHEDULE

A. Updating the Schedule to reflect actual progress to date shall not be considered a revision of the Schedule.

B. With the CA's approval, the CONTRACTOR shall revise the Baseline Schedule when one or more of the following conditions occur:

1. When a change or delay significantly affects any specified intermediate milestone or completion dates.

2. When the CONTRACTOR elects to change any sequence of activities affecting the Critical Path or to significantly change the previously approved Work plan.

3. When, in the opinion of the CPM, the status of the Work is such that the Baseline Schedule and supporting analysis no longer accurately represents the Work for planning and progress evaluation purposes; requires CA approval.

4. Upon issuance of additional Notices to Proceed.

5. Upon subcontract award.

6. When CONTRACTOR receives BCAD Project Manager approval to change the logic per Section 1.10 of this section (01315).

C. Submit any revised Baseline Schedule in the same form and detail as the Preliminary Baseline Schedule submittal requirements.

D. Changes in the Baseline Schedule to reflect revisions in the method of operating and scheduling of Work shall be made by notifying the CPM in writing, stating reason for the proposed revision(s).

E. Reasonable requests for revisions from the CPM shall be implemented by the CONTRACTOR.

F. Revisions to the Baseline Schedule requested by the CPM will require written response from the CONTRACTOR within fourteen (14) calendar days of the requested revision.
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G. Change Orders:

1. Requests for Change Orders shall include statements as to the effect of the requested change on the CONTRACTOR's schedule and costs. In cases where the requested change has no impact on cost or schedule, statements to that effect shall still be included.

2. As a minimum, a requested Change Order or time extension which affects the schedule will include a fragnet showing the schedule network logic and durations of any and all added or changed activities to the schedule. This fragnet will only show the changes and / or added activities made necessary by the requested Change Order. The fragnet must be approved before incorporation into the CONTRACTOR's current accepted Updated Progress Schedule or Baseline Schedule.

3. Incorporation of approved Change Orders shall reflect impacts on the current Updated Progress Schedule and Baseline Schedule.

1.08 ADJUSTMENT OF TIME FOR COMPLETION

A. Time for Completion will be adjusted only in accordance with this Clause and the Agreement.

B. Any request for adjustment of time for completion because of changes or alleged delays shall be accompanied by a complete Time Impact Analysis which shall be submitted for approval within seven (7) calendar days after initial notice of delay.

C. Each Time Impact Analysis shall provide information justifying the request and stating extent of adjustment requested for each specific change or alleged delay. Each Analysis shall be on form and content acceptable to the CPM, and shall include, but not be limited to, the general information set forth in this section appropriate to the type of request (change or alleged delay) plus the following:

1. Fragnet schedule illustrating how the change, or the alleged delay, is proposed to be incorporated into the current Updated Progress Schedule.

2. Identification of activities in current Updated Progress Schedule which are proposed to be amended due to change or alleged delay, together with engineering estimates and other appropriate data justifying proposal.

3. Supporting documentation in the form of technical documents, correspondence, daily reports, directives, and / or other forms of documentation relevant to the change or alleged delay.

D. Seasonal weather conditions shall be considered and included in the planning and scheduling of all Work influenced by high or low ambient temperatures, wind, precipitation and / or saturated soil, to ensure completion of all Work within the Contract Time. Seasonal weather conditions shall be determined by an assessment of mean historical climatic conditions based upon the preceding ten (10) year records published for the locality by the U.S. Weather Bureau Service.
1.09 TIME IMPACT ANALYSIS (T.I.A.)

A. When proposed Contract Modifications are initiated or delays are experienced, the CONTRACTOR shall submit to the CPM a written Time Impact Analysis illustrating the influence of each change, delay, or request on any specified intermediate milestone date and the current projected Contract Completion date.

1. Each Time Impact Analysis shall include a fragnet indicating all necessary logic, duration, and demonstrating how the CONTRACTOR proposes to incorporate the change or delay into the Baseline Schedule and any additional supporting evidence / documentation that the CPM deems necessary, per Section 1.08.

2. The event times used in the analysis shall be those included in the latest Updated Progress Schedule or as adjusted by mutual agreement to reflect Project status at the time the delay occurred or notification of the change was issued.

B. Where the CPM has not yet made a final determination as to the amount of time extension, or the parties are unable to agree as to the amount of time extension to be reflected, the CONTRACTOR shall reflect that amount of time extension in the Baseline Schedule as the CPM may determine to be appropriate for such interim purpose. It is understood and agreed that any such interim determination for the purpose of this paragraph shall not be binding upon either party for any other purpose and that, after the CPM has made a final determination as to any time extension, the CONTRACTOR shall revise the Baseline Schedule prepared thereafter in accordance with the final decision.

C. It is understood that Schedule Float is not for the exclusive use of either the CPM or the CONTRACTOR. Extensions of time for performance under any and all of the provisions of this Contract will be granted only to the extent that equitable time adjustments for the activity or activities affected exceed the total float along the Critical Path involved at the time a delay occurred or notification of a change was issued. It is expressly agreed and understood that the CONTRACTOR shall not be entitled to any compensation or damages on account of potential delays which can be avoided by re-sequencing activity times or logic used to sequester float.

D. Upon review and concurrence by the CPM of the Time Impact Analysis to any extension of time for completion of any intermediate contract milestone, time(s) for completion of such milestone(s) will be adjusted by the CPM through the BCAD Project Manager whether or not time for completion of the Baseline Schedule is changed accordingly. The agreed upon impact to the Work shall be incorporated into the Updated Progress Schedule at the next monthly update.

E. Submit three (3) copies of each Time Impact Analysis within seven (7) calendar days after commencement of delay or notice of direction for Change Order is issued.
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F. Time Impact Analyses related to Change Order Work and/or Contract Time extensions shall be incorporated into and attached to the applicable Change Order. Upon receipt of an approved Change Order modifying the contract completion date, the CONTRACTOR shall reissue a new Baseline schedule, without status data, to serve as a modified baseline schedule.  

1.10 RESPONSIBILITY FOR COMPLETION  
A. The CONTRACTOR shall furnish sufficient forces, offices, facilities and equipment, and shall Work such hours including night shift and overtime operations, as necessary to ensure the prosecution of the Work in accordance with the current monthly Updated Progress Schedule. If, in the opinion of the CPM, the CONTRACTOR, due to its own action, falls behind in meeting the Baseline Schedule as presented in the current monthly Updated Progress Schedule, the CONTRACTOR shall take such steps as may be necessary to improve its progress, and the CPM through the BCAD Project Manager may require the CONTRACTOR to increase the hours of Work, the number of shifts, the amount of supervision, overtime operations and/or the amount of construction equipment without additional cost to the COUNTY. The provisions of this section shall not be construed as prohibiting Work on Saturdays, Sundays, and holidays, if the CONTRACTOR so elects and gives reasonable notice to the CPM.  
B. The CONTRACTOR may improve its progress by performing sequential activities concurrently, by performing activities more quickly than planned, or by revising schedule logic to reflect a Work around sequence. The CONTRACTOR may make minor logic changes, which are required to reflect actual Work as it is performed, pertaining to out-of-sequence Work. The minor logic changes shall be included in the monthly Updated Progress Schedule report in a format similar to that provided by Digger 2.0 software or Schedule Analyzer Pro software.  

1.11 PARTIAL PAYMENTS  
1. Requests for partial payment must be accompanied by the Updated Progress Schedule. Requests for payment will not be processed unless properly submitted as specified.  

PART 2 - PRODUCTS (Not Used)  
PART 3 - EXECUTION (Not Used)  

END OF SECTION 01315 - PROGRESS SCHEDULES (COMPUTERIZED CPM)
DIVISION 1 SPECIFICATIONS - SECTION 01340 - SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

PART - GENERAL

1.01 RELATED DOCUMENTS

A. Related Sections
1. DIVISION 01 - GENERAL REQUIREMENTS SECTION(s):
2. 01315 - PROGRESS SCHEDULES (COMPUSERIZED CPM)

1.02 DESCRIPTION

A. Work-Related Submittals
1. The provisions of the section apply to those required submittals that are related to individual units of Work, not to administrative submittals, such as payment requests, insurance certificates and progress reports.
2. In addition to specific provisions of the General Conditions regarding Work-related submittals, the Technical Specifications Sections contain submittal requirements.
3. Specific requirements in other Contract Documents Sections shall take precedence over the general requirements contained in this section.

1.03 SUBMISSION AND APPROVAL SCHEDULE

A. Immediately following development and acceptance of fully developed Progress Schedule specified under Sections 01315 - PROGRESS SCHEDULES (COMPUSERIZED CPM), prepare complete schedule of Work-related submittals, including shop drawings, product data, and samples. Submit within ten (10) days of date required for establishment of Progress Schedule. Correlate Submittal Schedule with listing of principal Subcontractors, with listing of products or procurements schedule.

B. Color Schedule: Submit separate listing of items requiring color selection by the Consultant in accordance with the Contract Documents.

C. The CONTRACTOR shall prepare and submit in electronic Excel Format and hard copies in triplicate each to the Consultant and CPM a completely itemized Schedule of Shop Drawings, Product Data and Samples, listing each and all such items as required under the specifications. Schedules shall indicate for each required item:

1. Prepare Schedule in chronological sequence of first submittals.
2. Show category of submittal, generic description of Work covered, activity or event number on progress schedule, scheduled date for first submission, and blank columns for actual date of submittal, resubmittal, and final release or acceptance by Consultant.
DIVISION 1 SPECIFICATIONS - SECTION 01340 - SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

3. Identification as to pertinent Specification Division.

4. Item(s) involved.

5. Name of pertinent Subcontractor or supplier and the name of pertinent manufacturer.

6. Schedule date of delivery of pertinent items to the Project.

1.04 PROCEDURE REQUIREMENTS

A. Coordination: Coordinate the preparation and processing of submittals with the performance of the Work. Coordinate each separate submittal with other submittals and related activities such as testing, purchasing, fabrication, delivery and similar activities that require sequential activity.

1. Coordinate the submittal of different units of interrelated Work so that one submittal will not be delayed by either the CPM's or the Consultant's need to review a related submittal. The Consultant and CPM reserve the right to withhold action on any submittal.

2. Scheduling: In each appropriate administrative submittal, such as the Construction Schedule, show the principal Work-related submittals and time requirements for coordination of submittal activity with related Work.

3. Coordination of Submittals Times: Prepare and transmit each submittal to the CPM and Consultant sufficiently in advance of the scheduled performance of related Work and other applicable activities. Transmit different kinds of submittals for the same unit of Work so that processing will not be delayed by the CPM's and the Consultant's need to review submittals concurrently for coordination.

4. Coordinate both procedural timing and listing, including naming and sequencing, or reports and activities required by provisions of this section and other sections, to afford consistency and logical coordination between submitted reports or lists. Maintain coordination and correlation between separate reports by updating at monthly or shorter time intervals. Make appropriate distribution of each report and updated report to entities involved in Work.

5. Review Time: Allow sufficient time so that the installation will not be delayed as a result of the time required to properly process submittals, including time for resubmittal, if necessary.

   a. Allow a minimum of fourteen (14) calendar days for the CPM's and Consultant's initial processing of each submittal. The CPM and the Consultant will advise the CONTRACTOR promptly when it is determined that a submittal being processed must be delayed for coordination. Note that the CPM and the Consultant will not make color, texture, pattern and similar finish selections until all initial submittal requirements for all finish selections have been fulfilled.
DIVISION 1 SPECIFICATIONS - SECTION 01340 – SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

b. Allow a minimum of fourteen (14) calendar days for reprocessing each submittal.

c. No Contract Time extension shall be authorized because of the CONTRACTOR's failure to transmit submittals to the CPM and the Consultant sufficiently in advance of the Work and in accordance with the approved submittal schedule.

6. No claim shall be allowed on account of failure of the Consultant to furnish Drawings, Specifications or instructions or to return Shop Drawings or Samples, pursuant to paragraph 4 above, until five (5) calendar days after receipt by the Consultant, CPM and CA, by registered or certified mail, of written demand for such instructions, Drawings, or Samples, and not then unless such claim can be factually supported.

B. Submittal Preparation:

1. Mark each submittal with a permanent label for identification. Provide the following information on the label for proper processing and recording of action taken.

   Project name.
   Date.
   Name and address of Consultant.
   Name and address of CONTRACTOR.
   Name and address of Subcontractor.
   Name and address of Supplier.
   Name of Manufacturer.
   Number and title of appropriate Specification Section.
   Drawing number and detail references, as appropriate.
   Similar definitive information as necessary.

2. Provide a space on the label for the CONTRACTOR's review and approval markings, and a space for the Consultant's or the CPM's "Action" marking.

C. Submittal Transmittal:

1. Package each submittal appropriately for transmittal and handling. Transmit each submittal from the CONTRACTOR to the CPM and the Consultant and to other destinations as indicated, by use of a transmittal form. Submittals received from sources other than the CONTRACTOR will be returned to the sender “without action”.

   a. Record relevant information and requests for data on the transmittal form. On the transmittal form, or on a separate sheet attached to the form, record deviations from the requirements of the Contract Documents, if any, including variations and limitations.
DIVISION 1 SPECIFICATIONS - SECTION 01340 – SHOP DRAWINGS, PRODUCT DATA 
AND SAMPLES

D. Submittal Numbering:

1. To facilitate review, the CONTRACTOR shall number consecutively each 
submittal. This numbering system shall be in order of submittal. Any 
resubmittal required shall have the same number as the original submittal 
followed by notation signifying that this is a second (or third, etc.) submittal; 
extample: SUB# - SPEC # - REV #.

2. In addition, all submittals shall have the following information placed on 
them by the CONTRACTOR and review of a particular submittal will be 
undertaken only if such information is provided.

   a. Shop Submittal Number: ____________
   b. Deviations: None _______________ as listed __________
   c. Reference Specification Number: ____________
   d. Reference Drawing Number: ____________
   e. Space Requirement: As designed ________________
      Different, As listed ________________
   f. CONTRACTOR has reviewed and submitted for review.
      Signature: ___________________________
      Date: ______________________________

E. Additional Copies:

1. Provide additional copies of submittals required by Governing Authorities 
that are in addition to copies specified for submittal to the CPM and the 
Consultant.

1.05 SPECIFIC SUBMITTAL REQUIREMENTS

A. General:

1. Where it is necessary to provide intermediate submittals between the initial 
and final submittals, provide and process intermediate submittals in the 
same manner as for initial submittals.

2. Shop drawings, product data and samples submitted to the CPM and the 
Consultant for review shall first be checked and approved by the 
CONTRACTOR. Shop drawings, product data and samples received 
without the CONTRACTOR's "check and approved" stamp will be cause for 
immediate return without further action. Each drawing correctly submitted 
will be checked by the Consultant and marked accordingly.

3. Specific submittal requirements for individual units of Work are specified in 
the applicable Specification Section. Except as otherwise indicated in the 
individual Specification Sections, comply with the requirements specified 
herein for each type of submittal.

4. In submitting shop drawings, product data, and similar items for review, at 
least seven (7) copies shall be submitted, five (5) to the Consultant and two
DIVISION 1 SPECIFICATIONS - SECTION 01340 – SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

(2) to the CPM. This number includes two (2) for return to the CONTRACTOR. If the CONTRACTOR desires more than two (2) copies returned, it shall submit to the Consultant with the initial and subsequent transmittals the additional number desired up to a maximum of an additional three (3) copies. If the Consultant requires additional copies, it will so inform the CONTRACTOR upon return of the reviewed material. Additional copies of shop drawings will be requested in the case where the subject matter shown thereon requires coordination of two (2) or more Prime Contracts.

5. Shop and setting drawings shall present complete and accurate information relative to all working dimensions, equipment weight assembly and sectional view, all necessary details pertaining to coordinating the Work of the contract, lists of materials and finishes, parts lists and the description thereof, lists of spare parts and tools where such parts or tools are required, no-scale control diagrams for control wiring and control piping, and all other items of information that are required to demonstrate detail compliance with the Drawings and Specifications.

6. If the CONTRACTOR proposes equipment requiring materially different layout from that shown on the Drawings and if such substitution is acceptable to the CPM and the Consultant, the CONTRACTOR shall submit Drawings showing the revised layout of all affected structures, piping and equipment.

7. The CPM’s and the Consultant’s review of the CONTRACTOR’s shop drawings signifies only that such drawings appear to be in conformity with the Contract Documents or with the CPM’s or Consultant’s instructions. Such review does not indicate approval of every detail of the drawings nor of the Work methods of the CONTRACTOR which are indicated thereon.

8. Regardless of the corrections made in, or reviews given to such drawings by the CPM or the Consultant, the CONTRACTOR will nevertheless be responsible for the accuracy of such drawings, for their conformity to the Drawings and Specifications, and for the proper fitting and construction of the Work.

B. Shop Drawings:

1. Composite shop drawings shall be prepared by the CONTRACTOR where the CPM determines them to be required for coordination of the Work, including but not limited to:
   a. Where Work by separate entities requires off-site fabrication of products and materials which must be accurately interfaced and closely intermeshed to produce required results, prepare composite drawings to indicate how Work shown by separate shop drawings will be interfaced, intermeshed and sequenced for installation.
   b. Prepare drawings to indicate how Work shown by separate civil, structural, mechanical, and electrical shop drawings shall be interfaced, intermeshed and sequenced for installation.
DIVISION 1 SPECIFICATIONS - SECTION 01340 - SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

c. Prepare drawings for window walls showing integration of structural systems, glass, plaster, and other items making up principal wall system.

d. No more than three (3) weeks before materials are fabricated or Work has begun, CONTRACTOR shall submit to CPM and Consultant complete, composite, blackline drawings. Prepare using ¼" minimum scale with congested areas and sections through shafts at 3/8" minimum scale. Submit total sleeving drawings.

e. CONTRACTOR shall be responsible for coordination of Work. Each architectural, civil, structural, mechanical, and electrical Subcontractor shall be responsible for coordination of their portions of the Work with the contract and with each affected trade.

f. CONTRACTOR shall resolve conflicts, certify blackline drawings with signature of authorized person, and submit blackline drawings to Consultant through the CPM.

g. Composite drawings for Consultant’s, CPM’s and Subcontractor’s use during construction and shall not be construed as replacing any shop drawing or other Project Record Documents.

h. CPM’s or Consultant’s review of composite drawings shall not relieve the CONTRACTOR from overall responsibility for coordination of Work performed pursuant to the contract or from other requirements of the contract.

2. Information required on shop drawings includes, dimensions, identification of specific products and materials which are included in the Work, compliance with specified standards and notations of coordination requirements with other Work. Provide special notation of dimensions that have been established by field measurement. Highlight, encircle or otherwise indicate deviations from the Contract Documents on the shop drawings.

3. Coordination Drawings: Provide coordination drawings where required for the integration of the Work, including Work first shown in detail on shop drawings or product data. Show sequencing and relationship of separate units of Work, which must inter face in a restricted manner to fit in the space provided, or function as indicated. Coordination drawings are considered shop drawings and must be definitive in nature.

4. Preparation: Submit newly prepared information, drawn to accurate scale on sheets not less than 8-1/2” x 11”; except for actual pattern or template type drawings, the maximum sheet size shall not exceed 30” x 42”. Indicate the name of the firm that prepared each shop drawing and provide appropriate Project identification in the title block. Provide a space not less than 20 sq. in. beside the title block for marking the record of the review process and the Consultant’s “Action” marking.

a. Do not reproduce Contract Documents or copy standard printed information as the basis of shop drawings.

5. Provide five (5) prints to the Consultant and two (2) prints to the CPM plus two (2) additional prints where required for maintenance manuals, plus the
number of prints needed by the CPM for distribution to others. Two (2) prints will be returned; the remainder will be retained. One (1) of the prints returned is to be marked up and maintained by the CONTRACTOR as a "Record Document".

C. Product Data

1. General information required specifically as product data includes manufacturer’s standard printed recommendations for application and use, compliance with recognized standards of trade associations and testing agencies, and the application of their labels and seals (if any), special notation of dimensions which have been verified by way of field measurement, and special coordination requirements for interfacing the material, product or system with other Work.

2. Preparation: Collect required product data into a single submittal for each unit of Work or system. Mark each copy to show which choices and options are applicable to the Project. Where product data has been printed to include information on several similar products, some of which are not required for use on the Project, or are not included in this submittal, mark the copies to show clearly that such information is not applicable.
   a. Where product data must be specially prepared for required products, materials, or systems, because standard printed data is not suitable for use, submit data as "shop drawings" and not as "product data".
   b. Clearly mark each copy to identify pertinent products or models.
   c. Show performance characteristics and capacities.
   d. Show dimensions and clearances required.
   e. Show wiring or piping diagrams and controls.
   f. Indicate finish.
   g. Supplement standard information to furnish information specifically applicable to Work.
   h. Modify drawings and diagrams to delete information, which is not applicable to Work.

3. Submittals: Product data submittal is required for information and record to determine that the products, materials, and systems comply with the provisions of the Contract Documents. Therefore, the initial submittal is also the final submittal, except where the Consultant observes that there is non-compliance with the provisions of the Contract Documents and returns the submittal promptly to the CONTRACTOR marked with the appropriate "Action".
   a. Provide two (2) preliminary single-copy submittals where required, for selection of options by the CPM and the Consultant.

4. Submit four (4) copies to the Consultant and two (2) copies to the CPM of each required product data submittal, plus two (2) additional copies where required for maintenance manuals. Two (2) copies will be returned to the CONTRACTOR, marked with "Action" and corrections or modifications as required, the remainder will be retained.
DIVISION 1 SPECIFICATIONS - SECTION 01340 – SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

a. Do not submit product data or allow its use on the Project, until compliance with the requirements of the Contract Documents has been confirmed by the CONTRACTOR.

5. Final Distribution: Furnish copies of product data to Subcontractors, suppliers, fabricators, manufacturers, installers, governing authorities and others as required for proper performance of the Work. Show distribution on transmittal forms.

6. Installation Copy: Do not proceed with installation of materials, products and systems until a copy of product data applicable to the installation is in the possession of the installer. Do not permit the use of unmarked copies of product data in connection with the performance of the Work.

D. Samples:

1. Submit samples for the Consultant’s visual review of general generic kind, color, pattern, and texture, and for a final check of the coordination of these characteristics with other related elements of the Work. Samples are also submitted for quality control comparison of these characteristics between the final sample submittal and the actual Work as it is delivered and installed.

   a. Refer to individual Work sections for additional sample requirements, which may be intended for examination or testing of additional characteristics. Compliance with other required characteristics is the exclusive responsibility of the CONTRACTOR, such compliance is not considered in the Consultant’s review and “Action” indication on sample submittals.

   b. Documentation required specifically for sample submittals include a generic description of the sample, the sample source or the product name or manufacturer, compliance with governing regulations and recognized standards. In addition, indicate limitations in terms of availability, sizes, delivery time, and similar limiting characteristics.

2. Preparation: Where possible provide samples that are physically identical with the proposed material or product to be incorporated in the Work; provide full scale, fully fabricated samples cured and finished in the manner specified. Where variations in color, pattern, or texture are inherent in the material or product represented by the sample, submit multiple units of the sample (not less than 3 units), which show the approximate limits of variations. Where samples are specified for the Consultant’s selection of color, texture or pattern, submit a full set of available choices for the material or product. Mount, display, or package samples in the manner specified to facilitate the review of indicated qualities. Prepare samples to match the Consultant’s sample where so indicated.

   a. Refer to individual sections of these specifications for samples, which, because of their relatively high cost or other special considerations, are intended to be returned to the CONTRACTOR for incorporation in
DIVISION 1 SPECIFICATIONS - SECTION 01340 – SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

the Work. Such samples must be in an undamaged condition at the time of use. On the transmittal form to the Consultant, indicate such special requests regarding the disposition of sample submittals.

b. Submit six (6) sets of samples, two (2) to the CPM, four (4) to the Consultant, and two (2) sets will be returned.

3. Distribution of Samples: Maintain the final submittal sets of samples, as returned by the Consultant, at the Project site, available for quality control comparisons throughout the course of performing the Work. In addition, final submittal sets may be used to obtain final acceptance of the Work associated with each set. Prepare and distribute additional sets of samples to Subcontractors, suppliers, fabricators, manufacturers, installers, governing authorities, and others as required for proper performance of the Work. Show final distribution on transmittal forms.

4. Mock-Ups: Mock-ups are special form of samples, which are too large or otherwise inconvenient for handling in specified manner for transmittal of sample submittals. Mock-ups and similar samples specified in individual Work sections recognized as a special type of sample. Comply with requirements for sample to greatest extent possible, and process transmittal forms to provide records of activity.

a. Field Samples:

i. Construct mock-up for Consultant’s and CPM’s visual examination, for quality control, and performance of required testing.

ii. Erect at location acceptable to CPM.

iii. Size of Area: As specified in respective Specification Section.

iv. Fabricate each sample and mock-up complete and finished using materials, fabrication, and installation methods identical with those indicated for Work.

v. Remove mock-ups at conclusion of Work or when acceptable to CPM if not incorporated into Work.

E. Miscellaneous Submittals:

1. Inspection and Test Reports: Classify each inspection and test report as being either “shop drawings” or “product data” depending on whether the report is specially prepared for the Project, or a standard publication of workmanship control testing at the point of production. Process inspection and test reports accordingly.

2. Warranties: Refer to Section 01740 - WARRANTIES, for specific general requirements on warranties, product bonds, workmanship bonds and maintenance agreements. In addition to copies desired for the CONTRACTOR’s use, furnish two (2) executed copies of such warranties, bonds, or agreements. Provide two (2) additional copies where required for maintenance manuals.
DIVISION 1 SPECIFICATIONS - SECTION 01340 - SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

3. Survey Data: Refer to Section 01040 - PROJECT COORDINATION, for specific general requirements on property surveys, field measurements, and quantitative records of actual Work, damage surveys and similar data required by the individual sections. None of the specified copies will be returned.

4. Standards: Where submittal of a copy of a standard is indicated, and except where copies of standards are specified as an integral part of a “product data” submittal, submit a single copy of standards for the Consultant’s use. Where workmanship, whether at the Project site or elsewhere is governed by a standard, furnish additional copies of the standard to fabricators, installers and others involved in the performance of the Work.

5. Closeout Submittals: Refer to Section 01770 - PROJECT CLOSEOUT, and to individual section of these specifications for specific submittal requirements of Project closeout information, materials, tools, and similar items.

6. General Distribution: Provide additional distribution of submittals to Subcontractors, suppliers, fabricators, installers, governing authorities, and others as necessary for the proper performance of the Work. Include such additional copies in the submittals to the Consultant where the submittals are required to receive “Action” marking before final distribution. Record distributions on transmittal forms.

1.06 CONTRACTOR’S DUTIES
A. Review submittals prior to transmittal; determine and verify field measurements, field construction criteria, manufacturer’s catalog numbers, and conformance of submittal with requirements of Contract Documents.

B. Coordinate submittals with requirements of Work and of Contract Documents.

C. Submittals or accompanying transmittal letter shall contain:
   1. Date of submission and dates of previous submissions when applicable.
   2. Project title and number.
   4. Names of Subcontractor, supplier, and manufacturer.
   5. Identification of product with Specification Section number.
   6. Field dimensions, clearly identified as such.
   7. Relation to adjacent or critical features of Work of materials.
   8. Applicable standards, such as, ASTM or Federal Specification numbers.
9. Identification of revisions on resubmittal.

10. Additional information required by Contract Documents.

11. CONTRACTOR executed review and approval marking or stamp.

12. Blank space for CPM’s and Consultant’s action marking or stamp.

13. CONTRACTOR to carefully check all submittals and be responsible for dimensions, quantity etc. necessary to make a complete Project in compliance with plans and specifications.

D. Clearly identify on submittals, or in writing at time of submission, deviations in submittals from requirements of Contract Documents. CONTRACTOR’s responsibility for deviations in submittals from requirements of Contract Documents is not relieved by CPM and Consultant’s review of submittals unless Consultant furnishes written recommendation of acceptance of specific deviations to the CPM and the CPM provides written acceptance to CONTRACTOR.

E. Apply CONTRACTOR’s mark or stamp, sign, and date, signature of CONTRACTOR’s authorized person certified verification of products, verification of field measurements and field construction criteria, and coordination of information within submittal with requirements of Work and of Contract Documents. Submittals without CONTRACTOR’s executed mark or stamp and signature will be returned without disposition.

F. Submittals that are received from sources other than through CONTRACTOR’s office will be returned without action. Delays resulting there from shall be CONTRACTOR’s responsibility.

G. Package each submittal appropriately for transmittal and handling.

H. Distribute reproductions of shop drawings, copies of product data, and samples, which bear Consultant’s stamp of approval, to jobsite file, record documents file, Subcontractors, suppliers and other entities requiring information.

I. Do not fabricate products or begin Work, which required submittals until return of submittal with Consultant’s and CPM’s acceptance.

1.07 CPM’S AND CONSULTANT’S ACTION

A. Where action and return is required or requested, Consultant will review each submittal, mark with action, and where possible return with reasonable promptness. CPM will forward all comments to the Consultant.

1. Where submittal must be held for coordination, CONTRACTOR will be so advised by the Consultant.
DIVISION 1 SPECIFICATIONS - SECTION 01340 – SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

2. Affix stamp and initial or sign, and indicate requirements for resubmittal, or acceptance of submittal.

3. Return submittals to CONTRACTOR for distribution or for resubmission.

4. Consultant will review submittals for design content only. CPM will review submittals for construction and installation considerations.

B. Final Unrestricted Release: When submittal is returned marked “No Exceptions Taken”, Work may proceed, provided it complies with Contract Documents.

C. Final-But-Restricted-Release: When submittal is returned marked “Note Markings”, Work may proceed, provided it complies with notations and corrections on submittal and with Contract Documents.

D. Returned for Resubmittal:
   1. When submittal is returned marked “Revise and Resubmit” or is unmarked, do not proceed with Work.
   2. Revise submittal in accordance with notations and resubmit without delay to obtain difference action marking.

