SECTION 01 00 00 - MTC GENERAL REQUIREMENTS

1. GENERAL

1.1. This document defines the general requirements that govern all work at Midlands Technical College (MTC). It is a part of the Contract and shall have full force and effect and shall be as a part thereof.

1.2. Scope of Work of this construction project includes: Renovation to the existing Restrooms in Reed Hall on the Airport Campus. Work to include Update for ADA access and new partitions and finishes.

1.2.1. Contractor will provide construction work as described in this paragraph above, and the referenced drawings and specifications, as directed by Owner/Operations Department. Work will include but not be limited to:

1.2.1.1. Renovation to the existing Restrooms in Reed Hall on the Airport Campus. Work to include Update for ADA access and new partitions and finishes.

2. PERSONNEL

2.1. The Contractor is fully responsible for the performance and conduct of his employees at all times while on MTC campuses. The Contractor shall be responsible for selecting personnel who are well qualified to perform the required services, for supervising techniques used in their work and for keeping them informed of all improvements, changes, methods of operations.

2.2. The Contractor shall not allow any employee to perform work under this contract while under the influence of alcohol, drugs, or any other incapacitating agent. Use of any possession of alcoholic beverage and / or illegal drugs is prohibited on all State property. Violators will be dealt with according to law.

2.3. All personnel employed by the Contractor or any representative of the Contractor entering the site(s) shall comply with all security regulations which may be in effect during the contact period and shall be subject to such checks as may be deemed necessary. The Owner has authority to bar an individual from entry onto the site. Such action by the Owner shall not excuse the Contractor from fulfilling all requirements under this contract and shall not be the cause of any claim for additional compensation by the Contractor or claim by the individual.

2.4. No weapons of any type (guns, rifles, etc.) are brought on site or any MTC College property.

3. UTILITIES

3.1. When available, the Owner will provide utilities for use by the Contractor. The Contractor will provide for all connections, extensions, adaptations, and safety precautions needed in these connections. Utilities in this paragraph are limited to: (1) electrical, (2) water, (3) sanitary, and (4) storm sewer (if applicable). Contractor shall use all appropriate conservation measures. Temporary power, when needed, shall be the Contractor's responsibility.

4. SCHEDULES

4.1. If the scope of work or specifications require a schedule, a bar type progress chart will be submitted within 5 working days, identifying the proposed construction schedule. Thereafter a revised chart should be submitted as least every two weeks identifying the original schedule, amended schedule (if any) as well as completed work.

5. OWNER'S USE OF PREMISES

5.1. The Owner may continue to use the areas adjacent to the Work site for their intended purpose. The walk paths, sidewalks, and parking areas in the area of the project must be kept clear of materials, dirt, debris, etc., to allow for College traffic. If this is not possible, an approved alternate route of travel must be provided by the Contractor.

5.2. Occupancy of buildings: The building(s) will remain occupied during the work. The Contractor is responsible for taking necessary precautions to protect building, contents and personnel from damage to injury from their operations and from water entry into building during operations.

5.3. Any requests received by the Contractor from occupants to change the sequence or work must be referred to the Owners project manager for determination. No changes will be made unless agree to in writing by both the contractor and Owner prior to the execution of any agreed upon changes to work sequence.

6. CONTRACTOR'S USE OF PREMISES

6.1. No job sign is required. If indicated on the Campus Map, furnish and install material delivery signs as shown. Signs shall be of approved size and color with lettering of approved style and contrasting color so as to be easily visible and readable.

6.2. An on-site Construction Office is not required for this work.

6.3. Contractor's personnel shall use Contractor provided facilities (toilet, water, vending and break) for all workers.

6.4. See Campus Map for site access and Contractor parking. Trucks may not drive on campus sidewalks. Except for permitted deliveries to the facility, and vehicles used in pursuit of the work (as opposed to transport of personnel or materials), vehicles of Contractor and Contractor's personnel shall park only in the area designated.

6.5. Lay-Down Areas: Prior to beginning operations, Contractor shall obtain approval of Owner for areas to be used as material storage, hoisting, holding, dumping, porta-pots, etc. Work will be restricted to approved locations.

6.6. Dumpsters located on the College Campuses are not for the disposal of construction debris. The Contractor shall be responsible for the disposal construction materials unless specified otherwise in the scope of work.

6.7. Contractor may work on the premises at any time. The Owner will be notified in writing if work is planned after normal working hours, on weekends or on holidays. Normal work hours are 7:00 AM until 5:00 PM. Work bid on a lump sum price will include a scheduled completion date and the contractor will be responsible for completing the work by the scheduled date at the bid price unless the Owner causes a delay which must be agreed in writing when a change or delay is made to the contractor.

6.8. Excessively noisy operations shall not be conducted between 8:00 am and 10:00 pm, and otherwise as required by the Owner from time to time. Work at times other than Owner's normal work hours shall be coordinated in advance so the Owner may notify appropriate parties.

6.9. The Contractor shall schedule utility interruptions with Owner at least 48 hours in advance. Scheduled interruptions shall be at the Owner's convenience. Do not interrupt any utility service without prior approval for each specific instance. Reschedule any interruption which must be handled other than as originally coordinated.

6.10. Before starting excavation, establish location and extent of underground utilities occurring in the area where digging will occur by careful hand excavation.

6.11. Immediately report damage to any existing utility encountered. Repair all damage to any active utility. Repair shall be handled as an emergency unless approved by the Owner for handling otherwise. The Contractor shall be responsible for all damage to all underground utilities.

7. DIFFERING SITE CONDITIONS:

7.1. The Contractor must promptly and before the conditions are disturbed, notify the Owner in writing of any of the following:

7.2. Subsurface or latent physical conditions at the site differing materially from those indicated in this Contract document and the contract specifications and drawings.

7.3. Previously unknown physical conditions at the site of an unusual nature differing materially from those which may be ordinarily encountered and generally recognized as inherent in work of the character required in this Contract. The Contractor shall take proper measures to prevent damages to underground utilities located in the area of this project. The Contractor shall contact the Owner prior to penetrating the ground for a utility location check.

7.4. The Owner will promptly investigate the conditions. If the conditions are found to differ materially from those indicated or anticipated and will cause a change in the date of completion of the work quantity of materials called for in the work of this contract, the Contractor will be entitled to an equitable adjustment.

7.5. No claims for adjustment under the previous clause will be considered after completion of the work or following application for payment.

7.6. Parking Limitations: Contractor is to confine his operations at the site(s) to only those designed parking areas. There may not be adequate parking for Contractor and his personnel at each site(s).

7.6.1. The Contractor shall not park on the grass or block entrances/exits to buildings. The Contractor will be held responsible for damage to shrubs, lawn and landscape damaged by their personnel. Temporary parking permits are required and will be provided by Operations or Campus Police.

8. EXIT DOOR ACCESS AND EMERGENCY EGRESS

8.1. The Contractor shall keep fire exits free of obstructions at all time. When work occurs within the exit access corridors or within the exit itself, alternate routes for emergency exiting shall be identified by the Owner and appropriate temporary signage posted by the Contractor for the duration of exit access interruption.

9. INSURANCE

9.1. Contractor shall add the following wording to their Liability Insurance as required by the State of South Carolina and Midlands Technical College. “Midlands Technical College, including its current and former trustees, officers, directors, employees, volunteer workers, agents, assigns and students.”

10. MATERIALS

10.1. Unless specified otherwise, all materials incorporated into the work shall be new and of first quality.

10.2. The Contractor shall closely coordinate all deliveries. Owner will not be responsible for any material delivered to Owner or for any charges arising from Owner's acceptance or refusal of deliveries.

10.3. The Contractor shall coordinate deliveries of significantly large, dangerous or otherwise unusual materials with Owner beforehand.

10.4. The Contractor shall store materials in a manner that will properly protect them from all contamination and hazards until used or removed from site. Labeled materials shall be kept in original containers until used.

10.5. The Contractor shall handle materials in such a manner as to deliver them to the point of use free of all damage, contamination, corrosion, etc.

10.6. In handling, storing, and/or disposing of any materials or chemicals considered hazardous or dangerous by South Carolina Department of Health and Environmental Control (SCDHEC), Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), or National Fire Protection Agency (NFPA) and where these governing bodies require special handling, storage, or disposal of the material or chemical, abide by the procedures set forth by the governing body. If the material or chemical is encountered by demolition, excavation, or accident, and the Bidding Documents did not indicate its presence, or probable presence, immediately notify the Owner and proceed as directed. In such an event compensation will be handled by Change order.