E. Other Action: Where submittal is returned for other reasons, with the CPM or Consultant’s explanation included, it will be marked “Not Accepted”.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)
DIVISION 1 SPECIFICATIONS - SECTION 01340 - SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

ATTACHMENTS:
Submittal Transmittal

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DEVATIONS: None; As Listed

SPACE REQUIREMENTS: As Designed; Different and as Listed

THIS SUBMITTAL CONSISTS OF (SELECT):
- [ ] Product Data
- [ ] Shop Drawings
- [ ] Installation Instructions
- [ ] Material Schedule
- [ ] Manufacturer's Test Report
- [ ] Manufacturer's Approval of Applicator/Installer
- [ ] Others (include list)

Quantity:
- Sepia
- Prints

Samples:
Check one of the following:
- [ ] Submitted
- [ ] Resubmitted

By: ____________________________
Date: ____________________________
Signature: _______________________

SUBMITTAL TRANSMITTAL REVIEW

Consultant's project #: ____________________________
Consultant's tracking #: ____________________________

[ ] NO EXCEPTIONS TAKEN
[ ] NOTE COMMENTS
[ ] REJECTED
[ ] RESUBMIT
## CONSULTANT'S COMMENTS:

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**Signature**

## CPM's COMMENTS:

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**Signature**

Note:

Notations do not authorize changes to contract price or time. If you are authorized to proceed with the work identified in this submittal, it is assumed that no change in the contract amount or completion date is required. If a change in the work affecting your contract price or completion date is involved, notify the PM immediately.

END OF SECTION 01340 - SHOP DRAWINGS, PRODUCT DATA AND SAMPLES
DIVISION 1 SPECIFICATIONS - SECTION 01354 - LEED CREDIT SUMMARY

PART 1 - GENERAL

1.01 PROJECT INFORMATION

A. Project Name: T4 Gate Replacement, Broward County Aviation Department, Fort Lauderdale-Hollywood International Airport.

B. State: Florida.

1.02 DEFINITIONS


B. Required: Achievement of this credit is essential for certification of this Project.

PART 2 - CREDIT SUMMARY

2.01 CERTIFICATION TO BE ACHIEVED: LEED Certified, requiring minimum of 26 points.

2.02 SUSTAINABLE SITES (SS): Of the points to be achieved, the following require inclusion in the construction submittal

A. SS Prerequisite 1 - Required - No points - Construction Activity Pollution Prevention.
   1. During Construction:
      a. Preventive measures and remediation are specified in Section 01560.
      b. Dust control and basic surface drainage.

B. SS Credit 7.1 - Required - 1 point - Heat Island Effect: Non-Roof.
   1. The site design reduces thermal gradient differences by:
      a. Using paving with reflectance of at least 0.3:
         i. Asphalt paving is not used.

2.03 WATER EFFICIENCY (WE): WE credits do not require Contractor submittal.
DIVISION 1 SPECIFICATIONS - SECTION 01354 - LEED CREDIT SUMMARY

2.04 ENERGY & ATMOSPHERE (EA): Of the points to be achieved, the following require inclusion in the construction submittal.

A. EA Prerequisite 1 - Required - No points - Fundamental Building Systems Commissioning.
   1. General commission requirements are specified in Section 01810.

B. EA Credit 3 - Coordinate enhanced commission efforts with CPM.

2.05 MATERIALS & RESOURCES: Of the points to be achieved, the following require inclusion in the construction submittal.

A. MR Credit 2.1 - Required - 1 point - Construction Waste Management, Divert 50% from Disposal.
   1. Construction procedures and measurement of diverted waste are specified in Technical Specification Section 01524. This section requires the CONTRACTOR to perform the measurement and computation.

B. MR Credit 2.2 - Required - 1 point - Construction Waste Management, Divert 75% from Disposal.
   1. Same as for MR Credit 2.1, but increased quantity.

C. MR Credit 4.1 - Required - 1 point - Recycled Content: 10% (post-consumer plus ½ pre-consumer).
   1. The definition of recycled content for the purposes of the Contract Documents is included in Technical Specifications Section 01524; qualifying products do not include plumbing, HVAC, electrical, or communications equipment, piping, conduit, ductwork, or wiring.

   2. This Project contains steel-framing and contains many other steel-containing products; submission of a complete list of all metal-containing products will be required, with documentation showing steel mill source and mill process, allowing computation by using industry-averages for recycled content; the forms are specified in Technical Specifications.

   3. Concrete using recycled materials such as fly ash to replace Portland cement as much as possible while retaining strength and design requirements is specified in:
DIVISION 1 SPECIFICATIONS - SECTION 01354 – LEED CREDIT SUMMARY

a. Technical Specifications Section 03300 - Cast-in-Place Concrete.

b. Technical Specifications Section 03410 - Precast Structural Concrete.

4. Other major products that are specified to include recycled content include the following:
   a. Specialty metals and all applicable finishes.

5. Other specific products that must contain recycled content are specified in the appropriate section(s).

6. CONTRACTOR is required to achieve this credit through selection of products (materials and equipment) plus any mandatory recycled content specified in the Contract Documents; this requirement is specified in Technical Specifications Section 01524.

D. MR Credit 4.2 - 1 point - Recycled Content: 20% (post-consumer plus \( \frac{1}{2} \) pre-consumer).
   1. Same as for MR Credit 4.1, but increased quantity.

E. MR Credit 5.1 - Required - 1 point - Regional Materials: 10% Extracted, Processed & Manufactured Regionally.
   1. For the purposes of the Contract Documents, the term "regionally-sourced" and "regional materials" is used for "regional materials" as defined by USGBC.
   2. In order to maximize the potential for this credit, the submittal of the Regionally-Sourced Products Form for each product used will be required along with the first application for payment for the product; the form is specified in Technical Specifications Section 01356.

F. MR Credit 5.2 - Preferred - 1 point - Regional Materials: 20% Extracted, Processed & Manufactured Regionally.
   1. Same as for MR Credit 5.1, but for an additional 10%.

G. MR Credit 7 - Required - 1 point - Certified Wood.
   1. For the purposes of the Contract Documents, the term "sustainably harvested wood" is used instead of "certified wood" and is defined in Technical Specifications Section 06100 in the same way as for this credit.
   2. The CONTRACTOR is required to achieve this credit through selection of materials plus any mandatory requirements specified in the Contract Documents; this requirement is specified in Technical Specifications Section 06100.
DIVISION 1 SPECIFICATIONS - SECTION 01354 – LEED CREDIT SUMMARY

3. Specific wood products that must be sustainably harvested are specified in the appropriate section(s).
   a. Lumber framing, sheathing, blocking, curbing, and miscellaneous carpentry are specified in Technical Specifications Section 06100.
   b. Custom cabinets are specified in Technical Specifications Section 06402.

2.06 INDOOR ENVIRONMENTAL QUALITY: Of the points to be achieved, the following require inclusion in the construction submittal:

A. EQ Credit 3.1 - Required - 1 point - Construction IAQ Management Plan, During Construction.
   1. Good construction procedures intended to prevent future problems are specified in Technical Specifications Section 01580.

B. EQ Credit 3.2 - 1 point - Construction IAQ Management Plan, Before Occupancy.
   1. CONTRACTOR may be required by the COUNTY to perform either a full building flush-out or air quality testing prior to occupancy both of which are specified in Technical Specifications Section 01580.

C. EQ Credit 4, Low-Emitting Materials, consists of 4 parts; achievement of each part counts as one point.

D. EQ Credit 4.1 - Required - 1 point - Low-Emitting Materials, Adhesives & Sealants.
   1. Product criteria and reporting requirements for VOC-restricted products are specified in Technical Specifications Section 01616.
   2. The following products are used in this Project and will comply with the specified VOC restrictions:
      a. Firestopping sealants; specified in Technical Specifications Section 07270.
      b. Architectural joint sealants; specified in Technical Specifications Section 07920.
      c. Duct sealers and sealants; specified in Technical Specifications Section 15815.
      d. All adhesives used on the Project, whether explicitly specified or not, are considered VOC-restricted products.

E. EQ Credit 4.2 - Required - 1 point - Low-Emitting Materials, Paints & Coatings.
DIVISION 1 SPECIFICATIONS - SECTION 01354 – LEED CREDIT SUMMARY

1. Product criteria and reporting requirements for VOC-restricted products are specified in Technical Specifications Section 01616.

2. Paints and stains are specified in Technical Specifications Section 09900.
   a. Water-based paints or solvent-based paints with VOC content meeting the credit criteria are used for interior opaque applications.
   b. Other coatings, such as stains and clear finishes, are specified to meet the most stringent of federal EPA, state, or local criteria.


F. EQ Credit 4.3 - Required - 1 point - Low-Emitting Materials, Flooring Systems.
   1. Product criteria and reporting requirements for VOC-restricted products are specified in Technical Specifications Section 01616.
   2. The following products are used in this Project and will comply with the specified VOC restrictions:
      a. Resilient flooring and base; specified in Section 09650.
      b. Tandus Powerbond specified in 09650.
   3. Adhesives used in connection with carpet systems.

G. EQ Credit 4.4 - Required - 1 point - Low-Emitting Materials, Composite Wood & Agrifiber Products.
   1. Product criteria and reporting requirements for VOC-restricted products are specified in Technical Specifications Section 01616.
   2. The products covered by this credit include ONLY particleboard, plywood, medium density fiberboard (MDF), wheatboard, strawboard, panel substrates, door cores, and laminating adhesives used on-site or in the shop.
   3. A Project-wide prohibition on use of these products if they contain added urea-formaldehyde is specified.

2.07 INNOVATION & DESIGN PROCESS (ID): Of the points to be achieved, the following require inclusion in the construction submittal

A. ID Credit 1.2 – Required – 1 point Innovation in Design: SS7.1 HEAT island effect for 100% of non-roof impervious surfaces.

END OF SECTION 01354 – LEED CREDIT SUMMARY
1.01 PROJECT GOALS

A. This Project has been designed to achieve the LEED-NC Certified (minimum 26 points) rating, as defined in the LEED(r) Green Building Rating System(tm) for New Construction and Major Renovations, Version 2.2, October 2005.

B. CONTRACTOR is not responsible for the application for LEED certification, nor for determination of methods of achieving LEED credits unless specifically so indicated.

C. Many of the LEED credits can be achieved only through intelligent design of the Project and are beyond the control of the CONTRACTOR. However, certain credits relate to the products and procedures used for construction. Therefore, the full cooperation of the CONTRACTOR and Subcontractors is essential to achieving final certification.

D. CONTRACTOR shall familiarize itself with the relevant requirements and provide the necessary information and instruction to all Subcontractors and installers.

E. Since CONTRACTOR and Subcontractors may not be familiar with LEED requirements, this section includes a summary of the products and procedures intended to achieve LEED credits.

1. Some credits are marked PREREQUISITE; these must be achieved regardless of the level of certification; many are dependent on proper performance by CONTRACTOR and Subcontractors.

2. Other credits involve quantifying percentages by weight and cost; these require careful recordkeeping and reporting by the CONTRACTOR.


1.02 RELATED REQUIREMENTS

A. Sections that include requirements intended to achieve LEED credits include, but are not limited to, the following:

B. Section 01356 - LEED Submittal Forms: Procedures for using the forms.

1. 01356.02 - LEED Wood-Containing Product List; for documentation of wood and wood-based products used on project; MR Credit 7.
DIVISION 1 SPECIFICATIONS - SECTION 01355 - LEED CERTIFICATION PROCEDURES

2. 01356.03 - LEED Metal-Containing Product List; for documentation of steel and other metals used on project; MR Credits 4.1 and 4.2.

3. 01356.04 - LEED New Product Content Form; for content percentages for recycled, rapidly renewable, and certified wood credits, with material cost; MR Credits 4.1, 4.2, 6, and 7; used in conjunction with Wood-Containing and Metal-Containing Product Lists as well as separately.

4. 01356.05 - LEED New Product Source Form; for documenting source of new products; MR Credit 5.1 and 5.2.

5. 01356.07 - LEED Prohibited Content Installer Certification; for each installer to certify compliance with VOC requirements for adhesives and sealants, including duct sealers, and to certify no use of urea-formaldehyde-containing wood products; EQ Credits 4.1 and 4.4.

C. Section 01560 - Temporary Erosion and Sediment Control: Preventive measures and remediation; SS PREREQUISITE 1.

D. Section 01580 - Indoor Air Quality Controls:
   1. CONTRACTOR's IAQ management plan and construction procedures; EQ Credit 3.1.

E. Section 01524 - Product Requirements: Overall Project requirements for:
   1. Recycled content; MR Credits 4.1 and 4.2.
   2. Regionally-sourced products; MR Credits 5.1 and 5.2.
      a. CONTRACTOR is required to submit the LEED New Product Source Form for every product for which application for payment is made.
   3. Certified (sustainably harvested) wood; MR Credit 7.

F. Section 01770 - Execution and Closeout Requirements:
   1. Dust control and basic surface drainage; SS Prerequisite 1.

G. Section 01524 - Construction Waste Management and Disposal:
   1. Construction and demolition waste management; MR Credit 2.1 and 2.2.

H. Section 01780 - Closeout Submittals:
DIVISION 1 SPECIFICATIONS - SECTION 01355 - LEED CERTIFICATION PROCEDURES

1. Maintenance and operation manuals for commissioned systems; EA Credit 3.

I. Section 01810 - General Commissioning Requirements:
   1. Demonstration of commissioned systems and training of personnel: EA Credit 3.

J. Section 01810 - General Commissioning Requirements:
   1. Enhanced commissioning; EA Credit 3.

K. Section 02221 - Demolition:
   1. Demolition of existing impervious surfacing; SS Credit 6.1.

L. Section 06100 - Rough Carpentry:
   1. Requirement to use sustainably harvested wood; MR Credit 7.

M. Section 06202 - Finish Carpentry:
   1. Requirement to use sustainably harvested wood; MR Credit 7.

N. Section 06402 - Architectural Wood Casework:
   1. Requirement to use sustainably harvested wood; MR Credit 7.

O. Section 07533 - Thermoplastic Membrane Roofing:
   1. White membrane roofing; SS Credit 7.2.

P. Section 07841 - Firestopping: LEED-VOC-compliant firestopping sealants; EQ Credit 4.1.

Q. Section 07920 - Joint Sealers: LEED-VOC-compliant sealants; EQ Credit 4.1.

R. Section 08411 - Aluminum-Framed Storefronts:
   1. Daylighting; EQ Credit 8.1.
DIVISION 1 SPECIFICATIONS - SECTION 01355 - LEED CERTIFICATION PROCEDURES

S. Section 08520 - Aluminum Windows:
   1. Daylighting; EQ Credit 8.1.

T. Section 08710 - Door Hardware:
   1. Door closers at rooms where hazardous gases or chemicals may be present; EQ Credit 5.

U. Section 08800 - Glazing:
   1. Daylighting; EQ Credit 8.1.

V. Section 09260 - Gypsum Board Assemblies:
   1. Deck-to-deck sealed partitions around certain rooms where hazardous gases or chemicals may be present; EQ Credit 5.

W. Section 09680 - Carpeting: Carpet complying with CRI Green Label Plus requirements and installation materials complying with CRI Green Label requirements; EQ Credit 4.3.

X. Section 09651 - Floor Tile/ Resilient Sheet Flooring: Carpet tile and resilient sheet flooring complying with CRI Green Label Plus requirements; EQ Credit 4.3.

Y. Section 09900 - Painting and Coating: LEED-VOC-compliant interior opaque paints and coatings; EQ Credit 4.2.

Z. Section 09960 - High-Performance Coatings: High-performance coatings meeting regulatory requirements; EQ Credit 4.2.

AA. Section 10523 - Fire Extinguishers: Fire extinguishers that use agents other than Halon: EA Credit 4.

AB. Section 12486 - Entrance Floor Grills and Frames:
   1. Floor mats and recessed frames at high volume entryways; EQ Credit 5.

AC. Section 15940 - Clean-Agent Fire Extinguishing System:
   1. Non-Halon-based fire suppression system; EA Credit 4.
DIVISION 1 SPECIFICATIONS - SECTION 01355 – LEED CERTIFICATION PROCEDURES

AD. Section 15490 - Cistern:

1. Storm water run-off quantity reduction, Non-potable water distribution for reducing run-off rate and quantity; SS Credit 6.1

2. Potable water use reduction for wastewater; WE Credit 2.

3. Overall potable water use reduction; WE Credit 3.1 and 3.2.

AE. Section 15440 - Plumbing Fixtures:

1. Low flow toilets and Urinals; WE Credit 2.

2. Low flow toilets, Urinals, Lavs, Sinks, and Showers; WE Credit 3.1 and 3.2.

AF. Section 15127 - Meters and Gages for HVAC Piping

AG. Section 15900 - Commissioning of HVAC:

1. Commissioning of HVAC controls; EQ Credit 7.2.

AH. Section 15900, 15127 - Instrumentation and Control Devices for HVAC:

1. Outdoor airflow measurement devices in HVAC system; EQ Credit 1.

2. Carbon dioxide monitoring devices for ventilation control; EQ Credit 1.

AI. Section 15900 - Direct-Digital Control System for HVAC

AJ. Section 15940 - Sequence of Operations for HVAC Controls:

1. Ventilation control utilizing carbon dioxide monitoring; EQ Credit 1.

AK. Section 15181, 15640 - Hydronic Piping:

1. Non-potable water distribution for mechanical systems; WE Credit 3.1 and 3.2.

AL. Section 15815-15817 - HVAC Ducts and Casings:
DIVISION 1 SPECIFICATIONS - SECTION 01355 – LEED CERTIFICATION
PROCEDURES

1. Low-VOC duct sealers; EQ Credit 4.1.

2. Separate ductwork for certain rooms where hazardous gases and
chemicals may be present; EQ Credit 5.

3. For mechanical ventilation for thermal comfort; EQ Credit 7.1.

AM. Section 15838 - HVAC Power Ventilators: Exhaust fans:

1. For certain rooms where hazardous gases and chemicals may be present;
   EQ Credit 5.

AN. Section 15861 - HVAC Air Cleaning Devices:

1. Air filters: EQ Credit 5.

AO. Section 15625 - Centrifugal Water Chillers:

1. Non-CFC refrigerant; EA PREREQUISITE 3.

AP. Section 16510 - Lighting Control:

1. Continuous metering of lighting, motor, and other loads; EA Credit 5.

AQ. Section 16500-16510 - Remote Control Switching Devices:

1. Automatic lighting controls to reduce light pollution; SS Credit 8.

AR. Section 16510 - Wiring Devices.

AS. Section 16500 - Interior Lighting.

1. Interior lighting fixtures selected and laid out to minimize light spillover
   through windows; SS Credit 8.

AT. Section 16526 - Exterior Lighting:

1. Site lighting fixtures that reduce light pollution; SS Credit 8.
DIVISION 1 SPECIFICATIONS - SECTION 01355 - LEED CERTIFICATION PROCEDURES

AU. Section 02211 - Grading:
   1. For modifying existing stormwater flows; SS Credit 6.1.

AV. Section 02515 - Concrete Paving: (not required)
   1. For reducing non-roof heat island effect; SS Credit 7.1.

AW. Section 02601 - Manholes:
   1. For reducing run-off rate and quantity; SS Credit 6.1.

AX. Section 02720- Site Storm Utility Drainage Piping:
   1. For reducing run-off rate and quantity; SS Credit 6.1.

1.03 SUBMITTALS

A. See Section 01340 - Administrative Requirements, for additional submittal procedures.

B. Use of electronic submittal service specified in this section is required.

C. Notify CPM when electronic submittals are complete and prior to submitting to USGBC.

D. LEED Submittal/Report: For each product with the notation "show quantity on LEED submittal or report," submit a report with the following information:

   1. Submit with each Application for Payment; update the Report each period with latest period shown separately.

   2. Identify each product with:
      a. Name and manufacturer.
      b. Specification section number.
      c. Applicable Credit(s).
      d. Net weight per unit.
      e. Quantity installed.
      f. Material cost per unit.
      g. Total material cost.
DIVISION 1 SPECIFICATIONS - SECTION 01355 - LEED CERTIFICATION PROCEDURES

3. Attach evidence of compliance from either the manufacturer or an independent agency.

1.04 INFORMATION SOURCES


B. Bay Area Air Quality Management District (BAAQMD); 939 Ellis Street, San Francisco, California 94109. Tel: (415) 771-6000. www.baaqmd.gov.


D. South Coast Air Quality Management District (SCAQMD); 21865 E. Copley Drive, Diamond Bar, CA 91765. Tel: (909) 398-2000. www.aqmd.gov.


PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 ELECTRONIC LEED DOCUMENT SUBMITTAL SERVICE

A. Documents submitted for purposes of LEED certification are to be in electronic (PDF) format and transmitted via an Internet-based submittal service that receives, logs and stores documents, notifies participants, and provides electronic submission to USGBC.

1. The types of submittals for which this service must be used include those for credits that relate to materials, and any others designated by Architect.

2. For credits for which achievement requires substantiation of material type, quantity, and cost, submit receipts showing purchase of materials for this Project.

3. CONTRACTOR and Architect are required to use this service.

4. It is CONTRACTOR's responsibility to submit documents in PDF format.
5. Users of the service need an email address, Internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com).

6. Paper document transmittals will not be reviewed; emailed PDF documents will not be reviewed.

7. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.

B. Cost: The cost of the service will be paid by Owner.

C. Architect will also be using this service to identify materials and prepare LEED templates and submissions. CONTRACTOR is encouraged to use any other features of the service that are useful.

END OF SECTION 01355 - LEED CERTIFICATION PROCEDURES
DIVISION 1 SPECIFICATIONS - SECTION 01356 - LEED SUBMITTAL FORMS

1.01 PURPOSE

A. These forms are for the CONTRACTOR's use in submitting documentation to be used to determine whether particular credits have been achieved. The cooperation of Subcontractors, suppliers, and manufacturers is required.

B. These forms apply to the following LEED Credits:

1. MR Credits 4.1 and 4.2 - Recycled Content.
2. MR Credits 5.1 and 5.2 - Regional Materials.
3. MR Credit 7 - Certified Wood.

1.02 FORMS

A. 01356.01 - LEED Material Cost Summary Form: Certification by CONTRACTOR.

B. 01356.02 - LEED Wood-Containing Product List: Certification by CONTRACTOR.

C. 01356.03 - LEED Metal-Containing Product List: Certification by CONTRACTOR.

D. 01356.04 - LEED New Product Content Form: Including separate reporting of wood, steel, rapidly renewable, and recycled content; data certification by manufacturer of product; cost and quantity certification by CONTRACTOR.

E. 01356.05 - LEED New Product Source Form: Data certification by manufacturer of product; cost and quantity certification by CONTRACTOR.

F. 01356.07 - LEED Prohibited Content Installer Certification.

G. 01356.09 - LEED Prohibited Paints Installer Certification.

1.03 PROCEDURES

A. All LEED submittal forms are to be submitted by CONTRACTOR; certifications are to be made by indicated party.
DIVISION 1 SPECIFICATIONS - SECTION 01356 – LEED SUBMITTAL FORMS

B. Where a LEED Submittal is called for, fill out and submit the appropriate form.

   1. Fill out one form for each different brand name product and each different manufacturer of a lot of commodity products.

   2. Where required attachments are specified, attach the documentation to the back of the form.

C. Each form must be signed by the entity capable of certifying the information.

   1. Certification signatures must be made by an officer of the company.

   2. For products, certification must be made by the manufacturer not the supplier.

   3. For custom fabricated products, certification by the fabricator is acceptable.

D. Submit the completed forms in accordance with the requirements of Section 01300 - Administrative Requirements, as information submittals.

   1. Give each form a unique submittal number.

   2. Do not combine LEED forms with product data or shop drawing submittals.

E. Submit forms applicable to Work for which application for payment is being made, either prior to or concurrent with application for payment; payment will not be made until relevant forms have been submitted.

F. For Work covered by multiple applications for payment, the initial submittal of a LEED form is sufficient for subsequent applications unless the nature of the product has changed.

END OF SECTION 01356 – LEED SUBMITTAL FORM
DIVISION 1 SPECIFICATIONS - SECTION 01356.01 – LEED MATERIAL COST SUMMARY FORM

1.01 LEED SUBMITTAL FORM

A. Identification:
   1. Project Name: T4 Gate Replacement, Broward County Aviation Department-Fort Lauderdale International Airport, Fort Lauderdale, FL
   2. Project No.: 0844NFL
   3. Architect: PGAL/ Zyscovich Architects

B. This form applies to the following LEED Credits:
   1. MR Credits 4.1 and 4.2 - Recycled Content.
   2. MR Credits 5.1 and 5.2 - Regional Materials.
   3. MR Credit 7 - Certified Wood.

C. Procedure:
   1. Because the above listed credits require computations based on the material costs for the project, the CONTRACTOR is required to submit the following cost breakdown, in addition to any cost breakdown specified elsewhere.
   2. Costs are to be material costs excluding labor, overhead, and profit, but including delivery, storage, and handling charges. Revise cost summary whenever materials actually installed change due to contract modifications or CONTRACTOR preference.

1.02 CERTIFICATION

$ __________ Total Cost of All Materials
$ __________ Total Cost of Plumbing, HVAC, Electrical, and Communications
$ __________ Total Cost of Architectural Equipment in Divisions 11 Through 14
$ __________ Total Cost of Wood and Wood-Based Materials

1.03 CERTIFIED BY: (CONTRACTOR)

A. Print Name: ________________________________

B. Signature: _________________________________
DIVISION 1 SPECIFICATIONS - SECTION 01356.01 – LEED MATERIAL COST SUMMARY FORM

C. Title: ____________________ (officer of company) Date: __________

END OF SECTION 01356.01 – LEED MATERIAL COST SUMMARY FORM
DIVISION 1 SPECIFICATIONS - SECTION 01356.02 - LEED WOOD-CONTAINING PRODUCT LIST

1.01 LEED SUBMITTAL FORM

A. Identification:
   1. Project Name: ________________________________
   2. Project No.: ________________________________
   3. Architect: ________________________________

B. This form applies to LEED MR Credit 7 (certified wood).

1.02 WOOD-CONTAINING PRODUCTS

A. Wood-containing products are those made of solid wood, wood chip, or wood fiber, or containing components made of solid wood, wood chip, or wood fiber.

B. Rationale: Because the computation for this credit is based on the total material costs for all wood and wood-based products on the Project, the CONTRACTOR is required to submit the following itemization of wood and wood-based products, including materials used during construction but not incorporated into the finished Work.

C. Procedure: For each wood-containing product provided for this Project, submit "LEED New Product Content Form". At minimum, submit for the following products. Initial those for which the material content form is attached.

D. Permanent Wood-Containing Product List:
   1. ___ Architectural woodwork
   2. ___ Cabinets and casework

E. Temporary Wood-Containing Product List:
   1. ___ Excavation supports
   2. ___ Concrete formwork and formwork supports
   3. ___ Bracing and shoring
   4. ___ Barricades and enclosures
   5. ___ Field office
DIVISION 1 SPECIFICATIONS - SECTION 01356.02 – LEED WOOD-CONTAINING PRODUCT LIST

1.03 CERTIFICATION

A. ___ All other wood-containing products used on this Project are shown on the attached list.

B. ___ I certify that there are no other wood-containing products used on this Project that exceed 1 percent of total material cost.

C. ___ I certify that there are no other temporary facilities or construction using wood-containing products that exceed 1 percent of the total material cost.

D. CERTIFIED BY: (CONTRACTOR)

1. Print Name: ____________________________

2. Signature: ____________________________

3. Title: ____________________________ (officer of company) Date: ______

END OF SECTION 01356.02 – LEED WOOD-CONTAINING PRODUCT LIST
DIVISION 1 SPECIFICATIONS - SECTION 01356.03 - LEED METAL-CONTAINING 
PRODUCT LIST

1.01 LEED SUBMITTAL FORM

A. Identification:

1. Project Name: ____________________________

2. Project No.: ____________________________

3. Architect: ____________________________

B. This form applies to LEED Credits MR 4.1 and 4.2 (recycled content).

1.02 STEEL-CONTAINING PRODUCTS

A. Rationale: Although all steel contains reused steel, steel products often cannot 
be traced to a certain mill lot and, even when they can, the mill's certificate 
usually does not indicate the proportion of new to reused steel.

B. Procedure: Determine recycled steel content by estimating the proportion of 
reused steel based on trade association surveys of mill practices multiplied by 
the quantity of steel by weight in the product.

1. Referenced Mill Practices Survey: See the current edition of Steel 
Recycling Institute "Steel Takes LEED with Recycled Content," at 
http://www.recycle- 
steel.org/PDFs/leed/Steel%20Takes%20LEED_June06.pdf.

2. If the mill source cannot be identified, the product will be considered to 
have the lowest reused steel content reported in referenced mill practices 
survey.

3. For each steel-containing product provided for this project, submit "LEED 
New Product Content Form". At minimum, submit for the following 
products. Initial those for which the material content form is attached.

C. Steel-Containing Product List:

1. ___ Concrete reinforcement (bars, mats, wire, mesh), anchor plates.

2. ___ Structural steel framing members, plates.

3. ___ Steel structural components of pre-engineered products.
DIVISION 1 SPECIFICATIONS - SECTION 01356.03 - LEED METAL-CONTAINING
PRODUCT LIST

4. __ Miscellaneous steel fabrications made from rolled shapes, including equipment supports.

5. __ Bar joists and girders.

6. __ Steel decking.

7. __ Light gauge steel framing and trusses.

8. __ Steel stairs and ladders.

9. __ Steel handrails and railings.

10. __ Steel doors and frames.

11. __ Steel windows.

12. __ Steel storefronts and curtain walls.

13. __ Non-load-bearing steel framing (studs, ceiling framing, shaftwall).

14. __ Steel lath for plaster, and trim.

15. __ Gypsum board finishing trim.

16. __ Suspended ceiling grid.

17. __ Steel rooftop equipment screens.

18. __ Steel lockers.

19. __ Steel wire mesh partitions.

20. __ Steel storage shelving.

21. __ Steel water tanks.

22. __ All equipment with steel housings, casings, or boxes, except mechanical and electrical; report housing percentage by weight/mass only.

1.03 CAST IRON-CONTAINING PRODUCTS

A. Rationale: Cast iron is considered 100 percent recycled.

B. For each homogeneous cast iron product, report total cost on "LEED New Product Content Form".
DIVISION 1 SPECIFICATIONS - SECTION 01356.03 - LEED METAL-CONTAINING PRODUCT LIST

C. Cast Iron Product List:
   1. ____ Cast iron pipe.

1.04 CERTIFICATION

A. ____ All other steel- and cast iron-containing products used on this Project are shown on the attached list.

B. ____ I certify that there are no other steel-containing products used on this Project that exceed 1 percent of total material cost less material cost attributed to mechanical and electrical.

C. ____ I certify that there are no other cast iron-containing products used on this Project that exceed 1 percent of total material cost less material cost attributed to mechanical and electrical.

D. CERTIFIED BY: (CONTRACTOR)

1. Print Name: __________________________________________

2. Signature: __________________________________________

3. Title: ____________________ (officer of company) Date: _______

END OF SECTION 01356.03 – LEED METAL CONTAINING PRODUCTS LIST
DIVISION 1 SPECIFICATIONS - SECTION 01356.04 – LEED MATERIAL CONTENT FORM

1.01 LEED SUBMITTAL FORM

A. Identification:

1. Project Name: __________________________

2. Project No.: __________________________

3. Architect: __________________________

4. Product Name: __________________________
   (brand name, model number, etc.)

5. Manufacturer: __________________________ www.________________
   a. Contact: __________________________ tel: __________________________

6. Supplier/Sub: __________________________ www.________________
   a. Contact: __________________________ tel: __________________________

7. Applicable Specification Section Number(s) __________________________

B. This form applies to LEED Credits MR 4.1 and 4.2 (recycled content), MR 6 (rapidly renewable content), and MR 7 (certified wood).

1.02 PRODUCT CERTIFICATION

   1. _____ Product is FSC-trademarked.
   2. _____ FSC Chain-of-Custody certificate number is __________________________
   3. FSC: Forest Stewardship Council Chain-of-Custody number or physical trademark; computation of less than 100 percent certified content in accordance with FSC policy.

B. Rapidly Renewable Content: ________ percent by weight (mass).
DIVISION 1 SPECIFICATIONS - SECTION 01356.04 – LEED MATERIAL CONTENT FORM

1. Description of Rapidly Renewable Content:

2. Definition: Made from plants that are harvested not more than 10 years after planting.

C. Steel Content: ________ percent by weight (mass).
   1. ____ Steel Mill Source is:
      ______________________________________________________
   2. ____ Mill letter describing mill process and typical re-used steel content is attached.

D. Other Content: (Percentages by weight (mass) may not add up to more than 100 percent.)
   1. Pre-Consumer/Post-Industrial Recycled Content: ________ percent by weight (mass).
   2. Post-Consumer Recycled Content: ________ percent by weight (mass).
   3. Description of Recycled Content:
      ______________________________________________________
   4. Definition: Recycled content is defined in accordance with FTC regulations, found in 16 CFR 260.7(e); see www.ftc.gov/bcp/grnrule/guides980427.htm.

E. Total Weight (Mass): ______________ per __________ (unit).

F. CERTIFIED BY: (Manufacturer)
   1. Print Name: ____________________________
   2. Signature: ____________________________
   3. Title: ____________________________ (officer of company) Date: ________

1.03 COST CERTIFICATION

A. Unit Cost: $___________ per _________ (same unit as above); No. of Units Installed: _______

B. OR (enter cost either above or below, not both)

C. Total Installed Material Cost of This Product: $___________

D. CERTIFIED BY: (CONTRACTOR)
DIVISION 1 SPECIFICATIONS - SECTION 01356.04 – LEED MATERIAL CONTENT FORM

1. Print Name: ____________________________________________
2. Signature: ____________________________________________
3. Title: ______________________ (officer of company) Date: ______

END OF SECTION 01356.04 – LEED MATERIAL CONTENT FORM
1.01 LEED SUBMITTAL FORM

A. Identification:

1. Project Name: __________________________

2. Project No.: __________________________

3. Architect: ____________________________

4. Product Name: __________________________
   (brand name, model number, etc.)

5. Manufacturer:
   ____________________________ www.________
   a. Contact: ____________________________ tel: __________________________

6. Supplier/Sub:
   ____________________________ www.________
   a. Contact: ____________________________ tel: __________________________

7. Applicable Specification Section Number(s) __________________________

B. This form applies to LEED MR Credits 5.1 and 5.2 for new products only; see separate form for reused products.

1.02 PRODUCT CERTIFICATION

A. The following percentages of this product were processed in the locations indicated. (Indicate N/A in first column if process is not applicable.)

<table>
<thead>
<tr>
<th>Percent</th>
<th>Harvest, Extraction, Recovery, or Manufacturing Process</th>
<th>City/County, State, Country</th>
<th>Distance From Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>______%</td>
<td>Raw Material</td>
<td>__________________________</td>
<td>__________________</td>
</tr>
<tr>
<td>______%</td>
<td>Raw Material</td>
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<td>______%</td>
<td>Raw Material</td>
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<tr>
<td>______%</td>
<td>Manufactured at: (primary)</td>
<td>__________________________</td>
<td>__________________</td>
</tr>
<tr>
<td>______%</td>
<td>Manufactured at: (primary)</td>
<td>__________________________</td>
<td>__________________</td>
</tr>
</tbody>
</table>


DIVISION 1 SPECIFICATIONS - SECTION 01356.05 – LEED NEW PRODUCT SOURCE FORM

<table>
<thead>
<tr>
<th>Percent</th>
<th>Harvest, Extraction, Recovery, or Manufacturing Process</th>
<th>City/County, State, Country</th>
<th>Distance From Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>______%</td>
<td>______________________________________________________</td>
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</tr>
</tbody>
</table>

B. CERTIFIED BY: (Manufacturer)
1. Print Name: ________________________________
2. Signature: ________________________________
3. Title: ___________________________ (officer of company) Date: __________

1.03 COST CERTIFICATION
A. Unit Cost: $ ______________ per _________ (unit); No. of Units Installed: ______
B. OR (enter cost either above or below, not both)
C. Total Installed Material Cost: $ ______________
D. CERTIFIED BY: (CONTRACTOR)
1. Print Name: ________________________________
2. Signature: ________________________________
3. Title: ___________________________ (officer of company) Date: __________

END OF SECTION 01356.05 – LEED NEW PRODUCT SOURCE FORM
DIVISION 1 SPECIFICATIONS - SECTION 01356.07 - LEED PROHIBITED CONTENT INSTALLER CERTIFICATION

1.01 LEED SUBMITTAL FORM

A. Identification:
   1. Project Name: ____________________________
   2. Project No.: ____________________________
   3. Architect: ______________________________

B. This form applies to the following LEED credits:
   1. Credit IEQ 4.1; VOC content of field-installed adhesives and sealants.
   2. Credit IEQ 4.4; added-urea-formaldehyde content of composite wood and agrifiber products, defined as particleboard, plywood, medium density fiberboard, wheatboard, strawboard, panel substrates, door cores, and laminating adhesives; applies to manufacturers/suppliers and installers.

C. Procedure:
   1. Because installers are allowed and directed to choose accessory materials suitable for the applicable installation, each installer of Work on this project is required to certify that his/their use of these particular materials complies with the Contract Documents and to provide documentation showing that the products used do not contain the prohibited content.
   2. Volatile organic compounds (VOCs) are defined by the U.S. EPA and state and local regulations applicable to this project. See Contract Documents for minimum criteria.

1.02 PRODUCT CERTIFICATION

A. ______ Adhesives: I certify that the installation Work of my firm on this Project has not required the use of any adhesives.

B. OR (certify either the above or the below, not both)

C. ______ Adhesives: I certify that my firm has NOT installed any adhesive with VOC content exceeding that specified in Division 1 on this Project; product data and MSDS sheets for all adhesives used, whether specified or not, are attached.

D. ______ Joint Sealants: I certify that the installation Work of my firm on this Project has not required the use of any gunnable or pourable joint sealants.

E. OR (certify either the above or the below, not both)
F. ___ Joint Sealants: I certify that my firm has NOT installed any joint sealant with VOC content exceeding that specified in Section 07920 on this Project; product data and MSDS sheets for all joint sealants used, whether specified or not, are attached.

G. ___ Composite Wood and Agrifiber Products: I certify that the Work of my firm on this Project has not required the use of any composite wood or agrifiber products, as defined above.

H. OR (certify either the above or the below, not both)

I. ___ Composite Wood and Agrifiber Products: I certify that the composite wood and agrifiber products, as defined above, furnished or installed by my firm DO NOT contain any ADDED urea-formaldehyde binder; product data and MSDS sheets for products used, whether specified or not, are attached.

J. CERTIFIED BY: (Installer/Manufacturer/Supplier Firm)

1. Firm Name: ________________________________

2. Print Name: ________________________________

3. Signature: ________________________________

4. Title: ______________________ (officer of company) Date: __________

END OF SECTION 01356.07 - LEED PROHIBITED CONTENT INSTALLER CERTIFICATION
DIVISION 1 SPECIFICATIONS - SECTION 01356.09 – LEED PROHIBITED PAINTS
INSTALLER CERTIFICATION

1.01 LEED SUBMITTAL FORM

A. Identification:
   1. Project Name: ____________________________
   2. Project No.: ____________________________
   3. Architect: ______________________________

B. This form applies to the following LEED credits:
   1. Credit IEQ 4.2; VOC content of field-installed paints and stains

C. Procedure:
   1. The painting contractor and all other Subcontractors who perform any
      interior painting whatsoever on this project are required to certify that
      his/their use of these particular materials complies with the Contract
      Documents and to provide documentation showing that the products used
      do not contain the prohibited content.

   2. Volatile organic compounds (VOCs) are defined by the U.S. EPA and
      state and local regulations applicable to this project. See Contract
      Documents for minimum criteria.

1.02 PRODUCT CERTIFICATION

A. _____ Paints, Coatings or Stains: I certify that the installation Work of my firm on
   this Project has not required the use of any paints, coatings or stains on the
   interior of the buildings.

B. OR (certify either the above or the below, not both)

C. _____ Paints, Coatings or Stains: I certify that my firm has NOT installed any
   Paints, Coatings or Stains with VOC content exceeding that specified in Section
   09900 on this Project; product data and MSDS sheets for all such products used,
   whether specified or not, are attached.
DIVISION 1 SPECIFICATIONS - SECTION 01356.09 – LEED PROHIBITED PAINTS
INSTALLER CERTIFICATION

D. CERTIFIED BY: (Installer/Manufacturer/Supplier Firm)

1. Firm Name: ________________________________

2. Print Name: ________________________________

3. Signature: ________________________________

4. Title: __________________________ (officer of company) Date: __________

END OF SECTION 01356.09 – LEED PROHIBITED PAINT INSTALLER CERTIFICATION
PART 1 - GENERAL

1.01 AUTHORITY OF CPM AND THE CONSULTANT

A. The Consultant will decide any and all questions that may arise as to the quality and acceptability of materials furnished and the technical interpretation of the Contract Documents. The CPM will decide any and all questions that may arise as to the Work performed, the rate of progress of the Work, the fulfillment of the Contract on the part of the CONTRACTOR and the rights of different contractors on the Project. The CPM will determine the amount and quality of the several kinds of Work performed and materials furnished which are to be paid for under the Contract.

1.02 CONFORMITY WITH DRAWINGS AND SPECIFICATIONS

A. All Work and all materials furnished shall be in conformity with the lines, grades, grading sections, cross sections, dimensions, materials requirements, and testing requirements that are specified (including specified tolerances) in the Contract Documents.

B. If the Consultant finds the materials furnished, or the finished product not within conformity with the Contract Documents but that the portion of the Work affected will, in its opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the COUNTY, it will submit written findings and advise the CPM of the recommendation that the affected Work be accepted and remain in place. In this event, the CPM will document its determination and recommend to the COUNTY a basis of acceptance that will provide for an adjustment in the Contract Sum for the affected portion of the Work. The Consultant’s determination and the CPM’s recommended Contract Sum adjustments will be based on good engineering judgment and such test or retests of the affected Work as are, in their opinion, needed. Changes in the Contract Sum shall be covered by contract modifications as applicable.

C. If the Consultant finds, and advises the CPM that the materials furnished, or the finished product are not in reasonably close conformity with the Contract Documents and have resulted in an unacceptable finished product, the affected Work or materials shall be removed and replaced or otherwise corrected by and at the expense of the CONTRACTOR in accordance with the CPM’s written instructions.

D. For the purpose of this section, the term “reasonably close conformity” shall not be construed as waiving the CONTRACTOR’s responsibility to complete the Work in accordance with the Contract Documents. The term shall not be construed as waiving either the CPM’s or the Consultant’s right to insist on strict compliance with the Contract Documents during the CONTRACTOR’s prosecution of the Work, when, in the CPM’s opinion, such compliance is essential to provide an acceptable finished portion of the Work.

E. For the purpose of this section, the term “reasonably close conformity” is also intended to provide the CPM and the Consultant with the authority to use good architectural and engineering, and construction management judgment in their
determinations as to acceptance of Work that is not in strict conformity but will provide a finished product equal to or better than that intended by the requirements of the Contract Documents.

1.03 COORDINATION OF CONTRACT DOCUMENTS

A. The Contract Documents and all referenced standards cited are essential parts of the Contract Requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete Work. In case of discrepancy, figured dimensions, unless obviously incorrect, shall govern over scaled dimensions. Cited standards for materials or testing, and cited FAA Advisory Circulars and other standards shall be considered as standard specifications.

B. Any table, gradation, size, dimension, rate, mix, method, nomenclature, pay item number, basis of payment or method of measurement shown on the written Contract Documents, will take precedence over any variance with the drawings.

C. The CONTRACTOR shall not take advantage of any apparent error or omission in the various Contract Documents. In the event the CONTRACTOR discovers any apparent conflict, error or discrepancy, it shall immediately call upon the CPM for its interpretation and decision, and such decision shall be final.

1.04 CONSULTANT'S DRAWINGS

A. The Drawings furnished by the Consultant consist of general drawings showing such details as are necessary to give a comprehensive idea of the construction contemplated. Roadway plans will show, in general, alignment, profile grades, typical cross sections and general cross sections. Structure plans, in general, will show in detail all dimensions of the Work contemplated.

B. When the structure plans do not show dimensions in detail, they will show general features and such details as necessary to give a comprehensive idea of the design and construction of the structure.

C. Not all conflicts are known within the Project area. Not all conflicts are shown on the Drawings. The CONTRACTOR is solely responsible for the location and protection of all equipment and facilities, which are to remain in service and in place during and after completion of all Project Work.

1.05 FIELD NOTES

A. Field notes and records shall be kept as layout Work is accomplished. These field notes and records shall be available for review by the CPM and Consultant as the Work progresses and copies shall be furnished to the CPM at the time of completion of the Project. An inspection or checking of the CONTRACTOR's field notes or layout Work by the CPM and the acceptance of all or any part thereof, shall not relieve the CONTRACTOR of its responsibility to achieve the lines, grades, and dimensions shown in the Drawings and Specifications.

1.06 PAYMENT
DIVISION 1 SPECIFICATIONS - SECTION 01390 - CONTROL OF WORK

A. The cost of all stakes and the cost of performing layout Work as described above shall be included in the CONTRACTOR's Cost of Work for the various items of Work to which it is incidental.

1.07 AUTOMATICALLY CONTROLLED EQUIPMENT

A. Whenever equipment is required to be operated automatically under the Contract and a breakdown or malfunction of the automatic controls occurs, the equipment may be operated manually or by other methods for a period 48-hours following the breakdown or malfunction, provided this method of operations will produce results which conform to all other requirements of the Contract. Such manual operation must be approved by the CPM.

1.08 AUTHORITY AND DUTIES OF INSPECTORS

A. Inspectors employed by the CPM and the COUNTY shall be authorized to inspect all Work done and all materials furnished. Such inspection may extend to all or any part of the Work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors are not authorized to revoke, alter or waive any provision of the Contract. Inspectors are not authorized to issue instructions contrary to the Contract Documents or to act as foreman for the CONTRACTOR.

B. Inspectors employed by the COUNTY and the Consultant are authorized to notify the CONTRACTOR of any failure of the Work or materials to conform to the requirements of the Contract Documents and to reject such nonconforming materials in question until such issues can be referred to the CPM for decision.

1.09 INSPECTION OF THE WORK

A. All materials and each part or detail of the Work shall be subject to inspection by the CPM or Consultant. The CPM or Consultant shall be allowed access to all parts of the Work and shall be furnished with such information and assistance by the CONTRACTOR as is required to make a complete and detailed inspection.

B. If the CPM requests it, the CONTRACTOR, at any time before acceptance of the Work, shall remove or uncover such portions of the finished Work as may be directed. After examination, the CONTRACTOR shall restore said portions of the Work to the standard required by the Specifications. Should the Work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra Work; but should the Work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at the CONTRACTOR's expense.

C. Any Work done or materials used without supervision or inspection by the CPM may be ordered removed and replaced at the CONTRACTOR's expense unless CPM or Consultant failed to inspect after having been given reasonable notice in writing that the Work was performed and ready for inspection.
DIVISION 1 SPECIFICATIONS - SECTION 01390 - CONTROL OF WORK

D. Should the contract Work include relocation, adjustment, or any other modification to existing facilities, not the property of the COUNTY, authorized representatives of the COUNTY of such facilities shall be given the right to inspect such Work. Such inspection shall in no sense make any facility COUNTY a party to the Contract, and shall in no way interfere with the rights of the parties to this Contract. Inspection and/or approval of the Work or any portion thereof shall not relieve the CONTRACTOR of responsibility for faulty materials or workmanship.

1.10 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK

A. All Work which does not conform to the requirements of the Contract Documents will be considered unacceptable, unless otherwise determined acceptable by the CPM as provided in Item 1.03 CONFORMITY WITH DRAWINGS AND SPECIFICATIONS of this section.

B. Unacceptable Work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the Final Completion of the Work, shall be removed immediately and replaced in an acceptable manner in accordance with the provisions of the Contract Documents.

C. Work done contrary to the instructions of the CPM, Work done beyond the lines shown on the Drawings or as given, except as herein specified, or any extra Work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the Contract. Work so done may be ordered removed or replaced at the CONTRACTOR’s expense.

D. Upon failure on the part of the CONTRACTOR to comply forthwith with any order of the CPM made under the provision of this section, the CPM will have authority to cause unacceptable Work to be remedied or removed and unauthorized Work to be removed and to deduct the costs (incurred by the COUNTY) from any monies due or to become due the CONTRACTOR.

1.11 MAINTENANCE DURING CONSTRUCTION

A. The CONTRACTOR shall maintain the Work during construction and until the Work is accepted by the CPM. This maintenance shall constitute continuous and effective Work prosecuted day by day, with adequate equipment and forces so that the Work is maintained in satisfactory condition at all times. All Work shall be protected during any delay between phases or sub-phases of construction required to complete the Work.

1.12 FAILURE TO MAINTAIN THE WORK

A. Should the CONTRACTOR at any time fail to maintain the Work as provided in Item 1.12 MAINTENANCE DURING CONSTRUCTION of this section, the CPM will notify the CONTRACTOR of such noncompliance. Such notification will specify a reasonable time within which the CONTRACTOR shall be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the exigency that exists.
DIVISION 1 SPECIFICATIONS - SECTION 01390 – CONTROL OF WORK

B. Should the CONTRACTOR fail to respond to the Project Manager’s notification, the CPM may suspend any Work necessary for the COUNTY to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance costs incurred by the COUNTY shall be deducted from monies due to become due the CONTRACTOR.

PART 2 - PRODUCTS  (Not Used)

PART 3 - EXECUTION   (Not Used)

END OF SECTION 01390 - CONTROL OF WORK
DIVISION 1 SPECIFICATIONS - SECTION 01400 QUALITY CONTROL SERVICES

PART 1 - GENERAL

1.01 DESCRIPTION

A. General: This section specifies administrative and procedural requirements for quality assurance/quality control testing services.

1. Quality assurance/quality control testing services include inspections, tests, and related actions including reports, performed by the independent Test Laboratory under contract to the CONTRACTOR. Such services assist the CONTRACTOR in evaluating if the Work performed complies with the specifications or for use in evaluating construction related purposes. The CONTRACTOR may provide copies of test and inspection reports to the CPM upon request. Quality assurance/quality control testing costs are the responsibility of the CONTRACTOR and are a Cost of Work. They do not include Contract enforcement activities performed by the CPM or the Consultant.

2. Quality acceptance testing services include inspections, tests, and related actions including reports, performed by the independent Test Laboratory under contract to the COUNTY. Such inspection and testing services are intended to assist the CPM and the Consultant in the determination that the Work performed meets with requirements specified or indicated. These services do not relieve the CONTRACTOR of responsibility for compliance with Contract Documents requirements.

3. Payment for, and acceptance of, the Work will be made based on the Work installed meeting or exceeding the specifications as determined by the COUNTY’s quality acceptance testing results.

B. Requirements of this section relate to customized fabrication and installation procedures, not production of standard products.

1. Inspections, test and related actions specified are not intended to limit the CONTRACTOR’s quality control procedures that facilitate compliance with Contract Documents requirements.

2. Requirements for the CONTRACTOR to provide quality control services required by the Contract Documents, CPM, Consultant, and authorities having jurisdiction are not limited by provisions of this section.

1.02 TESTING BY THE COUNTY

A. The COUNTY will engage and pay for the services of a Testing Laboratory to perform quality acceptance inspections and tests specified for the Work.

1. Where the COUNTY has engaged a testing laboratory or other entity for testing and inspection of a part of the Work, and the CONTRACTOR is also required to engage an entity for the same related element, the
DIVISION 1 SPECIFICATIONS - SECTION 01400 QUALITY CONTROL SERVICES

CONTRACTOR shall not employ the entity engaged by the COUNTY, unless otherwise agreed in writing with the CPM.

1.03 TESTING BY THE CONTRACTOR

A. The CONTRACTOR may engage and will pay for the services of a Testing Laboratory to perform inspections and quality assurance/quality control tests. The COUNTY will ONLY engage and pay for the services of a Testing Laboratory to perform quality acceptance inspections and tests.

1. Where the Consultant has engaged a testing laboratory or other entity for testing and inspection of a part of the Work, and the CONTRACTOR is also required to engage an entity for the same related element, the CONTRACTOR shall not employ the entity engaged by the Consultant, unless otherwise agreed in writing with the CPM.

1.04 CONTRACTOR RESPONSIBILITIES

A. CONTRACTOR Responsibilities: The CONTRACTOR shall provide inspections, tests and similar quality assurance/quality control services, specified in individual Specification Sections and required by governing authorities.

1. Retesting: When the Work installed by the CONTRACTOR does not meet the requirements of the Specifications, as determined by the COUNTY's quality acceptance testing, the CONTRACTOR is responsible for retesting costs for all required inspections, tests, or similar services.

2. Associated Services: The CONTRACTOR shall cooperate with the laboratories performing required inspections, tests, and similar services, and provide reasonable auxiliary services as requested. The CONTRACTOR shall notify the CPM at least 24 hours in advance of operations requiring testing by the COUNTY to permit assignment of personnel. Auxiliary services required include but are not limited to:

   a. Providing access to the Work and furnishing incidental labor and facilities necessary to facilitate inspections and tests.
   b. Taking adequate quantities of representative samples of materials that require testing or assisting the laboratories in taking samples.
   c. Providing facilities for storage and curing of test samples, and delivery of samples to testing laboratories.
   d. Providing the testing laboratory with preliminary design mix proposed for use for materials mixes that require control by the testing agency.
   e. Providing security and protection of samples and test equipment at the Project site.

B. Duties of the Testing Laboratory: The independent testing laboratory engaged by the COUNTY, Consultant or CONTRACTOR to perform inspections, sampling and testing of materials and construction specified in individual Specification Sections will cooperate with the CPM, Consultant and CONTRACTOR in performance of its duties, and provide qualified personnel to perform required inspections and tests.
 DIVISION 1 SPECIFICATIONS - SECTION 01400 QUALITY CONTROL SERVICES

1. The COUNTY’s testing laboratory will notify the CPM and Consultant promptly of irregularities or deficiencies observed in the Work during performance of its services.

2. All testing laboratories do not have authority to release, revoke, alter or enlarge requirements of the Contract Documents, or approve or accept any portion of the Work.

3. All testing laboratories shall not perform any duties install the Work of the CONTRACTOR.

C. Coordination: The CONTRACTOR and each laboratory engaged to perform inspections, tests, and similar services shall coordinate the sequence of activities to accommodate required services with a minimum of delay. In addition, the CONTRACTOR and each laboratory shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.

1. The CONTRACTOR is responsible for scheduling times for inspections, tests taking samples, and similar activities, and shall notify the CPM at least 24 hours in advance of testing and sampling activities.

1.05 SUBMITTALS

A. The independent testing laboratory employed by the COUNTY or Consultant will submit an original and one (1) copy of the certified written report to the CPM. The CPM will provide a copy of the test report to the Consultant and CONTRACTOR of each inspection, test or similar service.

1. The independent testing laboratory shall submit additional copies of each written report directly to the governing authority, when the authority so directs.

2. Report Data: Written reports of each inspection, test or similar service shall include, but not be limited to:

a. Date of issue.
b. Project and title number.
c. Name, address and telephone number of testing agency.
d. Dates and locations of samples and tests or inspections.
e. Names of individuals making the inspection or test.
f. Designation of the Work and test method.
g. Identification of product and Specification Section.
h. Complete inspection or test data.
i. Test results and interpretations of test results.
j. Ambient conditions at the time of sample-taking and testing.
k. Comments or professional opinion as to whether inspected or tested Work complies with Contract Documents requirements.
l. Name and signature of laboratory inspector.
m. Recommendations on retesting.
DIVISION 1 SPECIFICATIONS - SECTION 01400 QUALITY CONTROL SERVICES

1.06 QUALITY ASSURANCE OF TESTING LABRATORY

A. Qualification of Testing Laboratory: The COUNTY or CONTRACTOR will engage an inspection and testing laboratory which is prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and which specializes in the types of inspections and tests to be performed. The testing laboratory will be accredited by a recognized accreditation authority as outlined in ASTM Section 3, and shall be authorized by the authorities having jurisdiction to operate in the state of Florida.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 GENERAL

A. The CONTRACTOR shall take corrective action necessary to comply with the Contract Documents as the CPM may direct. No change will be made in the Guaranteed Maximum Price (GMP) or in the Contract Time as a result of authorizing a change in methods or equipment under this section.

END OF SECTION 01400 - QUALITY CONTROL SERVICES
PART 1 - GENERAL

1.01 SUMMARY

A. This section specifies requirements for temporary services and facilities, including utilities, construction and support facilities, security and protection.

B. Temporary utilities required include but are not limited to:
   1. Temporary electric power and light.
   2. Temporary telephone service.
   3. Temporary water service.
   4. Temporary Project identification sign; all others are prohibited.

C. Temporary support facilities required include but are not limited to:
   1. Sanitary facilities, including drinking water.
   2. Waste disposal services.
   3. Dust control.

D. Temporary construction and support facilities:
   1. BCAD will provide a Field office for use by the CONTRACTOR during the performance of the Work. Additional field office requirements must be approved by the CA prior to mobilizing temporary facilities.

E. Security and protection facilities required include but are not limited to:
   1. Barricades, warning signs, lights
   2. Enclosures and Fencing
   3. Environmental protection
   4. Vehicular access
   5. Parking
   6. Traffic Regulation
   7. Security
DIVISION 1 SPECIFICATIONS - SECTION 01500 TEMPORARY FACILITIES

1.02 SUBMITTALS

A. Implementation and Termination Schedule: Submit a schedule indicating implementation and termination of each temporary facility or utility not less than (fifteen) 15 days of the established date for the commencement of the Work.

1.03 QUALITY ASSURANCE

A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction, including but not limited to:

1. Building Code requirements
2. Health and safety regulations
3. Utility company regulations
4. Police, Fire Department and Rescue Squad rules
5. Environmental protection regulations


1. Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services", prepared jointly by AGC and ASC, for industry recommendations.

C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits, and provide a copy to the CPM as a precondition of submitting a request for payment for the temporary facility.

1.04 PROJECT CONDITIONS

A. Temporary Utilities: Prepare a schedule indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the COUNTY, change over from use of temporary service to use of the permanent service.

B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous, dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.
DIVISION 1 SPECIFICATIONS - SECTION 01500 TEMPORARY FACILITIES

PART 2 - PRODUCTS

2.01 MATERIALS

A. Water: Provide potable water approved by local health authorities.

2.02 EQUIPMENT

A. Temporary Toilet Units: Provide self-contained single occupant toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material.

PART 3 - EXECUTION

3.01 TEMPORARY UTILITIES

A. Temporary Electricity

1. COUNTY will provide CONTRACTOR with electricity and the CONTRACTOR will provide any transformer required to convert the power to the voltage and amperage necessary to conduct its Work. COUNTY will pay cost of energy used. Exercise measures to conserve energy. Utilize COUNTY's existing power service.

2. Provide temporary electric feeder from existing building electrical service at location as directed by CPM. Do not disrupt COUNTY's use of service.

3. Complement existing power service capacity and characteristics as required for construction operations.

4. Provide power outlets, with branch wiring and distribution boxes located at each floor, as required for construction operations. Provide flexible power cords as required for portable construction tools and equipment.

5. Provide main service disconnect and over-current protection at convenient location and feeder switch at source distribution equipment.