10.7. The Contractor shall not order/purchase materials, equipment or products that are required to be submitted for Owner/Architect review. Submittals will be specified by the Owner/Architect and must be approved in writing before the Contractor procures the items identified in the submittal listing. It is the

Contractor's responsibility to ensure the timeliness of the submittal process allowing adequate time for the Owner to review and approve the submittal documents.

11. SAFETY

11.1. Vehicles are to be locked when parked and unattended. Do not leave vehicles or equipment unattended with motor running or ignition keys in place.

11.2. Do not leave tools, materials, or trash unattended, unless secured in a safe manner.

11.3. Open fires are prohibited.

12. SECURITY

12.1. Contractor personnel are to limit fraternization with faculty, staff and students to the work of this Contractor only as necessary to coordinate activities of this Contract.

12.2. The Contractor is required to keep the site safe from intrusion(s) by public or College personnel. The Contractor shall notify the Owner immediately of unsafe conditions and incidents. Contractor's employees will not fraternize with occupants. If a problem occurs with a particular occupant the Contractor shall contact the Owner's designated representative.

12.3. The Owner and Occupants are not responsible for equipment, tools or materials lost from the result of being left unattended, misplaced or unsecured. Contractor's materials and tools are subject to theft. It is suggested that materials be kept in one location where practical and under lock and key.

13. SUBMITTALS

13.1. Submittals will be required by the technical sections of the design documents issued to the Contractor by the Owner in the contract documents. This paragraph governs the form of the required submittals.

13.2. Make submittals of shop drawings, product data, samples and other items required by the Contract Documents in accordance with the provisions of this paragraph, and revise and resubmit as necessary to establish compliance with the specified requirements. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted. Verify that each item, and the submittal for it, conform in all respects with the specified requirements. Determine and verify field measurements, field construction criteria, catalog numbers and similar data, and conformance with specifications. By affixing the contractor's signature to each submittal, certify that this coordination has been performed.

13.3. Begin no fabrication or work which requires submittals until return of submittals with Architect's approval.

14. SHOP DRAWINGS

14.1. Shop Drawings will be submitted for approval when required by the technical section(s) of the contract documents.

14.2. Shop Drawings will include fabrication, erection, and setting drawings, schedule drawings, manufacturer's scale drawings, wiring and control diagrams, cut sheets of products, entire catalogs, pamphlets, descriptive literature, and performance and test data.

14.3. Shop Drawing(s), other than printed materials, (i.e. catalogs, pamphlets, etc.) shall be submitted in form approved by Owner. Upon approval, any reproducible shop drawing will be returned to the Contractor, who will then distribute to subcontractor(s) and manufacturer(s) as necessary and two "approved" print copies to Owner.

14.4. The Contractor shall allow ten working days for approval of all shop drawings. Sprinkler shop drawings, if applicable to the project, should be submitted to the Division of State Fire Marshall for their review and approval as required by codes and laws.

14.5. Make shop drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the work.

14.6. If not specified otherwise for a particular item or a particular division in the technical specifications submit shop drawings in the form of one sepia transparency of each sheet. Blueprints only will not be acceptable. Review comments by the Architect will be shown on the sepia transparency when it is returned to the Contractor. The Contractor may make and distribute such copies as are required for his purpose.

15. MANUFACTURERS' LITERATURE (PRODUCT DATA)

15.1. The Contractor shall clearly show which portions of the data sheet contents are being submitted for review, especially when contents of submitted literature from manufacturers includes data not pertinent to the submittal.

15.2. The Contractor shall modify the manufacturer's standard schematic drawings and diagrams to delete information that is not applicable to the Work. Supplement standard information to provide information specifically applicable to the Work.

15.3. If not specified otherwise for a particular item or a particular division in the technical specifications, submit the number of copies that are required to be returned, plus two copies that will be retained by the Architect. Coordination Drawings: Coordination Drawings are required where work of trades involves scheduling sequences of materials, finishes or testing when necessary for proper coordination of trades, timely progress of the work or necessary sequencing of work by time, by area or by trade for the convenience of the occupants, if indicated by the Owner.