6. Permanent convenience receptacles may be utilized during construction

B. Temporary Lighting for Construction Purposes

1. Provide and maintain lighting for construction operations to achieve minimum lighting level of 2 watt/sq ft.

2. Provide and maintain 1 watt/sq ft lighting to exterior staging and storage areas after dark for security purposes.

3. Provide branch wiring from power source to distribution boxes with lighting
DIVISION 1 SPECIFICATIONS - SECTION 01500 TEMPORARY FACILITIES

conductors, pigtails, and lamps for specified lighting levels.
4. Maintain lighting and provide routine repairs.
5. Permanent building lighting may be utilized during construction.

C. Temporary Water Service

1. COUNTY will pay cost of temporary water. Exercise measures to conserve water consumption. Utilize COUNTY’s existing or new water system, extend and supplement with temporary devices as needed to maintain specified conditions for construction operations. CONTRACTOR will provide all backflow prevention devices acceptable to CPM.

2. Extend branch piping with outlets located so water is available by hoses with threaded connections.

3. CONTRACTOR may utilize existing hose bibs in the Palm Garage and terminals for water use on the Project. Coordinate with BCAD Maintenance on connection to the water service lines. Do not connect to fire hydrants for water use.

3.02 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

A. General: Locate field offices, storage sheds, sanitary facilities and other temporary construction and support facilities as indicated or as directed by CPM.

1. Maintain temporary construction and support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use BCAD provided facilities, under conditions acceptable to the CPM.

B. Storage and Fabrication Sheds: Install storage and fabrication sheds, sized, furnished and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces within the building or elsewhere on the site. Final location is subject to CPM’s approval.

C. Do not use existing facilities for field offices or for storage unless otherwise directed by the CPM. Locate office and storage trailers as directed by CPM.

D. Field Office: Weather tight, with lighting, electrical outlets, heating, cooling and ventilating equipment, and equipped with sturdy furniture drawing rack and drawing display table.

E. Locate offices and sheds minimum distance of 30 feet from new structures.

F. Do not use permanent facilities for field offices unless otherwise directed by the CPM.
DIVISION 1 SPECIFICATIONS - SECTION 01500 TEMPORARY FACILITIES

G. Construction: Portable or mobile buildings, or buildings constructed with floors raised above ground, securely fixed to foundations with steps and landings at entrance doors.


2. Temperature Transmission Resistance of Floors, Walls, and Ceilings: Compatible with occupancy and storage requirements.

3. Exterior Materials: Weather resistant, finished in one color acceptable to CPM.

4. Interior Materials in Offices: Sheet type materials for walls and ceilings, pre-finished or painted; resilient floors and bases.

5. Lighting for Offices: 50-foot candles at desk top height, exterior lighting at entrance doors.

6. Fire Extinguishers: Appropriate type fire extinguisher at each office and each storage area.

7. Interior Materials in Storage Sheds: As required to provide specified conditions for storage of products.

H. Environmental Control:

1. Heating, Cooling, and Ventilating for Offices: Automatic equipment to maintain comfort conditions, 68 degrees F (20 degrees C) heating and 76 degrees F (23 degrees C) cooling.

2. Storage Spaces: Heating and ventilation as needed to maintain products in accordance with Contract Documents; lighting for maintenance and inspection of products.

I. Storage Areas And Sheds: Size to storage requirements for products of individual sections, allowing for access and orderly provision for maintenance and for inspection of products to requirements of Section 01600.

J. Preparation: Fill and grade sites for temporary structures sloped for drainage away from buildings.

K. Employee Residential Occupancy: Not allowed on COUNTY's property.

L. Sanitary Facilities: Sanitary facilities include temporary toilets, wash facilities and drinking water fixtures. Comply with regulations and health codes for the type, number, location, operation and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.

1. Provide toilet tissue, paper towels, paper cups and similar disposable
DIVISION 1 SPECIFICATIONS - SECTION 01500 TEMPORARY FACILITIES

materials for each facility. Provide covered waste containers for used material.

M. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Use of pit type privies will not be permitted.

N. Project Identification/Construction Company Identification Sign: When authorized in writing by the CPM, prepare Project identification sign of a size acceptable to the CPM; install sign where indicated to inform the public and persons seeking entrance to the Project. Securely attach, as required, to demising wall. Install sign at commencement of demolition operations and remove at a time as directed by the CPM.

1. Size: Two and one-half feet by five feet with four inch radius corners.

2. Quality Assurance: Engage an experienced sign painter to apply graphics.

3. Location: As directed by the Project Manager.

4. Graphic Description: Information shall include the names of Broward County Aviation Department, CONTRACTOR, Consultant, Project, and the completion date.

   a. Type Style: Helvetica Medium.

   b. Color: Slate Blue PMS 5405 background with white lettering.

O. Quantity: One sign located at each entrance to construction site and one sign located at field office if applicable.

P. Collection and Disposal of Waste: Collect waste daily. Comply with requirements of the COUNTY and NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 6 days or 2 days when the temperature is expected to rise above 80 degrees F (27 degrees C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material in a lawful manner.

Q. Dust Control:

1. Execute Work by methods to minimize raising dust from construction operations.

2. Provide positive means to prevent air-borne dust from dispensing into atmosphere.

3.03 VEHICULAR ACCESS

A. Construct temporary all-weather access roads from public thoroughfares to serve construction area, of width and load bearing capacity to accommodate unimpeded traffic for construction purposes.
DIVISION 1 SPECIFICATIONS - SECTION 01500 TEMPORARY FACILITIES

B. Construct temporary bridges and culverts to span low areas and allow unimpeded drainage.

C. Extend and relocate vehicular access as Work progress requires, provide detours as necessary for unimpeded traffic flow.

D. Location as approved by CPM.

E. Provide unimpeded access for emergency vehicles. Maintain 20 ft. wide driveways with turning space between and around combustible materials.

F. Provide and maintain access to fire hydrants and control valves free of obstructions.

G. Provide means of removing mud from vehicle wheels before entering streets.

H. Use designated existing on-site roads for construction traffic.

3.04 PARKING

A. COUNTY may provide on-Airport parking in a remote parking lot at no cost. Transportation of employees, Subcontractors, etc. to and from the remote lot is the responsibility of the CONTRACTOR.

B. Tracked vehicles are not allowed on paved areas.

C. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products and mud.

D. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies to maintain paving and drainage in original or specified condition.

E. Repair existing facilities damaged by use to original condition.

F. Mud from Site Vehicles: Provide means of removing mud from vehicle wheels before entering streets.

3.05 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Barricades, Warning Signs, Cones, Flag Persons and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint, as directed by the CPM, with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed, provide lighting, including flashing red or amber lights, cones and flag persons.

B. Haul Routes:

1. Consult with CPM; establish public thoroughfares to be used for haul routes and site access.
DIVISION 1 SPECIFICATIONS - SECTION 01500 TEMPORARY FACILITIES

2. Confine construction traffic to designated haul routes.
3. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.

C. Traffic Signs:
1. Provide signs at approaches to site and on site, at crossroads, detours, parking areas, and elsewhere as needed to direct and control construction traffic and affected public traffic.
2. Relocate as Work progresses, to maintain effective traffic control.

D. Environmental Protection: Provide protection, operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result. Avoid use of tools and equipment, which produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons near the site.

E. Barriers:
1. Provide barriers to prevent unauthorized entry to construction areas to allow for COUNTY's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
2. Provide barricades and covered walkways required by CPM for public rights-of-way and for public access to existing buildings.
3. Provide protection for plants designated to remain. Replace damaged plants.
4. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

F. Enclosures and Fencing:
1. Construction: Commercial grade chain link fence with black plastic privacy slats and 3-strand barbed wire and extension arm sloped to 45 degrees or equal as approved by CPM.
2. Provide fence around construction site as indicated on Construction Documents; equip with vehicular and pedestrian gates with locks.

G. Security:
1. Security Program:
DIVISION 1 SPECIFICATIONS - SECTION 01500 TEMPORARY FACILITIES

a. Protect Work and existing premises and COUNTY's operations from theft, vandalism, and unauthorized entry.
b. Initiate program in coordination with COUNTY's existing security system at Project mobilization.
c. Maintain program throughout construction period until COUNTY acceptance precludes need for CONTRACTOR security.

2. Entry Control:

   a. Persons working on AOA must have BCAD identification badge.
   b. Restrict entrance of persons and vehicles into Project site.
   c. Allow entrance only to authorized persons with proper identification.
   d. Coordinate access of COUNTY's personnel to site in coordination with COUNTY's security forces.

3.06 OPERATION, TERMINATION AND REMOVAL

A. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by the elements.

B. Termination and Removal: Unless the CPM requests that it be maintained longer, remove each temporary facility when the need has ended or no later than Substantial Completion.

   1. Materials and facilities that constitute temporary facilities are property of the CONTRACTOR.

END OF SECTION 01500 - TEMPORARY FACILITIES
DIVISION 1 SPECIFICATIONS - SECTION 01524 - LEED CONSTRUCTION WASTE

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes administrative and procedural requirements for the following:
   1. Salvaging nonhazardous demolition and construction waste.
   2. Recycling nonhazardous demolition and construction waste.
   3. Disposing of nonhazardous demolition and construction waste.

B. Construction waste tracking and submittal of the data required in this section within the times stipulated will be a prerequisite to approval of each Application for Payment.

1.02 DEFINITIONS

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

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

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

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

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

F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.03 PERFORMANCE

A. All waste management plans and all salvage/recycling/disposal of total waste generated by the Work to comply with the LEED requirements shall be designed and performed offsite by the waste handling company employed by CONTRACTOR and its Subcontractors to collect, remove, receive and dispose of such waste from the Project. CONTRACTOR shall accumulate and submit all required LEED records and reports.
DIVISION 1 SPECIFICATIONS - SECTION 01524 - LEED CONSTRUCTION WASTE

1. General: Develop waste management plan that results in end-of-project rates for salvage/recycling of at least 75% seventy five percent by weight of total waste generated by the Work.

1.04 SUBMITTALS

A. Waste Management Plan: Submit the plan in.pdf format to the COUNTY's representative and the Consultant, within 45 forty five days of the First Notice to Proceed.

B. Throughout the Project duration, on at least a monthly basis, the CONTRACTOR shall submit all data related to construction waste removed from the site or reprocessed at the site to the COUNTY's representative. To support this effort, the CONTRACTOR shall maintain, throughout the course of the Project, the records listed below. Any of these records shall be available to the COUNTY's representative immediately upon request.

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

2. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

C. LEED Submittal: LEED letter template for Credit MR 2.2, signed by CONTRACTOR, tabulating total waste material, quantities diverted and means by which it is diverted, and statement that requirements for the credit have been met.

D. Qualification Data: Waste Management Coordinator or Project Designee shall be a LEED Accredited Professional by U.S. Green Building Council.

1.05 QUALITY ASSURANCE

A. Waste Management Coordinator Qualifications: LEED Accredited Professional by U.S. Green Building Council. Waste management coordinator may also serve as LEED coordinator.

B. Waste Management Conference: Conduct conference as a portion of the Project's pre-construction conference. The purpose of this meeting is to insure that all parties are clear on their responsibilities with regard to the Work described in this specification section. Conduct conference at CONTRACTOR's Onsite Office.
DIVISION 1 SPECIFICATIONS - SECTION 01524 – LEED CONSTRUCTION WASTE

1.06 WASTE MANAGEMENT PLAN

A. Waste Reduction Work Plan: A general plan for each type of waste and whether it will be salvaged, recycled, or disposed of in landfill is listed herein. The CONTRACTOR will, based on these procedures, list points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures, based on the information under Part 3, 'Execution'.

1. Salvaged materials turned over to Owner: For materials that will be salvaged and turned over to the owner for storage or sale, describe methods for preparing and storing salvaged materials and for turning those materials over to the owner.

2. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.

3. Construction Waste - Co-mingled Recyclables: The following materials shall be collected in an appropriately sized container.
   a. Plastic Bottles (neck must be narrower than body)
   b. Paper, Paperboard- all types except frozen or refrigerated food/beverage packaging
   c. Metal food and beverage containers
   d. Aerosol Cans (empty)

4. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.


1.07 PRODUCTS (Not Used)

1.08 EXECUTION

A. Plan Implementation

1. General: Implement waste management plan as accepted without further comment by the COUNTY's representative. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

2. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management Work plan.
DIVISION 1 SPECIFICATIONS - SECTION 01524 - LEED CONSTRUCTION WASTE

3. Training: Train workers, Subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
   a. Distribute waste management plan to everyone concerned within [10] ten days of submittal return.
   b. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

4. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
   a. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
   b. Comply with Division 1 Section "Temporary Facilities" for controlling dust and dirt, environmental protection, and noise control.

1.09 SALVAGING DEMOLITION WASTE

A.
1. Clean salvaged items.
2. Store items in a secure area until installation.
3. Protect items from damage during transport and storage.

B. For salvage of the PBB
1. Bridges will not be cleaned, but delivered as is to the COUNTY

C. Salvaged Items for Owner's Use:
1. Clean salvaged items.
2. Pack or crate items after cleaning, if required. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area on-site, designated by Owner.
5. Protect items from damage during transport and storage.

1.10 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.
DIVISION 1 SPECIFICATIONS - SECTION 01524 - LEED CONSTRUCTION WASTE

B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to the CONTRACTOR.

C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. **Commingled method is acceptable in lieu of separating onsite due to site constraints.** Provide appropriate confirmation from waste hauler that their facility will comply and provide the necessary documentation.

1.11 RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.


3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. Pallets not reclaimed by vendors may be delivered to waste hauling provider for recycling. Pallets do not need to be broken down.

4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

1.12 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Transport waste materials off Owner’s property and legally dispose of them.

END OF SECTION 01524 - LEED CONSTRUCTION WASTE
DIVISION 1 SPECIFICATIONS - SECTION 01540 CONSTRUCTION SAFETY PLAN AND SECURITY REQUIREMENTS

PART 1 - GENERAL

1.01 PURPOSE AND OBJECTIVE

A. The purpose of this plan is to set forth guidelines concerning construction and safety on the Fort Lauderdale-Hollywood International Airport. Described herein are methods, procedures, rules and authorities to be adhered to during said construction period.

B. This Contract is intended to provide for the optimum degree of safety to aircraft, both parked and operating; Airport personnel, equipment and associated facilities; and to the CONTRACTOR's operations consistent with minimum interference to the movement of aircraft, vehicles and/or personnel engaged in the day-to-day operation of the Fort Lauderdale-Hollywood International Airport. To this end, the CONTRACTOR shall observe all Federal Aviation Advisory regulations and Airport rules and regulations and all other operational limitations, which may be imposed from time to time. It shall provide marking, lighting, barricades, signs or other measures which are required to properly identify its construction areas, Work sites, equipment, vehicles, storage areas and/or conditions which may be hazardous to Airport operations. Details of measures to be used to insure safety during construction are delineated in this section, in the CM @ R Agreement General Provisions, and on the Drawings.

C. If the CONTRACTOR fails to maintain the marking, lighting, barricades, signs, etc., as required above, the COUNTY will cause appropriate safety measures to be installed by others and all cost thereof shall be charged to the CONTRACTOR and deducted by the COUNTY from monies due to the CONTRACTOR.

D. Following are the general safety plan objectives that must be achieved in order to maximize safety and to minimize time and economic loss to the aviation community, construction contractors and others directly affected by the Project.

1. Keep the Airport operational for all users.
2. Minimize delays to Airport operations.
3. Maintain safety of Airport operations.
4. Minimize delays to construction operations.
5. Minimize Airport-operation/construction-activity conflicts.

E. The CONTRACTOR shall keep these objectives in mind when formulating its schedule and operational activities.

The CONTRACTOR's responsibility for safety and security shall begin on the day when it starts Work on the date of a Notice to proceed, whichever is earlier, and continues until Final Completion and Acceptance of the Work.
1.02 SAFETY PROCEDURES

A. In as much each Work area will be accessible to and used by the Public, the COUNTY, airlines and other companies doing business at the Airport during the construction period, it is the CONTRACTOR's responsibility to maintain each Work area in a safe, hazard free condition at all times. This will include barricades, fencing, taping up sharp corners or any other precautions necessary to protect the Public. Should the COUNTY, Consultant or CPM find the area unsafe at any time, he shall notify the CONTRACTOR, and the CONTRACTOR shall take whatever steps necessary to remedy the unsafe condition. Should the CONTRACTOR not be immediately available for corrective action, the CPM may remedy the problem and the CONTRACTOR shall reimburse the COUNTY for the expense of such correction.

B. Fire Control: Flame cutting will be permitted only on steel parts that cannot be removed in any other manner and only when at least one person is standing by exclusively with a fire extinguisher within ten (10) feet of the Work and within full view of the area. The fire extinguisher shall have been tested and ready for use. The CONTRACTOR shall submit a fire protection plan to the CPM for approval prior to conducting the Work requiring said protection plan. A Hot Work Permit may be required as directed by the CPM.

C. Work Near Fire Alarm: Caution shall be exercised as necessary when working near fire alarms so as not to accidentally activate fire alarms, doors or barriers.

D. Protection of Property: Fixed structures, equipment, paving, landscaping and vehicles (automobiles, trucks, etc.) shall be protected with drop cloths, shielding and other appropriate measures to assure maximum protection of all property and vehicles.

1.03 GENERAL SAFETY REQUIREMENTS

A. A construction/safety meeting will be conducted by the CPM after award of the Contract and prior to commencing construction. Additional construction/safety meetings may be scheduled as deemed necessary by the CPM throughout the life of the Contract. Representatives from the CONTRACTOR, Consultant, CPM and any others deemed necessary by COUNTY or CPM, will attend. The CONTRACTOR shall also conduct Safety/Security meetings as deemed necessary by the CPM and three (3) copies of the minutes will be provided to the CPM within five (5) calendar days of the meeting. All CONTRACTOR and Subcontractor supervisors are required to attend.

B. The CONTRACTOR shall inform its supervisors and workmen of the Airport activity and operations that are inherent to this Airport, the safety regulations of the Airport and the prohibition of driving or walking on any area of the Air Operations Area (AOA) without clearance. The CONTRACTOR shall conduct its construction activities to conform to both routine and emergency requirements, in full compliance with the Federal Aviation Administration (FAA) Advisory Circulars.
DIVISION 1 SPECIFICATIONS - SECTION 01540 CONSTRUCTION SAFETY PLAN AND SECURITY REQUIREMENTS

dealing with Safety and Security. The CONTRACTOR shall provide initial and continuing instruction to all supervisors, employees, Subcontractors and suppliers to enable them to conduct its Work in a manner that will provide the maximum safety with the least hindrance to air and ground traffic, the general public, Airport employees and to the workmen employed on the site.

C. Work may be stopped or suspended by the CPM or COUNTY anytime the CPM or COUNTY considers that the intent of this Safety Plan is being violated or that a hazardous condition has been/was created. This decision to suspend the Work will be final and will only be rescinded by the CPM when satisfied that the CONTRACTOR has taken action to prevent recurrence. Delays/Work stoppage as a result of the suspension of the Work will be considered the fault of the CONTRACTOR and shall not stop the Contract Time for assessing liquidation damages.

D. All CONTRACTOR vehicles authorized by BCAD, if any, to operate on the Airport outside the construction area limits as defined herein and cross active runways, safety zones, taxiways, instrument or approach clear zones or any movement area within the AOA shall do so only under direct control of a trained, qualified flagman who is in direct (two-way) radio communication with the ground controller of the Traffic Control Tower. All aircraft have priority over ground vehicles.

E. All contract vehicles, if any, that are authorized to operate on the AOA or the Airport outside of the designated construction area limits or haul routes as defined herein, shall display 3-foot by 3-foot flags or larger, orange and white checkerboard pattern, each checkerboard color being 1-foot square. Vehicles operating in the active AOA shall be under the control of the Ground Traffic Control Tower.

F. If any construction activity within 125-feet of an active runway edge or 83.5-feet from an active taxiway edge requires the closure of the affected runway or taxiway, unless otherwise approved by the BCAD Operations. No runway, taxiway or apron area shall be closed without written approval of BCAD Operations and the CPM. This will enable "Notices of Airmen" or other advisory communications to be issued. A minimum of 48-hour notice of requested closing shall be directed to the CPM who will coordinate the request with BCAD Operations.

1. Debris, waste and loose material capable of causing damage to aircraft landing gears, propellers or being ingested in jet engines shall be removed from the active portion of the AOA, placed in protected areas or otherwise secured to prevent dispersal into active portions of the AOA. The AOA is defined as all areas used or intended to be used for aircraft operations including active runways, aprons, taxiways, taxi lanes, etc. Debris shall be promptly removed from the AOA. The CONTRACTOR shall exercise care in the transportation of materials within the AOA. Materials tracked or spilled in the AOA shall be removed immediately.
DIVISION 1 SPECIFICATIONS - SECTION 01540 CONSTRUCTION SAFETY PLAN AND SECURITY REQUIREMENTS

2. When hauling, loading, grading, or when any of the CONTRACTOR’s activities are likely to cause the deposit of loose materials in the AOA, powered vacuum sweepers shall patrol the affected areas continuously to remove such deposits. The sweepers shall be supplemented by hand sweepers, loaders, truck, etc. as necessary.

3. Closures:
   a. Prior to the commencement of any demolition or other Work, which will cause an interruption, or modification to existing aircraft operations, the CONTRACTOR shall confer with and obtain, written authorization from the CPM.
   b. If the CONTRACTOR requires access to operational areas not delineated on the Construction Safety Plan Drawing(s), the CONTRACTOR shall participate in negotiations leading to the imposition of restrictions on Airport operations in the affected areas, it shall strictly abide by all conditions imposed by BCAD relating to its entry and use of such area and it shall not enter these areas until granted temporary, conditional entry clearance BCAD – Operations.
   c. Trenching, excavation and other Work requiring temporary runway or taxiway closure shall be limited by the CONTRACTOR to that amount of Work that can be completed within the hours of minimal operation. All ditches, excavations, etc. shall be restored prior to the end of the Work period and affected pavements returned to service. This Work shall be scheduled during hours of minimal operations. Hours of minimal operation shall be the hours between 10:00 p.m. and 6:00 a.m. All other hours shall be hours of normal operation.
   d. The CONTRACTOR may be required to pursue affected portions of the Work on a continuous 24-hour per day basis during construction of the various phases and subphases shown on the Drawings and described in the Contract Documents (such as when runways or taxiways, aprons, service or other access roadways, service gates are closed for operations or when hazards of any kind arise).
   e. The CPM will arrange with BCAD Operations for inspection prior to opening for aircraft use any taxiway that has been used for a crossing point or haul route by the CONTRACTOR.

4. Operations Safety Inspection:
   a. The entire Work site shall be inspected daily and more frequently if construction activities are of a nature that debris may accumulate on AOA pavements. Special inspections shall be conducted for each Work area prior to return to service for aircraft operation. The purpose of these inspections is to ascertain that areas returned to aircraft service are in satisfactory condition and that the overall Work site and its activities are within the safety criteria set forth in these Contract Documents. Inspections shall be conducted jointly by representatives of the CONTRACTOR, BCAD-Operations, the CPM and the airlines.
   b. Any violations of safety criteria found during these inspections shall be
DIVISION 1 SPECIFICATIONS - SECTION 01540 CONSTRUCTION SAFETY PLAN AND SECURITY REQUIREMENTS

rectified immediately. If a violation cannot be corrected on an immediate basis by the CONTRACTOR, it shall immediately notify the CPM. No areas shall be approved for operations with violations occurring unless specifically authorized by BCAD Operations, the CPM and the designated airline representative.

G. Open flame torch cutting or welding is prohibited unless adequate safety precautions have been taken and approved by the CPM. Use of explosively operated fastening devices within the confines of the Airport is strictly prohibited.

H. The CONTRACTOR shall preserve and/or protect existing and new pavements plus other facilities from damage due to construction operations. Existing pavements and facilities that are damaged shall be replaced or reconstructed to original strength at the CONTRACTOR’s expense. The CONTRACTOR shall take immediate action to reconstruct any damaged area that is to remain in service. Unless indicated on the Drawings, existing pavements shall not be cut for the installation of any utilities. Jack and bore method shall be required.

I. Construction Area Limits:

1. FAA Advisory Circular 150/5370-2C, Appendix 1, prohibits construction activity within 125-feet of an active runway (open for aircraft use) edge or within the Obstacle Free Zone 150/5370-2C further restricts construction activity within 83.5-feet of the edge of the taxiway (48.5-feet of the shoulder edge) when the aircraft using the taxiway includes aircraft such as the B-747. The activity limits shall be adequately signed and marked by the CONTRACTOR to preclude violation of this restriction. The area shall be well identified by warning signs and lights at night. The CONTRACTOR shall install lighting, marking, barricades, signs and other measures to delineate closed and hazardous area during construction. The guidance and procedures provided by FAA Advisory Circular AC 150/5340-1E, “Marking of Paved Areas on Airports”, shall be utilized as depicted on the Drawings. Barricades shall be weighted or otherwise secured to sufficiently prevent displacement by aircraft engine and propeller blast and ambient winds. Steady burning red obstruction lights may be required in certain instances to supplement lighted barricades or highlight hazardous or potentially dangerous objects. The location of these lights will be as depicted on the Drawings or requested in the field by the CPM. Obstruction lights and barricades shall not be located within runway, taxiway or taxi lane obstacle clearance areas.

2. The limits of construction, material storage area, plant site, equipment storage area, parking area and other areas defined as required for the CONTRACTOR’s exclusive use during construction shall be marked by the CONTRACTOR. The CONTRACTOR may erect and maintain around the perimeter of these areas suitable marking and warning devices visible for day/night use. Temporary fencing, barricades, flagging and/or flashing warning lights will be required at critical access points. Type of marking and warning devices shall be approved by CPM. Open trenches, excavations and stockpiled materials shall be permanently marked with
DIVISION 1 SPECIFICATIONS - SECTION 01540 CONSTRUCTION SAFETY PLAN AND SECURITY REQUIREMENTS

flags and lighted by approved light units during hours of reduced visibility and darkness. No separate pay item is included for this Work and all costs must be included in the Lump Sum Bid.

J. As designated on the Drawings, the CONTRACTOR shall erect and maintain throughout the life of the Contract. The CONTRACTOR shall also install vehicle and pedestrian gates as necessary to provide adequate ingress/egress. The CONTRACTOR shall be solely responsible for access control through any access gate leading to the AOA. This access control will be for all personnel using the gate for access to the AOA. The CONTRACTOR is solely responsible for all security within the construction area from the date of the Notice to Proceed until the date of Final Completion. Equipment not in use during construction, nights and/or holidays shall be parked here. The CONTRACTOR shall at all times conduct all operations under the Contract in a manner to avoid or minimize the risk of loss, theft or damage by vandalism, sabotage or the means to any property. The CONTRACTOR shall promptly take all reasonable precautions, which are necessary and adequate to correct all conditions, which threaten a risk of loss, theft or damage to property.

K. During construction, the CONTRACTOR shall maintain these areas in neat condition. CONTRACTOR’s vehicles, equipment and materials shall be stored in the areas designated on the Drawings. Upon completion of the Work, the staging and storing areas shall be cleaned-up and returned to their original condition to the satisfaction of the CPM. Remove all construction fencing and barricades from the Project site. No special payment will be made for clean-up and restoration of the storage area. Personal vehicles shall not be permitted beyond the CONTRACTOR’s Construction Area. Drivers of personal vehicles being operated beyond this CONTRACTOR’s Construction Area shall be subject to loss of permission to enter the construction site.

L. Intermittent Construction Operations:

1. Heavy construction will require closing of certain areas by the CPM. However, some Work may be done on an intermittent basis. The CONTRACTOR shall maintain constant communication with the CPM when working and immediately obey all instructions from the CPM. Failure to so obey instructions or maintain constant communication with the CPM will cause to suspend the CONTRACTOR’s operations in the areas until satisfactory conditions are assured.

2. When directed to cease Work and move from the area, the CONTRACTOR shall immediately respond and move all material, equipment and personnel outside areas. Operations shall not be resumed until directed by the CPM. Every reasonable effort will be made by the CPM or the Consultant to cause minimum disturbance to the CONTRACTOR’s operations. However, no guarantee can be made as to the extent to which disturbance can be avoided. CONTRACTOR’s claim for additional Contract Time for any such disruption shall not be accepted.

3. Open trenches or excavations exceeding 3-inches in depth and 3-inches in
DIVISION 1 SPECIFICATIONS - SECTION 01540 CONSTRUCTION SAFETY PLAN AND SECURITY REQUIREMENTS

width shall not be permitted within 250-feet of the centerline of an active runway or within 100-feet of the centerline of active taxiways and taxi lanes unless otherwise shown on the Drawings. If an area is to be opened to aircraft movement, either at night or during the day, the CONTRACTOR shall decrease the drop off to 3-inches by placing five percent (5%) maximum slope to existing grade. There is no separate payment for this temporary construction.

M. Limitation of Operations:

1. When the Work requires the CONTRACTOR to operate on or adjacent to the public area of the Terminal Building, the operation shall be coordinated with BCAD through the CPM at least 48-hours prior to commencement of the Work. At no time shall the CONTRACTOR close a public area until authorization to do so has been granted by the CPM.

2. When the contract Work requires the CONTRACTOR to operate on or adjacent to the apron or taxiway AOA, the operation shall be coordinated with BCAD-Operations through the CPM, at least 48-hours prior to commencement of the Work. At no time shall the CONTRACTOR close an AOA until authorization to do so has been granted by the CPM and until temporary marking and associated lighting is provided and in place as specified in FAA Advisory Circular 150/5340-1E, "Marking of Pave Area on Airports" and/or the Drawings and Specifications.

3. The CONTRACTOR shall be responsible for controlling its operations and those of its Subcontractors so as to provide for the free and unobstructed movement of all passengers and private vehicles in the Airport.

4. The CONTRACTOR shall be responsible for controlling its operations and those of its Subcontractors so as to provide for the free and unobstructed movement of aircraft in the apron and taxiway areas of the AOA.

5. When the contract Work requires the CONTRACTOR to Work with an AOA of the Airport on an intermittent basis (intermittent opening and closing of the AOA), the CONTRACTOR shall maintain constant communication; immediately obey all instructions to resume Work in such AOA. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the CONTRACTOR's operations in the AOA until the satisfactory conditions are provided.

N. Obstructions to Navigation:

1. Penetrations of the imaginary surfaces defined in FAR Part 77 shall not be permitted without advance notification of and approval by BCAD Operations and the FAA Tower Chief. It may be necessary to file Form 7460-1 with the FAA to obtain approval prior to operation of exceptionally tall equipment. This includes any penetrations whatsoever by the CONTRACTOR, including, but not limited to, vehicles, cranes, other construction equipment, structures, stockpiled materials, excavated earth, etc.
DIVISION 1 SPECIFICATIONS - SECTION 01540 CONSTRUCTION SAFETY PLAN AND SECURITY REQUIREMENTS

2. When penetrations are unavoidable they shall be brought to the attention of BCAD Operations, the CPM and the FAA as far in advance as is practical to allow Notices to Airmen (NOTAMS) to be prepared and distributed to appropriate FAA divisions for publication and dissemination.

3. Appropriate sketches shall be prepared by the CONTRACTOR with precise locations shown on the Airport Layout Plan along with elevations depicting the obstruction object's relationship to the imaginary surfaces.

4. Cranes, draglines, derricks, or other unusually tall equipment operating on the Airport shall be in direct radio communication with the control tower. To effect this communication, the CONTRACTOR shall provide two-way radios capable of communication on ground control frequency. Operators of such construction equipment shall be qualified and knowledgeable in the use of radio equipment and capable of following instructions in a timely fashion.

5. The maximum height allowed on the Airport is 35 feet above ground level unless, in special instances, this requirement is waived by BCAD Operations and the FAA. During times when the safety of the flight operations could be impaired, particularly during IFR weather, or when the equipment is idle, all booms, towers and other moveable appendages shall be lowered to the maximum extent.

O. Emergency Procedures:

1. The CONTRACTOR shall familiarize himself with Airport emergency procedures and shall endeavor to conduct its operations so as not to conflict with them. Clear routes for crash/fire/rescue equipment shall be maintained in operable condition at all times.

2. Emergency Procedure: In case of an emergency caused by accident, fire, or personal injury or illness, Airport Police are to be immediately notified by Page Phone found throughout the Terminal buildings or by calling them at 911 or Airport Police Emergency Phone No. 954-359-1244. The caller must accurately report the location and type of emergency. Airport Police will then coordinate with the CPM and the COUNTY and/or outside emergency agencies as necessary.

P. Access to the Construction Site

1. The CONTRACTOR's access to the site shall be as shown on the Drawings. The access route is also used by Airport employees. No other access routes shall be allowed unless approved by the CPM. The vertical clearance in the existing parking garage is 6'-8". No vehicle taller than 6'-8" shall be allowed to operate in the existing parking garage structure. All CONTRACTOR traffic authorized to enter the site shall be experienced in the route or guided by the CONTRACTOR's personnel. The CONTRACTOR shall be responsible for traffic control to and from the various construction areas on the site.
2. The CONTRACTOR shall familiarize its employees with the route. Materials and equipment delivery trucks shall be accompanied by an employee of the CONTRACTOR familiar with the route. The CONTRACTOR shall be responsible for access control for the duration of its Contract. This access control will be for all personnel.

3. The CONTRACTOR shall monitor and coordinate all CONTRACTOR traffic with the BCAD’s security. The CONTRACTOR shall not permit any unauthorized construction personnel or traffic on the site, including food and beverage vendors or caterers.

4. The CONTRACTOR shall provide and operate an escort vehicle to lead other vehicles when operating within the site.

5. The CONTRACTOR is responsible for immediate clean-up of any debris deposited along the access route as a result of its construction traffic. The entire access route and construction site shall be kept free and clean of all debris at all times and maintained in good repair by the CONTRACTOR or its agents, and shall be immediately repaired to the satisfaction of the COUNTY. Directional signing along the delivery route to the storage area or Work site shall be as directed by the CPM.

Q. Load Restriction

1. The CONTRACTOR shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of Work. A special permit will not relieve the CONTRACTOR of liability for damage that may result from the moving of material or equipment.

2. The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction shall not be permitted. Hauling of materials over the base course or surface course under construction shall be limited as directed. No loads shall be permitted on a concrete pavement base, or structure before the curing period. The CONTRACTOR shall be responsible for all damage done by its hauling equipment and shall correct such damage at its own expense.

3. It is especially noted that the existing Airport pavements may not be capable of supporting certain types of construction equipment. Prior to bidding, the CONTRACTOR shall fully satisfy himself as to the ability of the existing Airport pavements to satisfactorily sustain the type of equipment it plans to use. Should damage occur as a result of negligent construction operations, the CONTRACTOR shall repair the damaged areas to an acceptable condition at its expense.

R. CONTRACTOR’s Security Requirements

1. General Intent: It is intended that the CONTRACTOR shall comply with all requirements of the Airport Security Plan and with the security plan specified
DIVISION 1 SPECIFICATIONS - SECTION 01540 CONSTRUCTION SAFETY PLAN AND SECURITY REQUIREMENTS

here within. The CONTRACTOR shall designate, to the CPM, in writing, the name of its Security Officer (CSO). The CSO shall be the CONTRACTOR's representative on the "Construction Security Committee" and shall be accountable for these security requirements for the CONTRACTOR. The positions of the CONTRACTOR's Security Officer (CSO) and the CONTRACTOR's Safety Officer (CSO) shall be filled by one individual known as the CONTRACTOR's Security/Safety Officer (CSO).

2. CONTRACTOR Safety Personnel orientation: The CONTRACTOR's CSO will be responsible for all safety precautions. Prior to the commencement of the Work, the CSO shall provide the CPM an outline of a proposed accident and fire protection plan for all Work contemplated under the Contract and conduct safety meetings as directed by the CPM for each shift and require the attendance of all supervisors at such meetings. Copies of the minutes of the safety meetings shall be kept on file in the CONTRACTOR's Office. The positions of the CONTRACTOR's Security Officer (CSO) and the CONTRACTOR's Safety Officer (CSO) shall be filled by one individual known as the CONTRACTOR's CSO.

3. Identification – Vehicles: The CONTRACTOR, through the CSO, shall establish and maintain a list of CONTRACTOR and Subcontractor vehicles authorized to operate on the site and shall issue a permit to each vehicle to be made available upon demand by the CPM or any Airport Security Officer. Vehicle permits shall be assigned in a manner to assure positive identification of the vehicle at all times. In lieu of issuing individual vehicle permits, the CSO can require each vehicle to display a large company sign on both sides of the vehicle and advise the COUNTY through the CPM of a current list of companies authorized to enter and conduct Work on the Airport.

4. Employee Parking:

a. Area for parking of the CONTRACTOR's employee's vehicles is in the CONTRACTOR's construction area as provided by the CPM. Parking shall be accomplished in straight equally spaced rows. CONTRACTOR shall organize traffic flow and parking patterns, supply traffic control signs and markings, subject to the approval of the CPM. The CONTRACTOR shall maintain the parking surface and pick up trash daily. No storage will be allowed on the parking site. The CONTRACTOR shall restore the shape and grade of this parking area upon the job completion, see and mulch portions where existing ground cover is damaged and perform all Work required to restore the area to its original condition.

b. All vehicles that are parked in the CONTRACTOR's construction area shall have an identification sticker as directed by the CPM. Stickers shall be supplied by the CONTRACTOR and state the Project number and CONTRACTOR's name. Vehicles shall be parked so that identification stickers are visible from the parking lot driving lanes at all times. The CONTRACTOR shall provide transportation for its employees from the parking area to the Work site using company
DIVISION 1 SPECIFICATIONS - SECTION 01540 CONSTRUCTION SAFETY PLAN AND SECURITY REQUIREMENTS

owned vehicles.

c. When the CONTRACTOR's employees parking area is adjacent to another CONTRACTOR's parking area performing other construction for the COUNTY, cooperation between Contractors is required to avoid any interferences in the performance of each other's respective construction. Any difficulties experienced shall be brought to the attention of the CPM immediately.

5. Materials Delivery to the Site: All CONTRACTOR's material orders for delivery to the Work site will use as a delivery address, the street name and number assigned to the access point onto the Airport.

6. Security Background verification, fingerprinting and identification badging is required for all Work conducted in Security Identification Display Areas (SIDA). The prime CONTRACTOR is responsible for managing, obtaining and complying with all TSA and Airport security and badging requirements for their own firm as well as all of their Subcontractors on their team. The prime CONTRACTOR and all Subcontractors are responsible for all costs associated with complying with the terms and conditions of all security requirement including but not limited to any fines levied (including against BCAD) due to noncompliance with SIDA or Airport Security rules.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01540 - CONSTRUCTION SAFETY PLAN AND SECURITY REQUIREMENTS

Attachments: HOT WORK PERMIT
DIVISION 1 SPECIFICATIONS - SECTION 01540 CONSTRUCTION SAFETY PLAN AND SECURITY REQUIREMENTS

HOT WORK PERMIT

Hot Work Permit for ____________________________ (Name of Project)
Date ____________________ Time ____________________
Area ____________________ Dept ____________________
Location of work ____________________________
Work to be done ____________________________
Special precautions ____________________________
Is fire watch required? ____________________________
If yes, Person responsible for fire watch ____________________________
Person responsible for welding ____________________________

This location will be examined, and the necessary precautions taken.
(By supervisor of Company performing the welding)
Time started ____________________ Time Completed ____________________

Fire checks must be performed and signed AFTER HOT WORK IS COMPLETED.
30 minute By ____________________ (Permit Holder)
1-2 hour By ____________________ (Permit Holder/Designee)

INITIAL CHECK TO BE FILLED OUT PRIOR TO START OF JOB

☐ Equipment to be used in good repair
☐ Area (3 meters) clear of combustibles and flammables
☐ Fire extinguisher(s)
☐ Water hose
☐ Not within 8 meters of explosives
☐ Not within a smoking area
☐ Area to be wetted down
☐ All wall and floor openings covered
☐ Equipment cleaned of all combustibles and flammables
☐ Containers purged of flammable vapors
☐ Combustibles and flammable liquids protected with covers, guards, or metal shields
☐ Area secured/guarded

No work is to be performed without checklist being completed and complied with
Completed by ____________________ (Permit Holder)
Time ____________________ Date ____________________

Permission is granted for this work after the INITIAL CHECK is completed and signed by the Permit Holder, CPM, and the CM @ R.

Program Manager ____________________
Time ____________________ Date ____________________

Managing General Contractor ____________________
Time ____________________ Date ____________________

* All costs incurred as a result of the issuance of the Hot Work Permit shall be borne by the permit holder.
* This form must be submitted 24 hours prior to commencement of the work.
DIVISION 1 SPECIFICATIONS - SECTION 01540 CONSTRUCTION SAFETY PLAN AND SECURITY REQUIREMENTS

Sunshine State One-Call of Florida, Inc.
Internet Ticket Entry (ITE) Application

Applicant Name: 
Company Name: 
Mailing Address: 
City: State: Zip: 
Telephone Number: Fax Number: 
Email Address: Requested Login ID: 

Have you ever called tickets into the call center? Yes No 
If yes, what is the approximate average number of tickets that you call in per week? 

Have you ever used the Fax-A-locate Program? Yes No 
If yes, what is the approximate average number of tickets that you fax in per week? 

By signing below, I agree that, as an approved ITE user, I have received and will comply with the current ITE policies and procedures as revised 7/02, and will indemnify Sunshine State One Call for any damages caused by erroneous information or incorrect grids provided on ITE tickets.

Signature: Title: Date: 

Return completed application to: Sunshine State One Call of Florida • 11 Plantation Road • DeBary, FL 32713 
Voice: (386) 575-2000 FAX: (800) 651-8601 

SSOCOF USE ONLY BELOW THIS LINE

Date application was received: Application ID#: 
Voice Tickets Reviewed: Fax-A-locate Tickets Reviewed: 
Approved: Date: 
User login ID: Password: 
Initial training scheduled for: Initial training completed: 
(by) (by) (date) (date) 
Approved for submitting completed tickets: Date System Changed: 
(by) (date) 

Revised 4/05

Section 01540 Construction S Requirements
PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. Existing facilities, utilities, and features depicted on the Drawings are not guaranteed to be accurate with respect to location, condition, and characteristics. Also, there may be additional facilities, utilities, and features existing that could affect the Work, which are not depicted or described in the Contract Documents.

B. Prior to Bidding, the CONTRACTOR shall make a thorough investigation of the Project area to satisfy itself as to the location, condition, and characteristics of any and all facilities, utilities, and features which may affect its Work.

C. The CONTRACTOR hereby agrees to make no claims against the COUNTY, CPM or the Consultant and/or their representatives relating to the existence or lack of, location, condition, and/or characteristics of any existing facilities, utilities, or features that is shown on the construction plans provided.

D. The CONTRACTOR shall not install any restrictive device, including but not limited to mud plugs, in any storm drain line or structure without written approval from the CPM. A CPM Representative must be present during the installation and removal of any restrictive device. Damage caused by flooding as the result of a restrictive device shall be repaired and/or replaced by the CONTRACTOR to satisfactory conditions acceptable to the CPM at no additional cost to the COUNTY.

1.02 PROTECTION OF EXISTING UTILITIES

A. The term "utilities" includes FAA power and control cables, FP&L power lines, telephone cables, lines and fiber optics, Sheriff's Department lines, airline communication cables, airfield lighting cables, COUNTY underground electrical, revenue control, communications lines, cables, and fiber optics, water lines, drainage lines, irrigation lines, HVAC equipment, sanitary force main, sanitary lines, and fuel and gas lines and any other supportive utility facility. These utilities may be located in the areas of demolition and construction. Disruption of these utilities could seriously disrupt operation of the Airport. Although the Drawings tend to located cables and utilities, actual locations are uncertain. The CONTRACTOR is required to verify all locations, in accordance with Florida Statute 556.101-111, "Underground Facility Damage Prevention and Safety Act". The CONTRACTOR shall call Sunshine State One-Call of Florida, Inc. at 1-800-432-4770 and the CPM prior to any and all digging operations.

B. Any intentional interruption of existing utilities for the purpose of carrying out the Work shall be carried out in a manner to minimize the length of scope of the interruption. Before any such interruption, the CONTRACTOR shall give a minimum of 48-hours written notice to the CPM.
C. The COUNTY reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service at any time during the progress of the Work.

D. Except as listed in the Contract Documents, the CONTRACTOR shall not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or FAA facilities located within the limits of the Work without the written permission of the CPM.

E. Should the COUNTY, public or private utility service, FAA, or NOAA facilities or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service during the progress of the Work, the CONTRACTOR shall cooperate with such utility service facility by arranging and performing the Work in this Contract so as to facilitate such Work by others. In addition, the CONTRACTOR shall control its operations to prevent the unscheduled interruption of such utility services, FAA facility and other facilities. It is understood and agreed that the CONTRACTOR shall not be entitled to make any claim due to such authorized construction by others or for any delay to the Work resulting from such authorized construction. The CONTRACTOR shall coordinate all Work with all utility services, FAA facility, or other facility.

F. To the extent that such public or private utility services, FAA or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the contract Work, the approximate locations have been indicated on the Drawings.

G. It is understood and agreed that the COUNTY does not guarantee the accuracy or the completeness of the location information relating to existing utility services, FAA facilities or structures that may be shown on the Drawings or encountered in the Work. Any inaccuracy or omission in such information will not relieve the CONTRACTOR of its responsibility to protect such existing features indicated to remain, from damage or unscheduled interruption of service.

H. Failure of the CONTRACTOR to properly coordinate in advance, Work and/or repairs on or near existing utilities, shall be cause for the CPM to suspend the CONTRACTOR’s operations in the vicinity of such utilities.

I. If damage occurs to any utilities as a result of negligence by the CONTRACTOR or Subcontractor, the CONTRACTOR will be assessed a fee of $2,000 liquidated damages per cut per cable, line or strand. The liquidated damages assessed will only represent the expense incurred by the COUNTY in coordinating the repair, and will not prevent the COUNTY or others from recovering from the CONTRACTOR other costs, damages, or expenses of any other nature incurred on account of damages to utilities.

J. Should the CONTRACTOR damage or interrupt the operation of a utility service or FAA facility by accident or otherwise, it shall immediately notify the proper utility service or FAA facility and the CPM and shall take all reasonable measures to prevent further damage or interruption of service. The CONTRACTOR, in
such events, shall cooperate with the utility service or FAA facility and the CPM continuously until such damage has been repaired and service restored to the satisfaction of the utility service or FAA facility.

K. The CONTRACTOR shall immediately repair, at its own expense, with identical material by skilled workmen, all utilities, FAA cables and other facilities, which are damaged by its workmen, equipment, or Work. Prior approval of the appropriate utility service and/or FAA facility shall be obtained from the CPM for the materials, workmen, time of day or night, method of repairs, and any temporary or permanent repairs the CONTRACTOR may propose to any FAA cables or utility service damaged by the CONTRACTOR during the course of the Work.

L. The Airport's publicly owned facilities and privately owned facilities located on Airport property, including underground cables, pavements, piping, buildings, turfed areas, vehicles, and other facilities and improvements, that are damaged by the CONTRACTOR, shall, at the election of the CPM, be replaced or repaired by the CONTRACTOR to the satisfaction of the CPM at the CONTRACTOR's expense. If said repairs do not commence within five (5) calendar days of written notice by the CPM, the COUNTY may proceed with the repair Work and charge the CONTRACTOR for all costs or withhold payment to CONTRACTOR for said repairs. Approval of the repair vests with the entity with jurisdiction over the facility.
PART 1 - GENERAL

1.01 DESCRIPTION

A. Includes requirements for prevention, control and abatement of erosion situation and water pollution resulting from the construction of the Project until Final Completion and Acceptance.

B. All applicable provisions of local codes concerning grading, filling, excavation, and soil removal shall be complied with.

1.02 PERMITS

A. It shall be the responsibility of the CONTRACTOR to obtain all Federal, State, and local permits and to conduct its Work in the manner designated by all applicable permits. Violations of any permit by the CONTRACTOR will in no way involve the COUNTY regardless of who obtained the permit initially.

1.03 ECOLOGICAL REQUIREMENTS

A. Take sufficient precautions to prevent pollution of streams, canals, lakes, reservoirs and other water impoundments with fuels, oils, bitumens, calcium chloride or other harmful materials. Also, conduct and schedule operations so as to avoid interference with movement of migratory fish. No residue from dust collectors or washers shall be dumped into any live stream.

B. Construction operations in rivers, streams, lakes, tidal waters, reservoirs, canals and other water impoundments shall be restricted to those areas where it is necessary to perform filling or excavation to accomplish the Work shown in the plans and to those areas which must be entered to construct temporary or permanent structures. As soon as conditions permit, rivers, stream, and impoundments shall be properly cleared of all obstructions placed therein or caused by construction operations.

C. Except as necessary for construction, and approved by the CPM, excavated material shall not be deposited in rivers, streams, canals or impoundments, or in a position close enough thereto to be washed away by high water or runoff.

D. Do not disturb lands or waters outside the limits of construction except as may be found necessary and authorized by the CPM.

1.04 SCHEDULING/COORDINATION

A. Clearing and grubbing shall be scheduled and performed that grading operations can follow immediately thereafter; grading operations shall be so scheduled and performed that permanent erosion control features can follow immediately thereafter if conditions on the Project permit.
B. Schedule operations such that the area of unprotected erodible earth exposed at any one time is not larger than the minimum area necessary for efficient construction operations; and the duration of exposed, uncompleted construction to the elements shall be as short as practicable.

1.05 PROTECTION OF STORM DRAINS

A. Storm drain facilities, both open and closed conduit, serving the construction area shall be protected from pollutants and contaminants.

B. If the CPM determines that siltation of drainage facilities has resulted due to the Project, the CPM will advise the CONTRACTOR to remove and properly dispose of the deposited materials without an increase to the GMP.

C. Should the CONTRACTOR fail to or elect not to remove the deposits, the COUNTY will provide maintenance cleaning as necessary and charge all costs of such service against the amount of money due or to become due the CONTRACTOR.

1.06 PREVENTION, CONTROL AND ABATEMENT REQUIREMENTS

A. Provide, install, construct and maintain all coverings, mulching, sodding, sandbagging, berms, slope drains, hay and straw bales, sedimentation structures or other devices necessary to meet City, State and Federal regulatory agency codes, rules and laws, and as indicated on the Drawings.

B. The locations and methods of operation in all detention areas, borrow pits, material supply pits and disposal areas furnished by the CONTRACTOR shall meet the approval of the CPM as being such that erosion during and after completion of the Work will not likely result in detrimental siltation of water pollution.

C. The CPM may limit the surface areas of unprotected erodible earth exposed by clearing and grubbing, excavation or filling operations and may direct the CONTRACTOR to provide immediate erosion or pollution control measures to prevent siltation or contamination of any river, stream, lake, tidal waters, reservoir, canal or other impoundment or to prevent damage to the Project or property outside the Project right of way.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01560 - PREVENTION, CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION
DIVISION 1 SPECIFICATIONS - SECTION 01561 CONSTRUCTION CLEANING

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. CONTRACTOR shall enforce daily cleaning during progress of Work and enforce final cleanup prior to Substantial Completion.

B. Hazards Control:
   1. Store volatile wastes in covered metal containers.
   2. Remove containers from premises daily.
   3. Prevent accumulation of wastes that create hazardous conditions.
   4. Provide adequate ventilation during use of volatile or noxious substances.

C. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws:
   1. Do not burn or bury rubbish or waste materials on Project site.
   2. Do not dispose of volatile wastes, such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
   3. Transport waste materials and debris across Airport property in covered trucks.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Use cleaning materials recommended by manufacturer or surface to be cleaned which will not create hazards to health or property and which will not damage surfaces.

B. See Technical Specifications for specific products.

PART 3 - EXECUTION

3.01 CLEANING DURING CONSTRUCTION

A. Enforce cleaning to keep building, grounds, and public properties free of accumulation of waste materials, rubbish, and windblown debris resulting from construction operations.

B. Have protective covering applied on newly installed Work where reasonable required to ensure freedom from damage or deterioration at time of Substantial
Completion. Enforce cleaning and maintenance on other newly installed Work as frequently as necessary through remainder of construction period.

C. Have operable components adjusted and lubricated to ensure operability without damaging effects.

D. Furnish on-site containers for collection of waste materials, debris, and rubbish.

E. Remove waste material, debris, and rubbish from site daily.

F. Do not drop or throw materials from heights.

G. Continue enforcing cleaning daily until site is ready for occupancy.

3.02 DUST CONTROL

A. Wet down materials and rubbish to prevent blowing dust on a regular basis as required by the CPM.

B. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

3.03 FINAL CLEANING

A. Provide final cleaning of the Work at time indicated, consisting of cleaning each surface or unit of Work to "clean" condition expected for a first-class building and maintenance program. Comply with manufacturer's instructions for cleaning operations. The following are examples, but not by way of limitation, of cleaning levels required:

1. Remove labels which are not required as permanent labels.

2. Clean exposed exterior hard-surfaced finishes, to dirt-free condition, free of dust, stains, films, and similar noticeable distracting substances.

3. Restore effective surface to original reflective condition.

4. Remove debris and surface dust from limited access spaces including roofs, plenums, shafts, trenches, equipment vaults, manholes, and similar spaces.


6. Clean light fixtures and lamps to function with full efficiency.

7. Clean Project site, including landscape development areas, of litter and foreign substances.
8. Sweep paved areas to broom-clean condition: remove stains, petro-chemical spills, and other foreign deposits.

9. Rake grounds that are neither planted nor paved, to smooth, even-textured surface.

B. Remove waste materials from site daily and dispose of in a lawful manner.

C. Removal of protection:

1. Remove temporary protection devices and facilities that were installed during course of the Work to protect previous completed Work during remainder of construction period.

END OF SECTION 01561 - CONSTRUCTION CLEANING
PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and General Provisions of the Contract, including Supplementary General Provisions, and Division 0 and 1 Specifications Sections shall apply to all sections of the Contract Documents, including specifications, drawings, addenda, or other changes of documents issued for bidding/construction.

1.02 SUMMARY

A. The Owner has established environmental goals for this Project. Products for this Project will require specific information and have certain requirements for Indoor Air Quality compliance.

B. Section Includes:
   1. Description of an Indoor Air Quality (IAQ) Construction Plan
   2. IAQ Construction Requirements

C. Related Sections: Site protection specifications included in this section should be coordinated with the following sections of the Project Manual, including:
   1. Section 01500 “Temporary Facilities and Controls”
   2. Section 01524 LEED Construction Waste
   3. Section 09900 “Painting”
   4. Section 15890 HVAC Air-Distribution System Cleaning
   5. Division 15 – Mechanical for Commissioning Requirements
   6. Division 16 – Electrical for Electrical Commissioning Requirements
   7. Other Specification Sections that include indoor air quality that will be in direct contact with the indoor air including but not limited to adhesives, mastics, caulking, sealants, and insulating materials.

1.03 INDOOR AIR QUALITY

A. Goals: The Owner has set the following indoor air quality goals for jobsite operations on the Project, within the limits of the construction schedule, contract sum, and available materials, equipment, products and services. Goals include:
   1. Protect workers on the site from undue health risks during construction.
DIVISION 1 SPECIFICATIONS – SECTION 01580 – INDOOR AIR QUALITY

2. Prevent residual problems with indoor air quality in the completed building.

3. The COUNTY may require the CONTRACTOR to perform a minimum 7-day "flush-out" of the building and HVAC systems prior to Substantial Completion. (See also, requirements of Division 15.)

1.04 REFERENCES

A. The following references are suggested for Indoor Air Quality standards:

1. American Indoor Air Quality Council: www.iaq council.org
2. EPA’s IAQ Homepage: www.epa.gov/iaq
3. EPA’s IAQ Publications: www.epa.gov/iaq/pubs

1.05 INDOOR AIR QUALITY PLAN

A. Within fourteen (14) days after receipt of Notice of Award and prior to any waste removal by the CONTRACTOR from the Project, the CONTRACTOR shall develop and submit to the Owner for review a Healthy Indoor Air Quality Plan.

1. List of IAQ protective measures to be instituted on the site
2. Schedule for inspection and maintenance of IAQ measures

1.06 SUBSTITUTIONS

A. Should the CONTRACTOR desire to use procedures, materials, equipment, or products that are not specified but meet the intent of these specifications to protect air quality on the site, the CONTRACTOR shall propose these substitutions in accordance with Section 01250 Substitution Procedures and Section 01250a Substitution Request form and "Or Approved" in General Requirements.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Low emitting products have been specified in appropriate sections.

B. Construction IAQ Management Plan

1. All filtration media used during construction shall have a Minimum Efficiency Reporting Value (MERV) of 13 as determined by ASHRAE 52.2-1999, or as otherwise required in Section 15960.
DIVISION 1 SPECIFICATIONS – SECTION 01580 – INDOOR AIR QUALITY

C. Low Emitting Materials

1. All materials shall meet or improve upon the contaminant limits as stated in the following table:

   **Contaminant Maximum Emission Rate**
   - Formaldehyde <20 *
   - Total Volatile Organic Compounds (TVOC) <200*
   - 4-Phenylcyclohexene <3
   - Total Particulates <20
   - Regulated Pollutants
     - < EPA National Ambient Air Quality Standards (NAAQS)
     - * Above outside air concentrations

D. Potentially emitting materials that do not have established contaminant emission rates shall be tested in accordance with ASTM D 5116-1990, Standard Guide for Small Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products.” Report results in accordance with Section 11 of this standard.

PART 3 – EXECUTION

3.01 GENERAL

A. The CONTRACTOR shall minimally meet or exceed (improve) the minimum requirements of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings Under Construction, 1995 to:

1. Protect the ventilation system components from contamination, OR provide cleaning of the ventilation components exposed to contamination during construction prior to occupancy.

2. Provide a continuous ventilation rate of one air change per hour minimum during construction, OR, conduct a building flush-out with new filtration media at 100% outside air after construction ends (following issuance of Occupancy Certificate) and prior to Substantial Completion for seven (7) calendar days. Provide a minimum of 85% filtration (as determined by ASHRAE Standard 52.1-1992) on any return air systems operational during construction, and replace filtration media prior to occupancy.
B. During installation of paints, carpet, furnishings, and other VOC-emitting products, provide supplemental (spot) ventilation for at least 72-hours after Work is completed. Preferred HVAC system operation uses supply air fans and ducts only; exhaust provided through windows. Use exhaust fans to pull exhaust air from deep interior locations. Stair towers and other paths to exterior can be useful during this process.

C. Conduct regular inspection and maintenance of indoor air quality measures including ventilation system protection, and ventilation rate.

D. Require VOC-safe masks for workers installing VOC-emitting products (interior and exterior) defined as products that emit 150 gpl or more UNLESS local jurisdiction’s requirements are more strict, in which case the strictest requirement shall be followed for use of VOC-safe masks.

E. Use low-toxic cleaning supplies for surfaces, equipment, and worker’s personal use. Options include several soybean-based solvents and cleaning options (SoySolv) and citrus-based cleaners.

F. Use dust control drywall compound for gypsum board assemblies. Conventional dry sanding allowed subject to Architect/Owner approval of the following measures:
   1. Full isolation of space under finishing
   2. Plastic protection sheeting is installed to provide air sealing during the sanding
   3. Closure of all air system devices and ductwork
   4. Sequencing of construction precludes the possibility of contamination of other spaces with gypsum dust
   5. Worker protection is provided

G. Use safety meetings, signage, and Subcontractor agreements to communicate the goals of the Indoor Air Quality Construction Plan.