16. SAMPLES

16.1. If not specified otherwise for a particular item or a particular division in the technical specifications, submit required samples, free of all charges and encumbrances, at the Architect's office, the Owner's office, the project site, or the Owner's warehouse, as arranged with the Architect in each instance. Sample shall be accurate in every detail as a representation of the finished article in the Work, and shall be retained by the Architect for duration of the Work. Upon completion, arrange to have the sample

picked up at no expense to the Architect or to the Owner and removed from the Architect's or Owner's premises.

16.2. The Contractor shall accompany each submittal with a letter of transmittal showing all information required for identification and checking, and listing all deviations from the requirements of the Contract Documents. Also list all changes in the Work required to accommodate any deviations proposed in the submittal.

16.3. Approval by the Architect does not relieve the Contractor from responsibility for errors that may exist in the submittal, or for deviations which are not specifically listed prior to approval.

16.4. Any changes in the Work required to accommodate deviations from the Contract Documents shall be made at no additional cost to the Owner unless specifically approved by a Change order issued in conjunction with approval of the deviation

16.5. The Contractor shall deliver all submittals to the Architect for consideration as soon as possible after award of Contract.

16.6. The Contractor shall make submittals of all related materials and equipment at the same time.

17. WORKMANSHIP

17.1. State design and construction must comply with the codes and standards, along with their published errata and other requirements listed in this Chapter. If there is any conflict between the codes, standards, and/or regulations listed herein, the more stringent requirement controls. Designers and Agency reviewers should ensure they have the latest errata for indicated editions to International Codes, other codes and standards.

17.2. Codes editions in force at the time of first submittal govern throughout the project, unless: (1) Otherwise permitted by OSE; or (2) Design is delayed for more than 6 months and OSE adopts editions that are more current in the interim. No project may use a code that is older than one previous adopted edition.

17.3. In accordance with SC Code Ann §§ 1-34-10 thru 70 & § 10-1-180, OSE has adopted the following codes:

A. International Building Code (IBC), 2018 Edition,
B. International Existing Building Code (IEBC), 2018 Edition,
C. International Fire Code (IFC), 2018 Edition,
D. International Energy Conservation Code (IECC), 2009 Edition,
E. International Fuel Gas Code (IFGC), 2018 Edition,
F. International Mechanical Code (IMC), 2018 Edition,
G. International Plumbing Code (IPC), 2018 Edition, with the following insertions:
    1. Section 305.4.1, insert “18” and insert “18”
    2. Section 903.1, insert “8”
H. International Private Sewage Disposal Code (IPSDC), 2018 Edition,
I. International Property Maintenance Code (IPMC), 2018 Edition,

J. International Residential Code for One and Two Family Dwellings (IRC), 2018 Edition, with the following insertions: 1. P2603.5.1, insert "12" and insert "24"

K. International Wildland – Urban Interface Code (IUWIC), 2018 Edition,
Note: The IUWIC does not supersede existing statutory requirements.

L. International Code Council Performance Code (ICCPC), 2018 Edition, upon State Engineer's approval.

M. International Swimming Pool and Spa Code (ISPSC), 2018 Edition,

N. Standard for Bleachers, Folding and Telescopic Seating, and Grandstands, ICC 300-2017 Edition

O. National Electrical Code (NEC) [NFPA-70], 2017 Edition

P. National Electrical Safety Code, IEEE-C2-2017 Edition

Q. Latest edition of the ICC A117.1, Accessible and Useable Buildings and Facilities. Note that this is the standard adopted by the South Carolina Accessibility Act, but this requirement does not relieve the Agency or the design professional from the Federal Statutory requirements that design and construction comply with the Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities. See http://www.accessboard.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/ada-standards.

R. State Fire Marshal rules, regulations, and policies. See http://www.scfiremarshal.llronline.com

S. South Carolina Elevator, Code, & Regulations. [1]: See http://www.llr.state.sc.us/Labor/ElevatorAmusement/index.asp?file=bungee.htm

T. State of SC Telephone Equipment Room and Communications/Data Systems Policies as formulated by the Division of State Information Technology (DSIT).