H. Smoking is prohibited inside the building.

END OF SECTION 01580 – INDOOR AIR QUALITY
PART 1 - GENERAL

1.01 PRODUCTS

A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work. It does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.

B. Provide interchangeable components of the same manufacturer, for similar components.

C. Only approved material will be accepted. Nonconforming materials shall be replaced without an increase to the GMP.

1.02 TRANSPORTATION AND HANDLING

A. Transport and handle products in accordance with manufacturer's instructions.

B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.03 STORAGE AND PROTECTION

A. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate controlled enclosures.

B. For exterior storage of fabricated products, place on sloped supports, above ground.

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

D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.

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

F. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

G. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.
1.04 SUBSTITUTION AND PRODUCT OPTIONS

A. In accordance with the provisions of Section 01630.

PART 2 - PRODUCTS (Not Used)
PART 3 - EXECUTION (Not Used)

END OF SECTION 01600 - MATERIALS AND EQUIPMENT
DIVISION 1 SPECIFICATIONS – SECTION 01616 – VOLATILE ORGANIC COMPOUND (VOC)

PART 1 - GENERAL

1.01 SUMMARY

A. This section includes requirements for volatile organic compound (VOC) content in adhesives, sealants, paints and coatings used for the Project.

1.02 RELATED SECTIONS: The following sections contain requirements that relate to this section:

A. All sections in the Specifications with adhesive, sealant or sealant primer applications. "LEED BUILDING Submittal Requirements", shall be followed.

B. Division 1, Section 01580: "Construction IAQ Management", for requirements for the Construction IAQ Management Plan. (LEED BUILDING)

C. Division 9, Section 09900 PAINTING AND FINISHING

1.03 GENERAL REQUIREMENTS

A. The COUNTY requires the CONTRACTOR to implement practices and procedures to meet the Project's environmental goals, which include achieving a LEED™ Green Building rating. Specific Project goals which may impact this area of Work are listed in the applicable paragraphs of this specification section. The CONTRACTOR shall ensure that the requirements related to these goals, as defined in the sections below and in related sections of the Contract Documents, are implemented to the fullest extent. Substitutions, or other changes to the Work proposed by the CONTRACTOR or its Subcontractors, shall not be allowed if such changes compromise the environmental goals.

1.04 REFERENCES


DIVISION 1 SPECIFICATIONS – SECTION 01616 – VOLATILE ORGANIC COMPOUND (VOC)

1.05 VOC REQUIREMENTS FOR INTERIOR ADHESIVES

A. The volatile organic compound (VOC) content of adhesives, adhesive bonding primers, or adhesive primers used in this Project shall not exceed the limits defined in Rule 1168 – "Adhesive and Sealant Applications" of the South Coast Air Quality Management District (SCAQMD), of the State of California.

B. The VOC limits defined by SCAQMD are as follows. All VOC limits are defined in grams per liter, less water and less exempt compounds.

1.06 GENERAL

A. Unless otherwise specified below, the VOC content of all adhesives, adhesive bonding primers, or adhesive primers shall not be in excess of 250 grams per liter.

B. For specified building construction related applications, the allowable VOC content is as follows:

1. Architectural Applications:
   - Indoor carpet adhesive 50
   - Carpet pad adhesive 50
   - Wood flooring adhesive 100
   - Rubber floor adhesive 60
   - Subfloor adhesive 50
   - Ceramic tile adhesive 65
   - VCT and asphalt tile adhesive 50
   - Drywall and panel adhesive 50
   - Cove base adhesive 50
   - Multipurpose construction adhesive 70
   - Structural glazing adhesive 100

2. Specialty Applications:
   - PVC welding 510
   - CPVC welding 490
   - ABS welding 325
   - Plastic cement welding 250
   - Adhesive primer for plastic 550
   - Contact Adhesive 80
   - Special Purpose Contact Adhesive 250
   - Structural Wood Member Adhesive 140
   - Sheet Applied Rubber Lining Operations 850

3. Substrate Specific Applications:
   - Metal to metal 30
   - Plastic foams 50
   - Porous material (except wood) 50
   - Wood 30
   - Fiberglass 80
DIVISION 1 SPECIFICATIONS – SECTION 01616 – VOLATILE ORGANIC COMPOUND (VOC)

1.07 VOC REQUIREMENTS FOR INTERIOR SEALANTS

A. The volatile organic compound (VOC) content of sealants, or sealant primers used in this Project shall not exceed the limits defined in Rule 1168 – "Adhesive and Sealant Applications" of the South Coast Air Quality Management District (SCAQMD), of the State of California.

B. The VOC limits defined by SCAQMD are as follows. All VOC limits are defined in grams per liter, less water and less exempt compounds.

1. Sealants:
   Architectural 250
   Other 420

2. Sealant Primer:
   Architectural – Nonporous 250
   Architectural – Porous 775
   Other 750

1.08 VOC REQUIREMENTS FOR INTERIOR PAINTS

A. Paints and Primers: Paints and primers used in non-specialized interior applications (i.e., for wallboard, plaster, wood, metal doors and frames, etc.) shall meet the VOC limitations of the Green Seal Paint Standard GS-11, of Green Seal, Inc., Washington, DC. Product-specific environmental requirements are as follows:

1. Volatile Organic Compounds:

   The VOC concentrations (in grams per liter) of the product shall not exceed those listed below as determined by U. S. Environmental Protection Agency (EPA) Reference Test Method 24.

   Interior Paints and Primers:
   Non-flat: 150 g/l
   Flat: 50 g/l

   The calculation of VOC shall exclude water and tinting color added at the point of sale.

B. Anti-Corrosive and Anti-Rust Paints: Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates shall meet the VOC limitations of the Green Seal Paint Standard GC-03, of Green Seal, Inc., Washington, DC. Product-specific environmental requirements are as follows:

1. Volatile Organic Compounds:

   a. The VOC concentrations (in grams per liter) of the product shall not exceed those listed below as determined by U. S. Environmental Protection Agency (EPA) Reference Test Method 24.
DIVISION 1 SPECIFICATIONS – SECTION 01616 – VOLATILE ORGANIC COMPOUND (VOC)

Anti-Corrosive and Anti-Rust Paints:
250 g/l

The calculation of VOC shall exclude water and tinting color added at the point of sale.

1.09 VOC REQUIREMENTS FOR INTERIOR COATINGS

A. Clear wood finishes, floor coatings, stains, sealers, and shellacs applied to the interior shall meet the VOC limitations defined in Rule 1113, "Architectural Coatings" of SCAQMD, of the State of California. The VOC limits defined by SCAQMD, based on 7/9/04 amendments, are as follows. VOC limits are defined in grams per liter, less water and less exempt compounds.

1. Clear Wood Finishes
   Varnish 350
   Sanding Sealers 350
   Lacquer 550

2. Shellac
   Clear 730
   Pigmented 550

3. Stains
   250

4. Floor Coatings
   100

5. Waterproofing Sealers
   250

6. Sanding Sealers
   275

7. Other Sealers
   200

The calculation of VOC shall exclude water and tinting color added at the point of sale.

END OF SECTION 01616 – VOLATILE ORGANIC COMPOUND
DIVISION 1 SPECIFICATIONS - SECTION 01630 SUBSTITUTIONS AND PRODUCT OPTIONS

PART 1 - GENERAL

1.01 OPTIONS

A. Products Specified by Reference Standards, or by Description Only: Any product meeting those standards.

B. Products Specified by Naming One or more Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not specifically named.

C. Products Specified by Naming Several Manufacturers: Products of named manufacturers meeting specifications; no options, no substitutions.

D. Products specified by Standard of Comparison: Products of named manufacturer; submit a request for substitution for any manufacturers not specifically named meeting specifications.

1.02 PRODUCTS LIST

A. Within fourteen (14) calendar days after each subcontract agreement is signed, submit three (3) copies of a list of major products not specifically identified in the Contract Documents, which are proposed for use, including name of manufacturer, trade name, and model number of each product.

B. Tabulate products by Specifications Section number, title, and Article number.

C. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

D. CPM or Consultant will reply in writing within 15 days stating whether there is reasonable objection to listed items. Failure to object to a listed item shall not constitute a waiver of requirements of Contract Documents.

1.03 LIMITATIONS ON SUBSTITUTIONS

A. Requests for substitutions of products will be considered within four (4) weeks after date of contract award. Subsequent requests will only be considered upon submittal of substantiated evidence of product unavailability, or that there is some unreasonable difficulty in obtaining it.

B. Substitutions will not be considered when indicated on shop drawings or product data submittals without separate formal request, when requested directly by Subcontractor or supplier, or when acceptance will require substantial revision of Contract Documents.

C. Substitute products shall not be ordered or installed without written acceptance.
DIVISION 1 SPECIFICATIONS - SECTION 01630 SUBSTITUTIONS AND PRODUCT OPTIONS

D. Only one (1) request for substitution for each product will be considered. When substitution is not accepted, provide specified product.

E. Substitution requests will be approved by the CPM and Consultant.

1.04 REQUESTS FOR SUBSTITUTIONS

A. Submit separate request for each substitution. Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents.

B. Identify product by Specifications Section and Article numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number. List fabricators and suppliers as appropriate.

C. Attach product data as specified in Section 01340.

D. List similar projects using product, dates of installation, and names of CPM and Consultant.

E. Give itemized comparison of proposed substitution with specified product, listing variations, and reference to Specifications Section and Article numbers.

F. Give itemized comparison of proposed substitution and the specified product.

G. Give cost data comparing proposed substitution with specified product, and amount of net change to Contract Sum.

H. List availability of maintenance services and replacement materials.

I. State effects of substitution on construction schedule, and changes required in other Work or products.

1.05 CONTRACTOR REPRESENTATION

A. Request for substitution constitutes a representation that the CONTRACTOR has investigated proposed product and has determined that it is equal to or superior in all respects to specified product.

B. CONTRACTOR will provide the same warranty for substitution as for specified product.

C. CONTRACTOR will coordinate installation of accepted substitute, making such changes as may be required for Work to be complete in all respects.

D. CONTRACTOR certifies that cost data presented is complete and includes all related costs under this Contract.
DIVISION 1 SPECIFICATIONS - SECTION 01630 SUBSTITUTIONS AND PRODUCT OPTIONS

E. CONTRACTOR waives claims for additional costs related to substitution, which may later become apparent.

1.06 SUBMITTAL PROCEDURES

A. Submit three (3) copies of request for substitution.

B. CPM and Consultant will review CONTRACTOR's requests for substitutions with reasonable promptness.

C. For accepted products, submit shop drawings, product data, and samples under provisions of Section 01340.

PART 2 - PRODUCTS (Not Used)
PART 3 - EXECUTION (Not Used)

END OF SECTION 01630 - SUBSTITUTIONS AND PRODUCT OPTIONS
GENERAL CONTRACTOR’S SUBSTITUTION REQUEST FORM

To: (CPM) Corporation

Project: Terminal 4 FIS/ATO Expansion Phase 1B

We hereby submit for your consideration the following product instead of the specified item for the above Project:

Section: Paragraph: Specified Item:

Proposed Substitution:

Attach complete technical data, including laboratory tests, if applicable. Include complete information on changes to Drawings and/or Specifications, which proposed substitution will require for its proper installation.

Fill in Blanks Below:

A. Does the substitution affect dimensions shown on Drawings:

B. Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution:

C. What affect does substitution have on other trades:

D. Differences between proposed substitution and specified item:

E. Manufacturer’s guarantees of the proposed and specified items are
   [ ] Same [ ] Different (explain on attachment)

F. This substitution will amount in a credit to the CPM of:

G. Reasons for substitution:

-----(FORM CONTINUED ON NEXT PAGE)---
The undersigned states that the function, appearance and quality are equal to or superior than the specified item.

Submitted by: For Use By CPM or Consultant

[___] Accepted [___] Accepted As Noted
Firm
[___] Not Accepted [___] Received Too Late
By:
Address
Date:
Remarks:

Date:
Telephone:

END OF FORM
PART 1 - GENERAL

1.01 STARTING SYSTEMS

A. Coordinate schedule for start-up of various equipment and systems.

B. Notify COUNTY and Commissioning Agent seven (7) days prior to start-up of each item.

C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or other conditions, which may cause damage.

D. Verify that tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

E. Verify wiring and support components for equipment are complete and tested.

F. Execute start-up under supervision of responsible CONTRACTOR’s personnel and CPM in accordance with manufacturers’ instructions and commissioning plan.

G. When specified in individual specification sections, require manufacturer to provide an authorized representative to be present at site to inspect, check and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

H. Submit a written report in accordance with Section 01400 that equipment or system has been properly installed, inspected, and is functioning correctly.

1.02 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of Products to CPM and COUNTY MAINTENANCE 14 calendar days prior to the date of Substantial Completion.

B. Demonstrate Project equipment and provide instruction by a qualified representative who is knowledgeable about the Project.

C. For equipment or systems requiring seasonal operation, perform demonstration for other season within six (6) months.

D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Project Manager in detail to explain all aspects of operation and maintenance.

E. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at equipment location.
DIVISION 1 SPECIFICATIONS – SECTION 01650 – STARTING AND TESTING OF SYSTEMS

1.03 TESTING, ADJUSTING, AND BALANCING

A. CONTRACTOR will appoint, employ, and pay for services of an independent firm to perform testing, adjusting and balancing.

B. The independent firm will perform services specified in Division 1 and Technical Specifications.

C. Reports will be submitted by the independent firm to the CPM and Consultant indicating observations and results of tests and indicating compliance or non-compliance with specified requirements and with the requirements and with the requirements of the Contract Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01650 - STARTING AND TESTING OF SYSTEMS
DIVISION 1 SPECIFICATIONS – SECTION 01740 - WARRANTIES

PART 1 - GENERAL

1.01 SUMMARY

A. This section specifies general administrative and procedural requirements for warranties required by the Contract Documents, including manufacturer's standards and warranties on products and special warranties.

1. Refer to the GENERAL CONDITIONS for terms of the CONTRACTOR's special warranty of workmanship and materials.

2. General closeout requirements are included in Section 01770 - PROJECT CLOSEOUT.

3. Specific requirements for warranties for the Work and products and installation that are specified to be warranted are included in the individual sections of the Technical Specifications.

4. Certifications and other commitments and agreements for continuing services to COUNTY are specified elsewhere in the Contract Documents.

B. Disclaimers and Limitations

1. Manufacturer's disclaimers and limitations on product warranties do not relieve the CONTRACTOR of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and Subcontractors required to countersign special warranties with the CONTRACTOR.

1.02 DESCRIPTION OF REQUIREMENTS/DEFINITIONS

A. Categories of Specific Warranties

1. It is recognized that warranties on the Work are in several categories, including those of the General Conditions of the Contract and including (but not necessarily limited to) the following specific categories related to the individual units of Work specified in the Technical Specifications:

a. Special Warranty (Guarantee): A warranty specifically written and signed by the CONTRACTOR for a defined portion of the Work; and, where, required, countersigned by Subcontractor, installer, manufacturer or other entity engaged by CONTRACTOR; generally recognized as (and sometimes specified in contractor and vendor documents) a "guarantee".

b. Specified Product Warranty: A warranty which is required by Contract Documents, to be provided for a manufactured product which is incorporated into the Work; regardless of whether the manufacturer has published the warranty without consideration for specific incorporation of product into the Work, or has written and executed the warranty as a direct result of Contract Documents requirements.
c. Coincidental Product Warranty: A warranty which is not specifically required by Contract Documents (other than as specified in this section); but which is available on a product incorporated into the Work, by virtue of the fact that manufacturer of product has published the warranty in connection with purchases and uses of product without regard for specific applications except as otherwise limited by terms of the warranty.

B. Definition: Manufactured Product is a physical item for incorporation into the Work, which has been produced from raw or natural materials by a manufacturing process, and which is purchased from a manufacturer either specifically for the Work or for CONTRACTOR's/Subcontractor's/Fabricator's/Installer's stock from which it is drawn for incorporation into the Work.

C. General Limitations:

1. It is recognized that specific warranties are intended primarily to protect COUNTY against failure of Work to perform as required, and against deficient, defective and faulty materials and workmanship, regardless of sources. Except as otherwise indicated, specific warranties do not cover failures in Work which result from:
   a. Damage or defect caused by abuse.
   b. Modifications not executed by the CONTRACTOR.
   c. Improper or insufficient maintenance.
   d. Improper operations, or normal wear and tear under normal usage.

2. Although, manufacturer's commitments in product warranties on products used in the Work are generally written to exclude product failures which result from failure of other Work (such as failure of substrate supporting product), such limitations in product warranties do not relieve the CONTRACTOR of the more general warranties on Work which incorporates use of such products. Except as otherwise indicated, this same relationship applies to units of Work performed by other entities (other than manufacturers), such as fabricators, installers, and Subcontractors who are required to countersign special Project warranties with CONTRACTOR for such units of Work.

1.03 WARRANTY REQUIREMENTS

A. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.

B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty.

C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with
DIVISION 1 SPECIFICATIONS – SECTION 01740 - WARRANTIES

requirements of Contract Documents. The CONTRACTOR is responsible for the cost of replacing or rebuilding defective Work regardless of whether the COUNTY has benefited from use of the Work through a portion of its anticipated useful service life.

D. COUNTY's Recourse

1. Written warranties made to the COUNTY are in addition to implied warranties, and shall not limit the duties, obligations, right and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the COUNTY can enforce such other duties, obligations, rights, or remedies.

   a. Rejection of Warranties: The CPM and Consultant reserve the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.

2. The CPM reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

1.04 SUBMITTALS

A. Submit written warranties to the CPM 30-days prior to the date of Substantial Completion.

1. When a warranty is required to be executed by the CONTRACTOR, or the CONTRACTOR and a Subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft warranty letter to the COUNTY through the CPM for approval with the corresponding submittal.

   a. Refer to individual sections of the technical specification section for specific content requirements for submittal of special warranties.

2. Submit specific warranties for beginning of the warranty periods. Date(s) will be inserted to correspond with Substantial Completion dates, as established by the Consultant and accepted by the CPM.

B. Form of Submittal

1. Compile two (2) copies of each required warranty properly executed by the CONTRACTOR, or by the Subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the Table of Contents of the Project Manual.

2. Bind warranties in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2" by 11" paper.
DIVISION 1 SPECIFICATIONS – SECTION 01740 - WARRANTIES

a. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the 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 the installer.

b. Identify each binder on the front and the spine with the typed or printed title "WARRANTIES AND BONDS", the Project title or name, and the name of the CONTRACTOR.

3. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01740 – WARRANTIES
PART 1 - GENERAL

1.01 REQUIREMENTS

In accordance with Section 1-88 of the Broward County Code of Ordinance Broward County Cultural Division’s Public Art & Design Program has commissioned artist(s) for the design, fabrication and/or installation of integrated works of art for the Terminal 4 Project. The works of art represent an integral component of the construction process. The requirements described herein shall be applicable to all Public Art projects and any related appurtenances thereto. The COUNTY reserves the rights to interpret, revise, add to or delete from the scope of the Public Art projects and related appurtenances during any phase of construction.

1.02 COORDINATION

The CONTRACTOR shall closely coordinate all aspects of its Work with the Work of the Artists.

1.03 SITE ACCESS

The CONTRACTOR shall provide the Artists and its subcontractors clear access to the site to perform their Work so as not to create any delays.

1.04 ARTISTS' SUPPLIED MATERIALS TO CONTRACTOR

The CONTRACTOR shall make all necessary provisions for the delivery, receipt, acceptance, handling, secure storage and protection of all Artist-supplied materials that are to be installed by the CONTRACTOR.

1.05 MISCELLANEOUS FACILITIES

The CONTRACTOR shall make all necessary provisions to facilitate and accommodate the art installations, including but not limited to providing the Artists and its subcontractors the following: designated Work areas; material storage and staging areas; labor and equipment for hoisting of material and equipment; and temporary power, water and toilet accommodations.

1.06 PROJECT DOCUMENTS

The CONTRACTOR shall make readily available for inspection by the COUNTY all Project documentation pertaining to the Public Art installations and related appurtenances and, upon request, shall make available to the COUNTY copies of approved construction schedules, field reports, test reports, surveys, shop drawings or other pertinent documents.

1.07 SCHEDULING

The CONTRACTOR shall cooperate with the COUNTY as required for the scheduling of all Public Art-related activities and in the performance of its Work to avoid conflicts, delays or interruptions with the progress of the Artists' Work and the construction
DIVISION 1 SPECIFICATIONS – SECTION 01750 – PUBLIC ART COORDINATION

schedule. The CONTRACTOR shall coordinate with the COUNTY the scheduling of all Public Art project shop drawing submittals and delivery of Artists’ materials in accordance with the construction schedule.

1.08 PROJECT MEETINGS

The COUNTY may, of its own initiative, request or organize on-site Project coordination meetings related to the Public Art installations and appurtenances. The CONTRACTOR shall make itself available and attend these meetings when required.

1.09 COMMUNICATIONS

A. The CONTRACTOR shall notify the COUNTY in writing, through the CPM, of any discrepancies in the Construction Documents that represent a conflict between Work to be provided by the CONTRACTOR or the Artists. Where such a discrepancy or conflict exists and represents a potential for additional costs, the CONTRACTOR shall include in its bid an allowance to cover such costs.

B. The CONTRACTOR and the CPM shall expedite written responses to requests for information (RFI’s) by the COUNTY, the Artists or duly authorized representatives of the COUNTY or the Artists so as not to create any delays to the Artists’ Work or the construction schedule.

1.10 ARTIST INFORMATION

A. The artists’ commissioned by Broward County’s Cultural Division’s Public Art & Design Program for the Terminal 4 Gate Replacement Project and the general locations of the art projects are as follows.

1. Artists’ Name and Locations of Artworks(*):

   a. Brad J. Goldberg is commissioned to design the terrazzo flooring that will be placed throughout the departure level of the G Concourse.
   b. Electroland, LLC is commissioned to provide an Interactive Artwall that will be located on the glass wall of the sterile corridor above the Security Screening checkpoint.

(*) Note: Refer to contract document drawings for specific locations and scope of Work.
DIVISION 1 SPECIFICATIONS – SECTION 01750 – PUBLIC ART COORDINATION

1.11 CONTACT INFORMATION

In addition to the normal lines of communications, all written communications generated by the CONTRACTOR, through the CPM, pertinent to Public Art & Design projects shall include copies addressed to the following:

Broward County Cultural Division
Public Art & Design Program
100 South Andrews Ave. 6th Floor
Fort Lauderdale, FL 33301

Fax copies may be sent to (954) 357-5769

END OF SECTION 01750 – PUBLIC ART COORDINATION
DIVISION 1 SPECIFICATIONS - SECTION 01770 PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 PRELIMINARY PROCEDURES

A. Before requesting inspection for certification of Substantial Completion, complete the following:

1. All air conditioning, ventilation, security systems, fire alarms, fire sprinklers and other life safety systems and building systems must be completed, tested, approved and demonstrated.

2. Air Conditioning systems must be completed, tested, approved and demonstrated and test and balance reports submitted and approved by the Consultant, CPM and CA as required in Section 01650 - Starting and Testing of Systems.

3. Generators, fuel pump control systems and any other related equipment must be completed, fully operational, tested, approved and demonstrated.

4. Any building components that may need to be removed during maintenance, whose removal method is not easily discernible, must be completed and demonstrated.

5. Master and grand master keys must be delivered in sealed containers to the CA. Keys must be labeled to identify where keys are used for the finished Work.

6. Advise BCAD Risk Manager and CA of pending insurance change-over requirements.

7. Prepare specific warranties, maintenance agreements, final certifications and similar documents for submittal under provisions of Section 01780, Closeout Submittals.

8. Obtain and submit releases enabling the CA unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.

9. Deliver tools, spare parts, extra stock, and similar items as specified in respective specification sections and in Section 01780, Closeout Submittals.

10. Make final change-over of permanent locks and transmit master and grand master keys to the CA with complete inventory.

11. Advise the CA's personnel of pending change-over in security provisions.

12. Complete start-up testing of systems, and instruction of the COUNTY's operating and maintenance personnel. Refer to individual trade specific...
DIVISION 1 SPECIFICATIONS - SECTION 01770 PROJECT CLOSEOUT

closeout submittals, including but not limited to operating and maintenance manuals and owner training.

13. Discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups, and similar elements.

14. Complete final clean up requirements, including touch-up painting.

15. Touch-up and otherwise repair and restore marred exposed finishes.

16. Obtaining a Certificate of Occupancy (or, with prior written approval from the CA, a Certificate of Completion) from the Building Department having jurisdiction over the Project.

1.02 CONTRACTOR’S REQUEST FOR INSPECTION

A. When the CONTRACTOR considers that the Work, or a portion thereof which the CA agrees to accept separately, is substantially complete, the CONTRACTOR shall prepare and submit to the CPM a Request for Substantial Completion Inspection (Form 01770A) including a comprehensive list of items to be completed or corrected. This list shall include all items on the Commissioning Agent’s deficiency log.

B. The CONTRACTOR shall proceed promptly to complete and correct items on the list. Failure to include an item on such list does not alter the responsibility of the CONTRACTOR to complete all Work in accordance with the Contract Documents.

C. Project Closeout Submittals: Project closeout submittals required by the Contract Documents for the Work, or a portion thereof, shall be submitted by the CONTRACTOR at or prior to the time of its request.

1.03 CPM’S DETERMINATION OF READINESS

A. Upon receipt of the CONTRACTOR’s Request for Substantial Completion Inspection, the CPM and Consultant will make a preliminary inspection to determine whether the Work or designated portion thereof is appropriately ready for a Substantial Completion Inspection.

B. The CPM will notify the CA and the CONTRACTOR of the results of its inspection by completing and distributing the CPM’s Notification of Readiness for Substantial Completion Inspection (Form 01770B).

1. If the CPM and Consultant’s inspection discloses any item, whether or not included on the CONTRACTOR’s list, which is not in accordance with the requirements of the Contract Documents and which would preclude beneficial
occupancy and would render the Work not Substantially Complete, the CONTRACTOR shall correct such item upon receipt of the CPM’s Notification. The CONTRACTOR shall then submit another request for inspection by the CPM and Consultant to determine the completion status of the Work or designated portion thereof.

2. The CPM and Consultant will recommend to COUNTY that the Project is substantially complete.

1.04 SUBSTANTIAL COMPLETION INSPECTION

A. The CA, upon notification from the CPM that the Work, or a portion thereof, may be substantially complete and all Project closeout submittals pertaining to the Work, or portion thereof, have been approved and forwarded to the CA, will direct the CPM to schedule and coordinate the CA’s Substantial Completion Inspection.

B. The CA’s Substantial Completion Inspection will be conducted by the CPM and Consultant, the CA, and the CONTRACTOR.

C. The following representatives shall attend and conduct the Substantial Completion Inspection:

1. CONTRACTOR Personnel:
   a. Project Manager
   b. Superintendent
   c. Plumbing Superintendent
   d. Mechanical Superintendent
   e. Electrical Superintendent
   f. Specialty Subcontractors

2. CA Personnel:
   a. Project Manager
   b. Field Construction Personnel and/or Supervisors
   c. CA’s Professional Staff, including PMO Project Manager
   d. Commissioning Agent (as applicable)
   e. Other specialty representatives of the CA

3. Consultant Personnel:
   a. Architectural Project Manager
   b. Architectural Special Project Representative/Field Representative
DIVISION 1 SPECIFICATIONS - SECTION 01770 PROJECT CLOSEOUT

c. Structural Engineer
d. Mechanical Engineer
e. Electrical Engineer
f. Specialty Sub-Consultants

D. Inspection Teams:

1. At the direction of the CPM, inspection teams will be established at the Project site based upon the following disciplines:

   a. Architectural/Civil
   b. Plumbing
   c. Mechanical
   d. Electrical
   e. Electronics
   f. Specialties

2. Each inspection team will be composed of specialty representatives of the CA, CPM, Consultant and CONTRACTOR who will perform independently of each other.

3. Each team will appoint a Team Leader.

4. The CPM will provide each Team Leader with:

   a. Copy of the CONTRACTOR's List of Deficiencies
   b. Floor and site plans (with the remainder of the Contract Documents available to the team).

E. After the Substantial Completion Inspection, the CPM will issue a Substantial Completion Inspection report and Substantial Completion Punch List (Form 01770C and Form 01770D). CA shall either approve or deny Substantial Completion of the Work, or portion thereof.

F. If Substantial Completion of the Work, or portion thereof, is denied, the CONTRACTOR shall promptly correct deficiencies noted which caused the denial of Substantial Completion. Upon correcting these deficiencies, the CONTRACTOR shall notify the CPM that these deficiencies are ready for re-inspection by submitting a new Request for Substantial Completion at which time the CPM, Consultant, CA, and CONTRACTOR will re-conduct the CA's Substantial Completion Inspection for Substantial Completion deficiencies only.
DIVISION 1 SPECIFICATIONS - SECTION 01770 PROJECT CLOSEOUT

G. When Substantial Completion of the Work, or portion thereof, is granted, the CPM will prepare and issue CA's Form 1 and Form 01770E, Certificate of Substantial Completion to indicate the date of Substantial Completion.

1.05 READINESS FOR FINAL COMPLETION (ACCEPTANCE) INSPECTION

A. Deficiencies noted on or attached to Substantial Completion Inspection Report and Substantial Completion Inspection Punch List, must be completed prior to the CA's Final Completion Inspection. Limitations on the Time during which these corrections must be made shall be consistent with the Time specified in the Contract for Punch List Corrections.

B. Upon correction of the punch list, the CONTRACTOR shall notify the CPM and issue a Request for Final Completion Inspection (Form 01770F), that the Work, or portion thereof is ready for the CA's Final Completion Inspection.

C. Upon receipt of the CONTRACTOR's Request for Final Completion Inspection, the CPM and Consultant will make an inspection to determine whether the Work or designated portion thereof is complete. The CPM will notify the CA and the CONTRACTOR of the results of this inspection by completing and distributing the CPM's Notification of Readiness for Final Completion Inspection (Form 01770G).

1. If the CPM and Consultant's inspection discloses any item which is not in accordance with the requirements of the Contract Documents and which would render the Work not complete, the CONTRACTOR shall correct such item upon receipt of the Consultant's Notification of Readiness for Final Completion Inspection. The CONTRACTOR shall then submit another request for inspection by the CPM and Consultant to determine the completion status of the Work or designated portion thereof.

2. When the CPM determines that the Project is complete in accordance with the terms of the Contract Documents, the CPM will notify the CA that the Work, or portion thereof, is ready for the CA's Final Completion Inspection.

1.06 CA'S FINAL COMPLETION INSPECTION

A. The CA, upon notification from the CPM that the Work, or a portion thereof, is complete will direct the CPM to schedule and coordinate the CA's Final Completion Inspection.

B. The CA's Final Completion Inspection will be conducted by the CPM, the CA, and the CONTRACTOR.
DIVISION 1 SPECIFICATIONS - SECTION 01770 PROJECT CLOSEOUT

1. Members of the inspection teams which inspected the facility for Substantial Completion will reconvene to conduct the Final Completion Inspection.

2. Members of the inspection teams for which there are no outstanding Punch List Items may be excused upon request to and approval by the CPM.

C. If Final Completion of the Work, or portion thereof, is denied, the CONTRACTOR shall promptly correct deficiencies noted which caused the denial of Final Completion.

D. Upon correcting these deficiencies, the CONTRACTOR shall notify the CPM that these deficiencies are ready for re-inspection (by submitting a new CONTRACTOR's Request for Final Completion Inspection at which time the CPM, Consultant, CA, and CONTRACTOR will re-conduct the CA's Final Completion Inspection.

1.07 FINAL COMPLETION DATE

A. When Final Completion of the Work, or portion thereof, is granted, the CPM will issue the CPM's Letter Establishing Final Completion Date (Form 01770H), to indicate the date of Final Completion.

B. Upon receipt of CPM's Letter Establishing Final Completion Date, the CONTRACTOR may make application for final payment.

1.08 FINAL ADJUSTMENTS OF ACCOUNTS

A. Submit a final statement of accounting to the CPM.

B. Statement shall reflect all adjustments to the Contract Sum:

1. The original Contract Sum.

2. Additions and deductions resulting from:
   a. Previous Change Orders.
   b. Deductions for uncorrected Work.
   c. Deductions for liquidated damages.
   d. Deductions for re-inspection payments.
   e. Other adjustments.

3. Total Contract Sum, as adjusted.

4. Previous payments.
DIVISION 1 SPECIFICATIONS - SECTION 01770 PROJECT CLOSEOUT

5. Sum remaining due.

6. The applicable Purchase Order Number issued by the CA.

1.10 FINAL APPLICATION FOR PAYMENT

A. Submit the final Application for Payment in accordance with procedure and requirements stated in the CONTRACTOR's agreement with the COUNTY.

1.11 PUNCH LIST COMPLETION

A. The facilities may be occupied by COUNTY during completion of all or a portion of the Punch List.

B. Make arrangements concerning access and other than normal Work hours with the CPM.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01770 - PROJECT CLOSEOUT
Form 01770A: Contractor's Request for Substantial Completion Inspection

To:
(Project CPM)

Contractor Request No.: Date:

[ ] Full Project
[ ] Designated Portion (Attach Description)

Project No:
Project Title: Terminal 4 Gate Replacement
Facility Name:

I hereby certify that I am an officer of the firm or corporation named herein and have been properly authorized to make the following statements concerning the project named above:

1. The above named project or designated portion thereof will be substantially complete in accordance with the contract requirements and ready (excluding the attached list of deficiencies) for inspection on:

2. The Date of Substantial Completion required by the Contract (as modified by any approved change orders affecting Contract Time) is:

3. I understand that I am to continue with builder's risk insurance coverage required by the Contract until the Date of Substantial Completion is agreed upon by the parties to the Contract. Additionally, I understand that I am to continue with liability coverage and maintenance required by the Contract until the Owner's Final Acceptance of the Work.

4. I have assembled and attached complete sets of Operations and Maintenance Manuals and other required closeout documents along with my Contractor's List of Deficiencies that will not preclude Substantial Completion. I have also attached my Time Extension Request for any delays related to this portion of the Work.

Submitted By:
Company Name & Address:

Phone:

Signature

Title

Distribution:
Project Design Consultant
Construction Project Manager
Contractor's Surety

Attachments:
Contractor's List of Deficiencies
Applicable Closeout Documents
Time Extension Request (if applicable)

Notice to Contractor
Submit this form at least 10 calendar days prior to the requested inspection date to allow scheduling of the inspection. Neither the determination by the CPM or Consultant that the Work is substantially complete, nor the acceptance thereof by the Owner, shall preclude subsequent claims against the Owner pursuant to portions of the Work not meeting the requirements of the Contract or for the Contract's provisions for the Contractor's warranty of the Work.
Form 01770B: Notification of Readiness for Substantial Completion Inspection

To:
(Project CPM)

Project No:

Project Title: Terminal 4 Gate Replacement

Facility Name:

Contractor Request No.: ________ Date:

☐ Full Project
☐ Designated Portion (Attach Description)

I have completed a preliminary site visit as a result of the Contractor's Request for Substantial Completion Inspection and have found that:

☐ The Work, or designated portion thereof, will be ready to receive a Substantial Completion Inspection as requested by the Contractor on:

☐ The, Work, or designated portion thereof, is not ready to receive a Substantial Completion Inspection. A listing of items which preclude Substantial Completion is attached to this letter.

Submitted By:
(Project Design Consultant)

Company Name & Address:

Phone:

Signature

Title

Distribution:
BCAD Project Administrator
PMO Senior Project Manager
T4 CPM Document Control
AEP Document Control

Attachments:
Contractor's List of Deficiencies
Form 01770C: Substantial Completion Inspection

To: (Project CPM)

Project No: Project Title: Terminal 4 Gate Replacement
Facility Name:

Representation: Contractor: Phone:
Design Consultant:
BCAD: 
PMO: 
CPM: 
Others: 

The attached pages 2 through ______ list “punch items” noted as a result of the Substantial Completion Inspection, completed by the persons listed above.

☐ The punch list items are of a nature that will allow beneficial occupancy of the premises and are issued as a final punch list. If any item on the preliminary punch list is inaccurate, notify the Construction Project Manager immediately. These punch list items shall be corrected on or before the mutually agreed date of: _____________.

☐ The punch list items are of a nature that precludes beneficial occupancy of the premises by the COUNTY and Substantial Completion is denied at this time. Items on the attached Form 01770D must be completed prior to requesting a re-inspection.

Remarks:

Recommended By: (Construction Project Manager) Signature
Title
Firm Name

Approved By: (BCAD) Signature
Contract Administrator
Title

Accepted By: (Project Design Consultant) Signature
Title
Firm Name
Form 01770D: Substantial Completion Inspection - Punch List

To:  
(Project CPM)  

Project No:  
Project Title: Terminal 4 Gate Replacement  
Facility Name:  

Contractor  
Request No.: _________  Date:  

☐ Full Project  
☐ Designated Portion (Attach Description)  

☐ Preliminary Punch List  ☐ Final (Edited) Punch List

<table>
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<tr>
<th>No.</th>
<th>Room No.</th>
<th>Item</th>
<th>Notes</th>
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Section 01770 Project Closeout
Form 01770E: Letter Establishing Substantial Completion Date

To: (Contract Administrator)

Contractor
Request No.: Date:

Project No:
Project Title: Terminal 4 Gate Replacement
Facility Name:
Contractor:

On _____________________, we completed the Substantial Completion Inspection for the Project, or designated portion thereof, listed above.

I hereby certify that the General Contractor achieved Substantial Completion and the Project, or designated portion thereof, was ready for beneficial occupancy on the following date:

The date of Substantial Completion is the □ last date of Substantial Completion for this Project, or □ designated portion thereof, requested by the Contractor pursuant to the request number listed above. Evidence is provided by our signatures below that the Project Design Consultant, PMO, CPM, and Contractor agree that this Project was ready for Beneficial Occupancy by the Owner for its intended purpose on the date of Substantial Completion listed above. You are advised to contact BCAD Risk Management of the required change of insurance for this completed portion of the Work.

By: ______________________
(CPM)
Firm Name: ______________________

By: ______________________
(Project Design Consultant)
Firm Name: ______________________

By: ______________________
(PMO)
Firm Name: ______________________

By: ______________________
(Contractor)
Firm Name: ______________________

Distribution:
Contract Administrator
BCAD Project Administrator
PMO Senior Project Manager
CPM Project Director
Project Design Consultant
Contractor
T4 CPM Document Control
AEP Document Control

For BCAD Use Only
Date is acceptable; letter is hereby placed □ in Project Files as an official record.

BCAD Project Administrator
Form 01770F: Contractor's Request for Final Completion Inspection

<table>
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<tr>
<th>To: (Project CPM)</th>
<th>Contractor Request No.: ______ Date:</th>
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<tbody>
<tr>
<td>Project No:</td>
<td>Full Project</td>
</tr>
<tr>
<td>Project Title:</td>
<td>Designated Portion (Attach Description)</td>
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<td>Facility Name:</td>
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</table>

I hereby certify that I am an officer of the firm or corporation named herein and have been properly authorized to make the following statements concerning the project named above:

1. The above named project or designated portion thereof will be finally complete in accordance with the contract requirements and ready (including all punch list items) for inspection on:

   _______________________________________________________________________

2. The Date of Final Completion required by the Contract (as modified by any approved change orders affecting Contract Time) is:

   _______________________________________________________________________

3. I understand that I am to continue with insurance coverage and maintenance required by the Contract until the Owner's Final Acceptance of the Work. Additionally, I understand that I am to continue with liability coverage and maintenance required by the Contract until the Owner's Final Acceptance of the Work.

4. I have attached a time extension request/change order proposal for any delays related to Work required for completion of the punch list.

Submitted By:
Company Name &
Address: ____________________________

Phone: ____________________________

Title: ____________________________

Distribution:
Project Design Consultant
Construction Project Manager
Contractor's Surety

Notice to Contractor
Neither the determination by the CPM or Project Design Consultant that the Work is finally complete, nor the acceptance thereof by the Owner, shall preclude subsequent claims against the Owner pursuant to portions of the Work not meeting the requirements of the Contract or for the Contract's provisions for the Contractor's warranty of the Work.

Attachments:
Time Extension Request/Change Order Proposal (if applicable)
**Form 01770G: Notification of Readiness for Final Completion Inspection**

Instructions for CPM Use: Provide this completed letter to notify the Owner that the Work, or a designated portion thereof, is ready for the Owner’s Final Completion Inspection.

<table>
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<tr>
<th>To: (Project CPM)</th>
<th>Contractor Request No.:</th>
<th>Date:</th>
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<tr>
<th>Project No:</th>
<th>Terminal 4 Gate Replacement</th>
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<tr>
<td>Project Title:</td>
<td>Terminal 4 Gate Replacement</td>
</tr>
<tr>
<td>Facility Name:</td>
<td>Facility Name:</td>
</tr>
</tbody>
</table>

I have completed a preliminary site visit as a result of the Contractor's Request for Final Completion Inspection and have found that:

- [ ] The Work, or designated portion thereof, will be ready to receive a Final Completion Inspection as requested by the Contractor on:

- [ ] The Work, or designated portion thereof, is not ready to receive a Final Completion Inspection. A listing of items which preclude Final Completion is attached to this letter.

Submitted By:
(Project Design Consultant)

Company Name & Address:

Phone:

Signature

Title

Distribution:  
- BCAD Project Administrator  
- PMO Senior Project Manager  
- T4 CPM Document Control  
- AEP Document Control

Attachments:  
Contractor's List of Deficiencies
DIVISION 1 SPECIFICATIONS – SECTION 01770 – PROJECT CLOSEOUT

Form 01770H: Letter Establishing Final Completion Date

<table>
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<th>To: (Contract Administrator)</th>
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<tr>
<td>Contractor Request No.: ______ Date:</td>
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<td>Project No: 0</td>
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<tr>
<td>Project Title: Terminal 4 Gate Replacement</td>
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<td>Facility Name:</td>
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<td>Contractor:</td>
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</table>

On ______________________, we completed the Final Completion Inspection for the Project, or designated portion thereof, listed above.

I hereby certify that the General Contractor achieved Final Completion and the Project, or designated portion thereof, was ready for beneficial occupancy on the following date:

__________________________________________

The date of Final Completion is the last date of Final Completion for this Project, or a designated portion thereof, originally requested by the Contractor. Evidence is provided by our signatures below that the Project Design Consultant, PMO, CPM, and Contractor agree that this Project was Finally Complete on the date of Final Completion listed above.

| By: ________________ |
| CPM |
| Firm Name: |
| By: ________________ |
| Project Design Consultant |
| Firm Name: |
| By: ________________ |
| PMO |
| Firm Name: |
| By: ________________ |
| Contractor |
| Firm Name: |

Distribution:
Contract Administrator
BCAD Project Administrator
PMO Senior Project Manager
CPM Project Director
Project Design Consultant
Contractor
T4 CPM Document Control
AEP Document Control

For BCAD Use Only
Date is acceptable; letter is hereby placed in Project Files as an official record.

BCAD Project Administrator
DIVISION 1 SPECIFICATIONS - SECTION 01780 CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. Final Site Survey
B. Maintenance Contracts
C. Operation and Maintenance Data
D. Maintenance Materials
E. Project Record Documents
F. Spare Parts

1.02 RELATED DOCUMENTS

A. Agreement between Broward County and Cummings Balfour Beatty, a joint venture
B. Section 01770: Project Closeout

1.03 SUBMITTALS

A. Project closeout submittals required by the Contract Documents for the Work, or a portion thereof, shall be submitted by the CONTRACTOR at or prior to the time of its request for the CPM and Project Consultant's Substantial Completion Inspection unless otherwise specified in this section or elsewhere in the Contract Documents.

B. CPM (assisted by the Commissioning Agent, Test and Balance Consultant and others as applicable) will review project closeout submittals with the Owner for content, accuracy, and format:

1. If the CPM or Consultant disapproves or rejects any Project closeout submittal, it shall be returned to the CONTRACTOR for correction and modification.

2. The CONTRACTOR shall then submit its revised and corrected Project closeout submittals to the CPM for review and approval.

3. The CONTRACTOR shall continue to revise and resubmit Project closeout submittals until all required submittals have been accepted by the CPM.

4. The CPM will forward approved Project closeout submittals to the Owner prior to the CA's Substantial Completion Inspection.

5. Corrections or modifications of Project Closeout Submittals shall not be used as justification for an extension of Time.
DIVISION 1 SPECIFICATIONS - SECTION 01780 CLOSEOUT SUBMITTALS

1.04 FINAL SITE SURVEY

A. Submit the certificates, copies of signed and sealed final property survey, electronic media files and Project record documents.

B. Electronic Media: Conform to requirements for electronic media specified below.

1.05 MAINTENANCE CONTRACTS

A. Preparation of Submittals

1. Obtain maintenance contracts as may be required by the Contract Documents executed in duplicate by responsible Subcontractors, suppliers, or manufacturers, within ten days after completion of the applicable item of Work. Except for items put into use with Owner's permission, leave date of beginning of time of maintenance contracts until the Date of Substantial Completion is determined.

2. Verify that documents are in proper form, contain full information, and are notarized.

3. Co-execute submittals when required.

4. Retain maintenance contracts until time specified for submittal.

B. Form of Submittals

1. Draft Copies:

a. When a maintenance contract is required to be executed by the CONTRACTOR, or the contractor or a Subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties.

b. Forms for maintenance contracts: Will not be provided by Owner. Prepare a written document utilizing an appropriate contract form, ready for execution by the CONTRACTOR, or the contractor and Subcontractor, supplier or manufacturer. Submit a draft to the Owner through the CPM for approval.

c. Submit draft copies of all proposed final maintenance contracts to the CPM for the Owner and Project Design Consultant's review.
DIVISION 1 SPECIFICATIONS - SECTION 01780 CLOSEOUT SUBMITTALS

2. Form of Submittal:
   a. Prior to Substantial Completion compile two copies of each required maintenance contract properly executed by the CONTRACTOR, or by the contractor, Subcontractor, supplier, or manufacturer.
   b. Organize maintenance contracts into an orderly sequence based on the table of contents of the Project Manual and bind in ring binders with the cover titled "MAINTENANCE CONTRACTS" with binder, accessories, index tabs and table of contents, and other identifications as specified for Warranty documents below adjusted to reflect the appropriate product bonds content.
   c. When operating and maintenance manuals are required for construction or products for which a maintenance contract is required, provide additional copies of each required maintenance contract, as necessary, for inclusion in each required manual.

C. Timing of Submittals

1. Preliminary Draft:
   a. Submit two copies of preliminary draft maintenance agreement within ninety (90) days of the Contract's required Substantial Completion Date for the Work or a phase thereof.
   b. CPM will review draft and return one copy with comments.

2. Final Submittals:
   a. Submit five (5) copies of revised final maintenance agreements in final form ready for the Owner's execution prior to submitting CONTRACTOR's Request for Substantial Completion Inspection.
   b. Submit three (3) electronic copies in pdf format. Files shall be electronically bookmarked and have optical character recognition (OCR) enabled.
   c. Effective date of Contract will be the Final Completion date for the Work or portion thereof as established by Letter Establishing Substantial Completion Date (Form 01770E), or as otherwise required in the Contract Documents.

1.06 OPERATION AND MAINTENANCE DATA

A. Quality Assurance

1. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

B. Format
DIVISION 1 SPECIFICATIONS - SECTION 01780 CLOSEOUT SUBMITTALS

1. Prepare data in the form of an instructional manual.

2. Bind in commercial quality 8-1/2 x 11 inch three D side ring binders with durable plastic covers, 3 inch maximum ring size:
   
a. When multiple binders are used, correlate data into related consistent groupings.
   
b. Provide sheet lifters for front and back of binder.
   
c. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
   
d. Index Tab Dividers:
      
i. Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.
      
ii. Provide index tab sheet identified as "Contents" in front of the first page of the table of contents to prevent laser printer or copier toner from sticking to vinyl binder.

3. Text: Manufacturer’s printed data, or neatly typewritten data on 20 pound minimum paper.

4. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

5. Provide PDFs of all Operation and Maintenance Manuals.

C. Contents, Each Volume

1. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of CPM, Project Design Consultant, Sub-consultants, and CONTRACTOR with name of responsible parties; schedule of products and systems, indexed to content of the volume.

2. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts and applicable local maintenance contractors.

3. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

4. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

5. Typed Text: As required to supplement product data. Provide logical
DIVISION 1 SPECIFICATIONS - SECTION 01780 CLOSEOUT SUBMITTALS

sequence of instructions for each procedure, incorporating manufacturer's instructions.

6. Warranties: Bind in copy of each.

7. Product Bonds: Bind in photocopy of each.

D. Manual for Materials and Finishes


2. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.


4. Additional Requirements: As specified in individual Product specification sections.

5. Provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

E. Manual for Equipment and Systems

1. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.

2. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

3. Include color-coded wiring diagrams as installed.

4. Operating Procedures:
   a. Include start-up, break-in, and routine normal operating instructions and sequences.
DIVISION 1 SPECIFICATIONS - SECTION 01780 CLOSEOUT

SUBMITTALS

b. Include regulation, control, stopping, shut-down, and emergency instructions.
c. Include summer, winter, and any special operating instructions.

5. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

6. Provide servicing and lubrication schedule, and list of lubricants required.

7. Include manufacturer's printed operation and maintenance instructions.

8. Include sequence of operation by controls manufacturer.

9. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

10. Provide control diagrams by controls manufacturer as installed.

11. Provide CONTRACTOR's coordination drawings, with color-coded piping diagrams as installed.

12. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

13. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.


15. Additional Requirements: As specified in individual Product specification sections.

16. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.

F. Instruction of Owner Personnel

1. Provide copies of all instructional materials, including video-recorded documentation of training sessions or other instructional audio-visual materials.

2. Prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

G. Submittals

1. Preliminary Draft/Outline:

   a. Submit two copies of preliminary draft or proposed formats and
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outlines of contents within two hundred forty (240) days of receipt of Notice to Proceed.

b. Project Consultant and, as applicable, the Owner's Commissioning Authority and/or other Consultants, will review draft and return one copy with comments.

2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.

3. Review Copy:
   a. Submit 1 copy of completed volumes thirty (30) days prior to submitting CONTRACTOR's Request for Substantial Completion Inspection.
   b. This copy will be reviewed and returned with comments by the CPM, Project Design Consultant, the Owner, and other Owner consulting reviewers as applicable.
   c. Revise content of all document sets as required by comments provide by the CPM and the Owner prior to final submission.

4. Final Submittals:
   a. Submit five (5) sets of revised final volumes in final form prior to submitting CONTRACTOR's Request for Substantial Completion Inspection.
   b. Submit three (3) electronic copies in pdf format. Files shall be electronically bookmarked and have optical character recognition (OCR) enabled.

1.07 MAINTENANCE MATERIALS

A. Submit maintenance materials, equipment and accessories of the types and in the quantities specified within the respective specification sections.

   Provide maintenance materials, equipment and accessories in original manufacturer's packaging with manufacturer's original, clearly legible labeling.

   Coordinate delivery date and final storage location of maintenance materials, equipment and accessories to the Owner through the CPM prior to submittal of CONTRACTOR's Request for Substantial Completion Inspection.

   Do not utilize maintenance materials or equipment for cleaning, maintenance or other CONTRACTOR operations.

   Test and inspect maintenance materials, equipment and accessories to ensure
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operability, fitness for purpose and new condition prior to submitting to the Owner.

1.08 PROJECT RECORD DOCUMENTS

A. General Requirements

1. Do not use record documents for construction purposes.
2. Protect from deterioration and loss in a secure, fire-resistive location.
3. Provide access to record documents for reference by the CPM, Project Consultant, the Owner, and other Owner related personnel during normal working hours.
4. Make Project record documents available for inspection by jurisdictional authorities at all times.
5. Ensure special protection of Project record documents.

B. Maintain at the site for the Owner one record copy of:

1. Drawings.
2. Specifications.
3. Addenda.
4. Requests for Information.
5. Change Orders, Project Design Consultant's Supplementary Instructions and other modifications to the Contract.
6. Approved submittals including all administrative submittals as may be required in the Project Manual.
7. Field Test Records and Reports.
8. Construction Photographs.
9. BIM model

C. Maintenance of Project Record Documents

1. Store documents, samples in CONTRACTOR's field office apart from documents used for construction.
   a. Provide fire resistive files and racks for storage of documents.
   b. Provide locked fire resistive cabinets or secure storage spaces for
storage of samples.

2. Filing Organization:

   a. File information concerning individual products according to MasterFormat as published by the Construction Specifications Institute.
   b. File information concerning assemblies and systems according to the CSI/CSC UniFormat as published by the Construction Specifications Institute, edition current upon Notice to Proceed date.

3. Maintain documents in a clean, dry, legible condition and in good order.

D. As-Built Drawings:

1. Maintain a clean, undamaged set of blue or black line on white prints of Contract Drawings and Shop Drawings.

2. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown.

3. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings.

4. Give particular attention to concealed elements that would be difficult to measure and record at a later date.

5. Mark as-built sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the Work.

6. Mark new information that is important to the Owner, but was not shown on Contract Drawings or Shop Drawings.

7. Note related Change Order numbers where applicable.

8. Organize as-built drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.

9. Mark as-built sets with RFI's and their responses, on the drawing most capable of showing conditions fully and accurately. Include reduced-size sketches where appropriate to indicate the final condition.

E. As-Built Specifications:

1. Maintain one complete copy of the Project Manual, including addenda, and one copy of other written construction documents such as Change Orders,
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CPEAMs, and modifications issued in printed form during construction.

2. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications.

3. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation.

4. Note related record drawing information and Product Data.

5. Upon completion of the Work, submit as-built Specifications to the CPM for the Owner's records.

F. Record Product Data:

1. Maintain one copy of each Product Data submittal. Mark these documents to show significant variations in actual Work performed in comparison with information submitted.

2. Include variations in products delivered to the site, and from the manufacturer's installation instructions and recommendations.

3. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned later by direct observation.

4. Note related Change Orders and mark-up of record drawings and specifications.

5. Upon completion of mark-up, submit complete set of record Product Data to the CPM for the Owner's records.

G. Record Sample Submitted:

1. Immediately prior to the date or dates of Substantial Completion, the CONTRACTOR will meet at the site with the CPM and the Owner's personnel to determine which of the submitted Samples that have been maintained during progress of the Work are to be transmitted to the Owner for record purposes.

2. Comply with delivery to the Owner's Sample storage area.

H. Miscellaneous Record Submittals:

1. Refer to other Specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the Work.

2. Immediately prior to the date or dates of Substantial Completion, complete
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miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference.

3. Submit to the Project Consultant for the Owner’s records.

4. Provide the final completed, accurate, as-built BIM model on compact disc (CD) for the Owner’s record and future use.

1.09 SPARE PARTS & ATTIC STOCK

A. Submit spare parts and related accessories of the types and in the quantities specified within the respective Specification Sections.

CONTRACTOR to submit a log of spare parts and materials with required information indicated in the specifications. Log shall be submitted to the Consultant for approval.

1. Include the following required information on forms used to submit recommended spare parts lists:
   a. Form Heading: Include Subcontractor/supplier’s name, Project number, description of product, system or equipment make/model of item and total quantity of units to be supported with spare parts as recommended.
   b. Include the following information for each recommended item on spare parts list:
      i. Item number (sequential).
      ii. Quantity recommended.
      iii. Quantity of item installed in Work.
      iv. Unit of issue.
      v. Description.
      vi. Manufacturer’s part number.
      vii. Manufacturer’s name and address.
      viii. Supplier’s part number, name and address (if manufacturer’s information not available).
      ix. Anticipated life cycle.
      x. Unit price.

2. Include written estimate, in weight and cubic feet, of space required to ship and store all recommended items.

3. Furnish products and spare parts individually packaged in a durable manner or containers suitable for ease of access and prolonged periods of storage. Provide containers for large or heavy items, which are suitable for handling with hoisting equipment.

4. Label spare parts or product containers individually to display at least the following information:
   a. Description of item.
b. Quantity of items in package or container.
c. Name of manufacturer.
d. Manufacturer's part or product number.
e. Manufacturer's catalog number.
f. Name of supplier, supplier's part and catalog number (if manufacturer's information not available).
g. Precautionary information, as appropriate.
h. Other identifying information, if required.

L. Provide an external list showing content of containers used to store one or more spare parts packages. Attach list in a secure manner that is accessible for reference when container is in its stored position. Show the following information at a minimum:

1. Name of manufacturer and/or supplier.

2. Name of product, system or equipment for which parts are supplied.

3. Precautionary information, as appropriate.

4. Numerical designation (i.e., container 1 of 7).

5. Other identifying information or coding, if required.

M. Provide spare parts in original manufacturer's packaging with manufacturer's original, clearly legible labeling.

N. Coordinate delivery date and final storage location of spare parts through the CPM prior to submittal of CONTRACTOR's Request for Substantial Completion Inspection.

O. Do not utilize spare parts for any purpose during construction.

P. Inspect spare parts to ensure new condition prior to submitting to the Owner.

Q. Submit attic stock and related accessories of the types and in the quantities specified within the respective trade Specification Sections.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01780 - CLOSEOUT SUBMITTALS
DIVISION 1 SPECIFICATIONS – SECTION 01810 – GENERAL COMMISSIONING REQUIREMENTS

PART I - GENERAL

1.01 COMMISSIONING SCOPE REQUIREMENTS

A. The Work under this section is subject to requirements of the Contract Documents including the Owner's General Conditions and articles of the Construction Project Manager's General Conditions.

1.02 DESCRIPTION

A. Commissioning is a quality driven systematic process of ensuring the commissioned systems and equipment are installed and operate as independent entities but more importantly systematically in an interactive nature with other systems in accordance to the construction documents in order to meet the design intent and Owner's operational needs.

B. The commissioning process does not replace or reduce the responsibility of system design engineers, installing contractors, Subcontractors, or suppliers in performing all aspect of Work and testing as outlined in the Contract Documents in providing a finished and fully functional product and system.

1.03 DEFINITIONS

A. The following are commonly used definitions of words used in the specifications.

1. Acceptance Phase - The phase of construction after completion of the PFC verification process and after the initial equipment systems initial startup is complete.

2. Contract Documents - Construction drawings, specifications, Addendums, request for information (RFI) documents and other proprietary contract altering document associated with the Project.

3. Deferred Functional Testing: Functional tests that have been deferred to after Substantial Completion date due to partial occupancy, seasonal testing, or other site or design issues that did not permit the FPT verification process from being completed during the acceptance phase.

4. Deficiency - A condition in the installation or function of the component, piece of equipment or system that is not in compliance with the Contract Documents, does not perform properly, or is not complying with the design intent.

5. Design Intent - The Design Intent is an explanation of the ideas, concepts, and criteria that are considered to be very important to the Owner. It is initially the outcome of the programming and conceptual design phases.