U. Governors executive Order No. 82-19 (April 1982) – State of SC Building Standards in Floodplain Areas.

V. The South Carolina Modular Buildings Construction Act S.C. Code § 23-43-10 et. Seq.

17.4. All items shall be installed in a workmanlike manner in accordance with best-recognized practice in the field concerned. Manufactured items shall be installed in strict accordance with manufacturer's printed directions, specifications, and/or recommendations for an installation of highest quality. All working parts shall be properly adjusted after installation and be left in perfect working order. Unless otherwise indicated, items exposed to weather, or subject to flooding or wetting shall be installed so as to shed and not hold water. Items shall in all cases be installed plumb and true and/or in a proper relationship to surrounding materials.

17.5. The State Engineer shall determine the enforcement and interpretation of all the codes and referenced standards on State Buildings.

18. PROGRESS INSPECTIONS

18.1. The Contractor shall notify Architect prior to covering up any work. Provide adequate time notification for an inspection with the Architect's representative.

18.2. The Contractor shall provide labor, tools, and materials for immediate correction of any discrepancy noted at the time of the inspection.

18.3. The Contractor shall correct deficiencies and have the work found deficient re-inspected prior to covering up the work inspected.

19. RECORD DOCUMENTS

19.1. Contractor shall maintain one set of plans and specifications onsite in a secure area that is protected from deterioration or loss. Job set of blue or black line white-prints of contract drawings, shop drawings shall be kept clean and undamaged and presentable for scanning/reproduction. The Contractor shall provide access to the record documents for the Architect and Owner's reference during normal working hours.

19.2. Record Product data and Record Maintenance Manuals collectively shall show name, address and telephone number (if available) of the manufacturer and supplier of every non-generic item used in the Work, as well as the names, addresses, telephone number, and person to contact for every subcontractor, fabricator, and supplier used in the Work, together with the specific nature of the work performed or supplies furnished by each. One complete set of approved Record Product data submittals will be required. Three sets of Maintenance Manuals will be required; two shall be complete but the third need not duplicate submittals in the record product data submittal.

19.3. Mark the job set to show the actual installation where the installation varies substantially from the Work as originally shown. 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. Give particular attention to concealed elements that would be difficult to measure and record at a later date. Post changes within 24 hours, or before work is covered up. Mark job sets with colored erasable pencil; use various colors to distinguish between variations in separate categories of the work. Mark new information that is important to the Owner, but was not shown on contract drawings or shop drawings. Note related change order numbers where applicable. As-built drawings include but are limited to; site work, civil, architectural, mechanical, electrical, plumbing, fire protection, communication, ventilation, etc.

19.4. Show job set of record drawings, by dimension accurate to within one inch, the actual location of all elements of the Work (such as but not limited to piping, conduit, terminal boxes, etc.,) concealed underground or in construction, referenced to visible and accessible features of the structure or permanent surface improvements. Include items above ceilings. Clearly identify the item by accurate note.

19.5. The Architect and/or Owner will inspect the final as-built drawings for accuracy and neatness.

19.6. If changes to the as-built drawings are required, the Architect and/or Owner will return them to the Contractor with a list of the required changes. Make required changes and promptly deliver the final project record drawings to the Architect/Owner.

19.7. Maintain one complete copy of the project manual, including addenda, and one copy of other written construction documents such as change orders and modifications issued in printed form during

construction. Mark these documents to show substantial variations in actual work performed in comparison with the rest of the Specifications and modifications. 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. Note related record drawings information and product data. Upon completion of the Work, submit record Specifications to the Architect/Owner for the Owner's records.

19.8. Maintain one copy of each product data submittal. Mark these documents to show significant variations in the actual Work performed in comparison with information submitted. Include variations in products delivered to the site, and from the manufacturer's installation instructions and recommendations. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned later by direct observation. Note related Change orders and mark-up of record drawings and Specifications. Upon completion of mark-up, submit complete set of record Product data to the Architect/Owner for the Owner's records.

19.9. These requirements shall be observed as minimum requirements for maintenance manuals required in this and other sections of the specifications. Additional requirements imposed by other sections shall be observed as to the specific section by which imposed. The requirements imposed by this and other sections do not require separate sets of manuals in order to satisfy both; submit the minimum number of manuals required to comply with the most demanding and include all information needed to comply with both.