6. Manufacturer's Representative - A representative of the company building and supplying the equipment to the Project.

7. Vendor - The supplier of the equipment.
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1.04 ABBREVIATIONS

A. The following are commonly used Abbreviations used in the specifications:

1. A/E – Architect / Engineers
2. BoD – Basis of Design
3. CM @ R – Construction Manager-at-Risk
4. CPM – Construction Project Manager
5. Cx – Commissioning
6. CxA – Commissioning Agent
7. FPT – Functional Performance tests
8. HVAC – Heating Ventilation & Air Conditioning
9. IRL – Issues Resolution Log
10. LEED – Leadership in Energy and Environmental Design
11. MEL – Master Equipment List
12. O&M – Operation and Maintenance
13. OPR – Owner's Project Requirements
14. PFC – Pre-Functional Performance Checklist
15. PMO – Program Management Office
16. PUR – Project Update Report
17. RFI – Request for Information
18. SVR – Site Visit Report
19. TAB – Test and Balance

1.05 RELATED WORK

A. Specific commissioning requirements are given in the following sections of these specifications. The following sections apply to Work specified in this section:

1. Division 15 - Mechanical
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2. Division 16 - Electrical
3. Division 17 – Telecommunication – Security

1.06 RESPONSIBILITIES OF THE COMMISSIONING TEAM MEMBERS

A. Construction Manager-at-Risk (CM @ R)

1. Review of the CxA provided Cx Plan.
2. Distribute electronic copies of the Cx Plan to the Subcontractors for review and use.
3. Incorporate the commissioning activities provided by the CxA into the construction schedule.
4. Facilitate cooperation of Subcontractors in commissioning efforts.
5. Attend the Commissioning Kick-off meeting.
6. Attend any scheduled Commissioning meetings.
7. Submit to the CPM the dates for the execution by the Subcontractor of the following:
   a. Equipment Start-Up
   b. Pipe pressure testing
   c. Duct pressure testing
   d. Training sessions
   e. Airside Test and Balance
   f. Waterside Test and Balance
8. Submit to the CPM the following documents from the Subcontractor:
   a. Submittals for the commissioned equipment
   b. Blank Start-Up documents of the commissioned equipment
   c. Completed Start-Up documents of the commissioned equipment
   d. O&M Manuals
   e. Blank pipe pressure testing document
   f. Completed pipe pressure testing document
   g. Blank duct pressure testing document
   h. Completed duct pressure test document
   i. Training sign-in sheets, duration of the training, and agenda of the training.
9. Submit to the CPM the dates for the execution by the TAB contractor of the following:
   a. Airside Testing and balancing
   b. Waterside Testing and balancing
10. Submit to the CPM the following documents from the TAB subcontractor:
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a. Blank copies of the airside testing and balance documents
b. Blank copies of the waterside testing and balancing documents
c. Completed airside TAB documents
d. Completed waterside TAB documents

11. Submit to the CPM the following documents:
   a. Controls sequence of operations based on the 100% construction documents
   b. Final "as-built" control sequence of operations for the commissioned equipment and systems

12. Submit to the CPM the dates for the Controls contractor will be completed with the setting up of the control sequence of operations of the commissioned equipment.

13. Verify and confirm with the appropriate subcontractor the Pre-Functional.

14. Checklists (PFC) have been completed.

15. Promote and assists in the timely responses and resolution by the appropriate trade to the open items on the IRL document.

16. Provide the necessary safety and support personnel to complete testing, including fire watch.

17. Schedule, coordinate and assist the Commissioning Team in any deferred testing.

18. Notify the CPM in a timely manner of any major schedule changes, especially related to the commissioned equipment readiness.

Subcontractors (Vendor / Manufacturer's Representative)

1. The subcontractors are responsible for the completion of the following tasks but can rely on the assistance of the equipment vendor and or manufacturer's representative in completing the following tasks.

2. The following does not include the efforts required from the Controls or TAB contractors.
   a. Review Commissioning specifications, Cx Plan, Pre-Functional Checklists, and Functional Performance Test procedures.
   b. Attend the Commissioning Kick-Off Meeting.
   c. Review of the Cx Plan when issued and prepare a list of questions for the Commissioning Kick-Off Meeting.
   d. Upon request attend any scheduled commissioning meetings.
   e. Participate in the PFC verification process by:
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i. Complete the execution of the PFC documents provided by the CxA. Upon completion of each PFC document submit the completed forms to the CPM. The CPM will forward all completed PFC documents to the CxA.

f. Participate in the FPT verification process by:

i. Verify the commissioned equipment and systems are installed and operating as per the construction documents and as indicated on the Functional Performance Test checklists developed by CxA.

ii. Assisting in the FPT verification process by providing the necessary equipment and personnel during the execution of the FPT document by the CxA.

iii. Provide certified and calibrated instrumentation required to take measurements of system and equipment performance during Functional Performance Testing.

g. Provide the necessary equipment and personnel for the execution of the duct pressure testing and submit the following to the CPM.

i. A blank copy of the duct pressure testing document. The CPM will forward the blank document to the CxA for review.

ii. The dates for testing of the duct pressure testing in a timely manner in order for the CxA to schedule a site visit to witness the pressure testing.

iii. A completed copy of the duct pressure testing documents. The CPM will forward the completed document to the CxA for review.

h. Participate in the equipment start-up process of the

i. Provide the necessary equipment and personnel for the execution of the pipe pressure testing and submit the following to the CPM:

i. A blank copy of the pipe pressure testing document. The CPM will forward the blank document to the CxA for review.

ii. The dates for testing of the pipe pressure testing in a timely manner in order for the CxA to schedule a site visit to witness the pressure testing.

iii. A completed copy of the pipe pressure testing documents. The CPM will forward the completed document to the CxA for review.

i. Participate in the equipment start-up process of the
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commissioned equipment.

i. The subcontractor is responsible for the start-up of commissioned equipment identified in the engineer's Equipment Specification Section as requiring a start-up procedure.

ii. The subcontractor is to submit to the CPM the following:

1) After the equipment submittal has been approval by A/E, the blank start-up procedure document to the CPM.
2) Equipment start-up dates of the commissioned equipment.
3) The completed start-up document.

iii. Commissioning Agent reviews Start-Up Plan to verify the commissioned equipment requiring a Start-Up Plan has been submitted.

iv. Subcontractor shall execute equipment start-up per Start-Up Plan, document results, and forward a copy of completed Start-Up Checklists to Commissioning Agent for review to verify completion of start-up activities.

v. Commissioning Agent is not required to observe any start-ups but reserves the right to witness any start-up or equipment testing.

vi. Any item marked as complete which is later found to be incomplete and causes re-verification Work by Commissioning Agent or delays during Functional Performance Testing will be back-charged to the responsible party.

vii. Provide the necessary equipment and personnel for the execution of the start-up procedure.

viii. Submit a completed copy of the start-up document to the CPM. The CPM will forward the completed document to the CxA for review.

j. Prepare and submit Operation & Maintenance manuals to the CPM. The CPM will forward the O&M manuals to the CxA for review.

k. Participate in the training required as stated in the equipment specifications and execute the following:

i. Prepare and submit a Training Schedule to the CPM. The CPM will forward the Training Schedule to the CxA.

ii. Coordinate the dates of each training session with the CPM and attendees.

iii. Prepare an agenda of the topics to be discussed during the training session. Verify all items in the equipment specifications are addressed in the
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iv. Prepare a sign-in sheet for each training session listing the topic, start and end time of the training session, and attendees.

v. After completion of the training session submit the sign-in sheet and agenda to the CPM. The CPM will forward the documents to the CxA.

I. Complete the following for the IRL document:

Provide a response on the space provided on the IRL document for all deficient open items.

Controls Contractor:

1. Review of the Cx Plan and prepare a list of questions for the Commissioning Kick-Off Meeting.

2. Attend Commissioning Kick-Off Meeting and attend, when requested, the scheduled commissioning meetings.

3. Completely install and thoroughly inspect start-up, test, adjust, calibrate and document systems and equipment under Building Automation/Controls Contract.

4. Provide laptop computer, software and training to accommodate Test and Balance Contractor in system balancing.

5. Maintain database of control parameters submitted by Test and Balance Contractor subsequent to field adjustments and measurements.

6. Notify the CPM on the dates in which each commissioned equipment and systems are ready for FPT verification. Once notified, the CPM will relay the dates to the CxA to schedule time for execution of the FPT checklist. The commissioned equipment and systems will be ready for FPT verification when:

   a. The TAB contractor has completed all required testing and balancing.
   b. The controls contractor has declared the control system is operational as per the construction documents and has tested the control sequences checklist.

7. Set up trend logs as requested by the CxA to substantiate proper systems operation.

8. Provide on-site technician skilled in software programming and hardware operation to exercise sequences of operation and to correct control deficiencies identified during Functional Performance Testing including deferred testing.

9. Provide instrumentation, computer, software and communication
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resources necessary to demonstrate total operation of building systems during Functional Performance Testing of control system equipment including deferred testing.

10. Prepare and submit the Controls Submittal to the CPM. CPM will forward the submittal to the CxA.

11. Participate in the controls training required as stated in the controls specification and execute the following:
   a. Prepare and submit a Training Schedule to the CPM. The CPM will forward the Training Schedule to the CxA.
   b. Coordinate the dates of each training session with the CPM and attendees.
   c. Prepare an agenda of the topics to be discussed during the training session. Verify all items in the equipment specifications are addressed in the agenda.
   d. Prepare a sign-in sheet for each training session listing the topic, start and end time of the training session, and attendees.
   e. After completion of the training session submit the sign-in sheet and agenda to the CPM. The CPM will forward the documents to the CxA.

Test, Adjust and Balance Contractor:

1. Review of the Cx Plan when issued and prepare a list of questions for the Commissioning Kick-Off Meeting.

2. Attend Commissioning Kick-Off Meeting and attend, when requested, scheduled commissioning meetings.

3. Provide the CPM with the following documents and the dates for the airside TAB process. The CPM will forward all documents to the CxA.
   a. Blank copy of the airside TAB document prior to initiation of the Tab process.
   b. Provide the dates for the execution of the airside TAB process to the CxA in order to witness the TAB process.
   c. Completed copy of the airside TAB document.

4. Provide the CPM with the following documents and the dates for the waterside TAB process. The CPM will forward all documents to the CxA.
   a. Blank copy of the waterside TAB document prior to initiation of the TAB process.
   b. Provide the dates for the execution of the waterside TAB process to the CxA in order to witness the TAB process.
   c. Completed copy of the waterside TAB document.

5. Assist the Controls Contractor with setting up the sequence of operation for the commissioned equipment and during the FPT verification process.
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6. Rebalance deficient areas identified during commissioning.

7. Provide on-site technician and equipment, as necessary, skilled in Test and Balance procedures to provide verification of equipment and system performance during Functional Performance Testing including deferred testing. Balance procedures to provide verification of the final Test and Balance report. These verification procedures will be executed after the final Test and Balance report has been submitted for review. The Test and Balance subcontractor will recheck a sampling of the final air and water Test and Balance report readings for the Commissioning Agent (allow a total of 16-hours for the final Test and Balance report verification over a single, two day site visit).

PART 2 – SYSTEMS TO BE COMMISSIONED

2.01 MECHANICAL

A. Pre-Functional Checklists and Functional Performance Tests
   1. HVAC Chilled / Condenser Water Systems
   2. HVAC Packaged Direct Expansion HVAC Systems
   3. HVAC Air Distribution Systems (100% critical areas, 20% other)
   4. HVAC Exhaust Fan Systems
   5. HVAC Fire and Smoke Control Systems
   6. HVAC Electric Heating Equipment
   7. Specialty Air Conditioning Systems (non-airside)
   8. Building Automation Systems
      a. Building Automation System will be functionally tested for all systems to be commissioned. Building Automation System functional testing will include verification of all control sequences for equipment/systems to be commissioned.

2.02 PLUMBING EQUIPMENT

A. Pre-Functional Checklists and Functional Performance Tests
   1. Storm Water Systems including storm water ejector pumps
   2. Fire Protection System (Fire pump, Jockey Pump)
   3. Sanitary Systems including sanitary waste ejectors, and kitchen waste ejectors
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4. Potable Water System
5. Compressed Air System
6. Rain Harvesting System
7. Natural Gas System
8. Hot Water Heater
9. FM 200 Fire Suppression System

2.03 ELECTRICAL EQUIPMENT – EMERGENCY POWER SUPPLY

A. Pre-Functional Checklists and Functional Performance Tests
   1. Emergency Power Systems including emergency generators, emergency generator load banks, transfer switches, and UPS System
   2. Normal Power Systems (100% critical areas, 20% other)
   3. Lighting Control Systems
   4. Grounding
   5. Power Monitoring
   6. Lightning Protection

B. Functional Performance Tests
   1. Generator Load Banks and Controls
   2. Emergency Power System including the emergency diesel generators, and automatic transfer switches
   3. Verification of the following HVAC Systems during normal power outage:
      a. Chiller Plant
      b. Building Automation System
      c. Air Handling Systems
      d. Smoke Management Systems
      e. Heating and Ventilation Systems
   4. Verification of the following electrical systems during normal power outage:
      a. Emergency Lighting Systems (life safety and critical)
      b. UPS System (DC and Flywheel)
   5. Verification of the following Plumbing Systems during normal power outage

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outage:

a. Sump pumps and sewage ejectors
b. Domestic water booster pumps

6. Verification of the following Fire Protection Systems during normal power outage:

a. Fire and jockey pumps
b. Alarm switches

2.04 ELECTRICAL EQUIPMENT – NORMAL POWER SUPPLY

A. Pre-Functional Checklists

1. Primary Switchgear
2. Low voltage unit substations
3. Low voltage network substations
4. Low voltage switchboards
5. Low voltage motor controllers / VFDs
6. Normal power distribution panel boards with main buss rating more than 400A
7. Lighting Control System

B. Functional Performance Tests

1. Primary Switchgear
2. Low voltage unit substations
3. Low voltage network substations
4. Low voltage switchboards
5. Lighting control system including sample verification of space lighting controls

2.05 ELECTRICAL EQUIPMENT – FIRE ALARM SYSTEM

A. Pre-Functional Checklists

1. Fire Alarm Control System
2. Control panels
3. Primary alarms control annunciation
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4. Auxiliary control / annunciation
5. System power supply
6. Audio source unit
7. Audio amplifiers
8. Intelligent systems devices
9. Primary notification
10. System accessories
11. Fire alarm system conduits, boxes and fittings

C. Functional Performance Tests

1. Fire Alarm System: Functional test will include sample verification of each alarm type in each fire alarm zone. Functional testing will also verify proper operation of elevator recall sequences during fire alarm.

2.06 SPECIAL SYSTEMS

A. Security Systems

1. Access Control
2. Intrusion Detection System
3. CCTV
4. Door and hardware limited to the components related to access control and security

B. Paging System

2.07 AIRSIDE / APRON SYSTEMS

A. Building Mounted Lighting and Lighting Controls
B. Lightning Protection
C. Exterior Lighting Within 100-feet of Terminal

2.08 BAGGAGE HANDLING SYSTEMS

A. Refer to Baggage handling Specification Section 14520 subsection 4.1 Field Quality Control and 4.2 Inspection Testing Acceptance.
B. Review Functional Performance Test Plan Documents.
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C. Witness Functional Performance Testing.
   1. F.A.T. Testing
   2. Static and Dynamic Tests
   3. Functional Tests

D. Evaluation Testing
   1. Introductory Testing
   2. Detailed Testing
   3. System Wide Testing

PART 3 – COMMISSIONING TASKS

3.01 CONSTRUCTION PHASE Cx TASKS

A. Commissioning Kick-off Meeting
   1. The CxA will conduct a Cx Kick-Off Meeting no later than 30 days prior to the first Cx site visit or earlier if deemed necessary by the CxA.
   2. The CPM will coordinate the date and time of the meeting with the CM @ R.
   3. The requested attendees at the meeting are to include, but not limited to, the Owner, Owner’s Representative, Client, CM @ R, A/E design team, and the mechanical, electrical, controls, test & balance subcontractors. Other attendees may be invited at the request of the CM @ R, Owner or Client.
   4. The intent and purpose of the Cx Kick-Off meeting is to ensure the Client and all members of the construction team and design team understands the commissioning process and their roles and responsibilities as well as a venue to ask any questions.
   5. The agenda of the meeting will be the Cx Plan. The CPM will issue meeting minutes after the Cx Kick-off Meeting and sign-in sheet to all attendees and other requested to receive the minutes.

B. Commissioning Meetings
   1. Commissioning Team meetings will be held periodically when deemed necessary by the CPM.
   2. CPM will coordinate the date and time of the meeting with the CM @ R.
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3. CPM will issue an agenda prior to the meeting and a list of attendees required to attend.

4. CPM will distribute meeting minutes to all attendees.

C. Construction Meetings

1. CxA will attend all construction meetings when the agenda only involves discussion of commissioning related topics, tasks, or activities.

2. CxA will attend other construction meetings via teleconference.

3. CxA will attend the construction meeting during days when on the construction site.

D. Pre-Functional Checklist

1. Objectives and Scope:

   a. The objective of Pre-Functional Checklists is to verify all equipment and systems to be commissioned are installed according to documented design intent and Contract Documents.

2. Pre-Functional Checklist Verification Process

   a. The PFC's will be Project specific checklists developed from the Contract Documents.

   b. The CxA will develop the Pre-Functional Checklist's and will be submitted to the CM @ R and the CM @ R will perform the PFC's.

   c. The CONTRACTOR will provide drawings and specifications to the CxA for the development of the PFC's. Drawings will be provided to the CxA by:

   i. Submitting a hard-copy of the MEP specification and half-size legible drawings
   ii. Providing access to a site housing the MEP drawings and specifications.
   iii. Sending an electronic copy of the required drawings and specifications.

   d. The CxA will be verifying a 20% sampling of the subcontractor executed Pre-Functional Checklists. Unless otherwise directed by the Client, the CxA will decide which commissioned equipment will be sampled.

   e. The subcontractor will notify the CxA through the CM @ R when the PFC's have been completed.

   f. The CxA will issue at the completion of the verification of the sampling the completed PFC document along with any deficiencies observed and photographs.

   h. The Pre-Functional Checklist process is initiated for all
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commissioned equipment requiring piping when the piping is installed but prior to installation of the insulation. The PFC process will be completed prior to equipment start-up and initiation of the FPT process.

i. The Pre-Functional Checklist process is initiated for all commissioned equipment without piping when the equipment is installed and to be completed prior to equipment start-up and initiation of the FPT process.

j. If the subcontractor observes an error on the PFC, notify the CxA of the error with proper documentation supporting the error.

k. When the subcontractor has completed a PFC document, the PFC will be submitted to the CxA.

l. The PFC verification process for each commissioned equipment is not considered completed until all deficiencies noted on the IRL have been closed.

m. During the PFC verification process the “In-Progress” PFC’s will not be submitted unless requested by the Owner or CPM. The completed Pre-Functional Checklists will be included with the issuance of the Final Commissioning Report.

E. Start-Up Plan

1. Prior to Start-Up

   a. The CM @ R shall submit blank start-up documents to the CPM prior to the initiation of the start-up process on the commissioned equipment.

   b. The CxA will produce an Equipment Start-Up checklist document reflecting the start-up requirements in the engineer’s specification for the CM @ R to follow.

   c. The CxA will review the equipment start-up documents to verify the engineer’s specified requirements are met and submit the Equipment Start-Up checklist.

2. During Start-Up

   a. The CxA will witness the first start-up of the equipment to be commissioned. For Equipment that are in multiples (more than one of each), the CxA will witness the first 5% of the commissioned equipment, after the first 5% demonstrates the correct process is used and executed, the CxA will sample the remaining testing in conjunction with our regularly scheduled site visits.

   b. The CxA Commissioning will issue a site visit report describing the results of the start-up.

3. After Start-up

   a. The CxA Commissioning will review the final equipment start-up documents for the commissioned equipment for completeness and accuracy.
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3.03 COMMISSIONING ACCEPTANCE PHASE TASKS

A. Test and Balance Verification of the Airside Systems

1. The CM @ R to coordinate the TAB process with the following airside equipment with the CxA:
   a. All commissioned air distribution supply and exhaust fans systems and terminal boxes.

2. The CM @ R to coordinate the TAB process with the following air devices with the CxA:
   a. Supply air devices
   b. Return air devices
   c. Exhaust air devices

3. Prior to the airside TAB process the CxA will:
   a. Review the blank TAB document to verify the engineer's specified requirements are included in the TAB document.
   c. All non-conforming items observed will be listed on the IRL.

4. During the TAB process the CxA will be present to:
   a. Witness the airside testing and balancing of the first 5% of the commissioned airside equipment, after the first 5% demonstrates the correct process is used and executed, the CxA will sample the remaining testing in conjunction with our regularly scheduled site visits. Equipment to be sampled will be determined by the CxA, unless otherwise directed by the Client.
   b. Verify the TAB process is being conducted as per the engineer's specified requirements and the measured values are within the engineer's specified tolerances.
   c. Document all findings on the Site Visit Report.
   d. All non-conforming items observed will be listed on the IRL.

5. After the completion of the airside TAB process the CM @ R will submit to the CPM:
   a. The completed airside equipment and air device TAB reports to verify the accuracy and completeness of the measured values are within the engineer's specified requirements.
   b. CxA to verify the accuracy of the Test and Balance report by having the TAB subcontractor demonstrate samples of their findings so that we can witness and document the report data included in their report is accurate.
   c. CxA to document all findings on the TAB Review document checklist.
   d. All non-conforming items will be listed on the IRL.
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B. Test and Balance Verification of the Waterside Systems

1. The CM @ R will coordinate the TAB process with the following waterside equipment with the CxA:
   a. Chillers and other commissioned HVAC equipment with chilled water coils.

2. Prior to the waterside TAB process the CM @ R will submit to the CPM:
   a. The blank TAB document to verify the engineer’s specified requirements are included in the TAB document.
   b. CxA to document all findings on the Review of Blank TAB document checklist.
   c. All non-conforming items observed will be listed on the IRL.

3. During the TAB process the CM @ R to ensure adequate notification to the CPM for the CxA to:
   a. Witness the testing and balancing of the following commissioned equipment:
      i. Chillers
      ii. 25% random sampling of the Chilled water coils in the commissioned equipment
   b. Verify the TAB process is being conducted as per the engineer’s specified requirements and the measured values are within the engineer’s specified tolerances.
   c. Document all findings on the Site Visit Report.
   d. All non-conforming items observed will be listed on the IRL.

4. After the completion of the airside TAB process the CM @ R to submit to the CPM:
   a. The completed waterside equipment TAB reports to verify the accuracy and completeness of the measured values are within the engineer’s specified requirements.
   b. Verify the accuracy of the Test and Balance report by having the TAB subcontractor demonstrate samples of their findings so that we can witness and document the report data included in their report is accurate.
   d. All non-conforming items will be listed on the IRL.

C. CM @ R to submit the Operating and Maintenance Manuals prior to start-up of the equipment.

1. The Commissioning Agent will review the Operation & Maintenance manuals for the commissioned equipment for completeness in accordance to the Project specifications.
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2. The O&M review will not be limited to the equipment being commissioned but to all equipment identified in the engineer's specifications as requiring an O&M manual.

3. The CM @ R to follow an O&M Manual Checklist. The checklist will contain all of the O&M manual requirements for the equipment as identified in the engineer's specification. As directed by the Client, other O&M requirements outside of the engineer's specifications will be included in the O&M Checklist.

4. The CxA will produce an O&M Review Document to confirm compliance with the commissioned equipment specifications.

5. All non-compliant items will be documented on the IRL.

6. The O&M Checklist will be submitted on a periodic basis and a final O&M Checklist will be issued once the O&M Checklist is completed.

D. Training of Owners Personnel

1. Subcontractors, vendors, or manufacturer's representative will provide complete training in operation and maintenance of all equipment noted in the mechanical, electrical, and plumbing specifications as requiring training.

2. CONTRACTOR and Subcontractors / vendors will be responsible for developing Owner training plan, scheduling of Owner training, execution of Owner training and documentation of completed Owner training.

3. The CxA or CPM will not be responsible conducting the training sessions.

4. The CM @ R to follow a Training Checklist of the required training on the various mechanical, electrical, and plumbing equipment and systems on the Project. The training requirements included in the checklist will be taken from the engineer's specifications. Training monitoring is not limited to the commissioned equipment but of those equipment and systems identified in the engineer's specifications are requiring training. Other training will be included outside of the specifications if directed by the Client.

5. All training sessions will have a sign-in sheet indicating training session topic and duration of the training session.

6. An agenda is to be created by the Subcontractor, vendor, or manufacturer's representative for each of the training session.
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7. A copy of the sign-in sheet and agenda, and will be distributed to the CxA.

8. The CxA will be responsible for monitoring and documentation of completion of Owner training.

9. The CxA will be completing the Training Session Review Document to track the training sessions are in compliance with the specified requirements.

10. All training sessions will be recorded in an electronic format and turned over with the Project record documents.

11. All non-compliant items will be documented on the IRL.

D. Pressure Testing of Ductwork, CM @ R to ensure adequate notification to CPM for CxA to:

1. Witness the pressure testing of the first 5% of the medium and high pressure supply air ductwork, after the first 5% demonstrates the correct process is used and executed, the CxA will sample the remaining testing in conjunction with our regularly scheduled site visits. Unless otherwise directed by the Client, ductwork to be sampled will be determined by the CxA.

2. Witness the ductwork pressure testing to verify the testing is conducted as described and within the tolerances specified by the engineer.

3. The CxA will issue a Duct Pressure Testing Report at the completion of the tests.

4. All non-conforming items observed will be listed on the IRL.

E. Pressure Testing of Piping Systems

1. Pipe pressure testing will be conducted on the following systems:
   a. Chilled Water
   b. Domestic Cold Water
   c. Domestic Hot Water
   d. Fire Sprinkler

2. CM @ R to ensure adequate notification to CPM for CxA to:
   a. Witness of the first 5% of piping pressure tests, after the first 5% demonstrates the correct process is used and executed, the CxA will sample the remaining testing in conjunction with our regularly
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scheduled site.

b. Verify the pressure testing process is being conducted as per the engineer's specified requirements and the measured values are within the engineer's specified tolerances.

c. Document all findings on the Site Visit Report.

d. All non-conforming items observed will be listed on the IRL.

F. Functional Performance Test

1. Objectives and Scope:

a. The objective of Functional Performance Testing is to demonstrate the commissioned equipment and system to be commissioned are operating in accordance to the documented design intent and Contract Documents.

b. The Functional Performance Test is a test of the dynamic function and operation of commissioned equipment and systems to verify the equipment is responding according to the engineer's specified sequence of operation.

c. The Functional Performance Test checklists will be Project specific checklists and will be developed from the Contract Documents.

d. The Functional Performance Test process will involve the participation of the controls contractor, testing and balancing agency, and the mechanical, electrical, and plumbing subcontractors.

2. Functional Performance Test Checklist Process

a. The CxA will develop the Project specific FPT checklist.

b. The CM @ R will provide drawings, specifications, and the controls sequence of operation submittal to the CxA for the development of the FPT's. The requested documents will be provided to the CxA by:

i. Submitting a hard-copy of the specifications, controls submittal, and legible half-size drawings.

ii. Providing access to a site housing the requested documents.

iii. Sending an electronic copy of the requested documents.

c. The FPT checklist will be available for review and use by the CPM, Owner, and Subcontractors.

d. The initiation of the FPT verification process will not begin until the following tasks are completed:

i. The PFC documents are completed and all open deficiencies affecting the TAB process or the operation of the equipment and systems have been closed.

ii. Start-Up of the commissioned equipment completed.

iii. TAB contractor declares the TAB process is completed.

iv. Controls contractor declares the controls sequence of operation for each of the commissioned equipment and
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systems are setup and operating as per the Contract Documents.

e. The execution and completion of the Functional Performance Test’s will be by the CxA with the assistance of the controls contractor, testing and balancing agency, and the mechanical, electrical, and plumbing sub-contractors.

f. The CxA FPT Site Visits will be coordinated and scheduled with the CPM based on the level of installation required for each piece of commissioned equipment prior visiting the site.

g. During the Functional Performance Test verification process the “In-Progress” Functional Performance Test checklists will not be submitted unless requested by the Owner or CPM. The completed FPT checklists will be included with the issuance of the Final Commissioning Report.

h. All Functional Performance Tests deficiencies will be recorded on the IRL.

i. Division contractors shall provide all specialized tools, test equipment and instruments required to the Functional Performance Testing of equipment under their contract.

j. Test equipment shall be of sufficient quality and accuracy to test and/or measure system performance with tolerances specified. A testing laboratory shall have calibrated test equipment within the previous 12 months. Equipment shall be calibrated according to manufacturer’s recommended intervals and when dropped or damaged. Calibration tags shall be affixed or certificates readily available.

3.05 OCCUPANCY PHASE COMMISSIONING TASKS

A. Final Commissioning Report

1. A Final Commissioning Report will be compiled by the CxA and issued at the completion of the Acceptance Phase to the CPM.

B. Deferred Opposed Season Testing

1. Opposed Season Performance Testing

a. If during the Warranty Meeting any deficiencies or performance issues are noted a performance test will be conducted on the noted equipment and or systems. CM @ R will coordinate this activity.

b. Tests will be executed, documented and deficiencies corrected by appropriate contractor(s), with facilities staff and Commissioning Agent witnessing.

C. Unforeseen Deferred Tests:

1. Any check or test not completed due to building structure, required occupancy condition, or other deficiency, may be delayed upon approval
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of Owner. These tests will be rescheduled as soon as possible. CPM will coordinate this activity.

2. Tests will be executed by appropriate contractor(s) with the deficiencies and results of the testing documented by the Commissioning Agent.

PART 4 - COMMISSIONING DOCUMENTATION

4.03 ISSUE RESOLUTION LIST (IRL)

A. The IRL is a list of deficient items observed during the site visit that appear to be not in compliance with the construction documents or not per industry standards for proper installation.

B. All items on the Commissioning Deficiency List will remain on the Commissioning Deficiency List until the deficiency has been resolved. Once resolved, the item will be closed.

C. All Commissioning Deficient List items require a response either from the CONTRACTOR, Subcontractor, or engineer.

D. All items on the list will remain on the Commissioning Deficiency List until the deficiency has been resolved or if the deficiency noted is not valid due to value engineering or due to other means of deviation from the construction documents. Either way, a response is required to the Commissioning Agent on the deficient items. Items of non-compliance in material, installation or set-up will be corrected at Subcontractor expense and system shall be retested.

END OF SECTION 01810 – GENERAL COMMISSIONING REQUIREMENTS