19.10. Organize operating and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual heavy-duty 3-ring vinyl-covered binders of proper capacity, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder. Include the following types of information:

A) Manufacturer's name and address,
B) Supplier's name and address,
C) Model number of each item included,
D) All nameplate data for each item; identify item by use/location for each nameplate for multiple items; show for each nameplated component of item,
E) Spare parts list,
F) Copies of warranties,
G) Wiring diagrams,
H) Shop Drawings and Product data,
I) Fixture lamping schedule,
J) Filter schedule,
K) Inspection procedures,
L) All applicable maintenance procedures,
M) All recommended maintenance cycles,
N) All operating procedures, and
O) Emergency instructions.

19.11. Provide three copies of each maintenance manual including all such pertinent information as is applicable, collectively including each item of equipment or material installed in the Work which can be operated and/or maintained, or, if non-generic, replaced.

20. CLEANING

20.1. Store items in an orderly arrangement and in a place suitable to the Owner. Daily, and more often if necessary, restack, tidy, or otherwise service stored materials to maintain orderly arrangement.

20.2. Maintain the site in a neat and orderly condition at all times. Do not allow accumulation of scrap, debris, waste material, or other items not required for this work.

20.3. Provide suitable containers for trash of any nature generated by the Contractor's operations or his personnel and dispose of said trash daily. Immediately recover any such trash carried or blown beyond the site of the work. Owner's trash cans and dumpsters are not for Contractor's use. All waste materials and trash shall be disposed of off-campus.

20.4. Contractor's personnel shall ensure their routes of travel and College-owned facilities, especially sidewalks, floors, door handles, fixtures, etc., are not inordinately fouled by substances such as grease, mud, tar, etc., which makes use of the facility less pleasant for others. Immediately clean up any such substances resulting from Contractor's presence. Cleaning by Owner, if necessary, will be done without further notice. Damage which requires a special effort on the Owner's part to clean up, repair, or replace will be at the Contractor's expense.

20.5. Remove all leftover materials, waste, scrap and debris generated by Contractor or his personnel.

20.6. Remove all traces of soil, grease, mastic, waste materials, adhesives, dust, dirt, and other foreign materials from sight-exposed surfaces.

21. PROTECTION OF EXISTING PROPERTY

21.1. The Contractor shall be responsible for all damages caused by the Contractor, the Contractor's subcontractors, or the Contractor's or subcontractors' suppliers, suppliers' shippers, and/or delivery men to trees, shrubs, sod, soil, utilities, buildings, sidewalks, gates, roadways, bodies of water, or any other property of the Owner.

21.2. The Contractor shall remedy damages by returning the property to its "pre- construction" state. Any College property damaged shall be repaired, reconstructed, or replaced by the Contractor or at the Contractor's expense to quality standards set by the Architect.

21.3. Damages which disrupt the Owner's conduct of business or the usefulness of Owner's facilities which remain in use during the term of this Contract shall be repaired immediately, as an emergency, or as otherwise approved by the Owner,

21.4. If the Contractor does not diligently pursue repairs to damaged property, the Owner may pursue repairs by the Owner's own forces or by another contract. All costs incurred by the Owner pursuant to such repairs will be passed on to the Contractor by Change order.

21.5. The Architect shall make the final determination as to the acceptability of the results of any action necessary by the Contractor to return the property to its "pre- construction" state.

21.6. Guarantee under the Contractor's General Warranty any property replaced or repaired by the Contractor.

22. OPERATING AND MAINTENANCE INSTRUCTIONS

22.1. Prior to Substantial Completion arrange for each installer of equipment that requires operation or regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. If installers are not experienced in procedures, provide instruction by manufacturer's representatives. Provide adequate time for proper instruction. Do not short-schedule too many too close together. Include a detailed review of each of the following items which is applicable:

A) Maintenance manuals,
B) Record documents,
C) Spare parts and materials,
D) Tools,
E) Lubricants,
F) Fuels,
G) Identification systems,
H) Control sequences,
I) Hazards,
J) Cleaning,
K) Warranties and bonds,
L) Maintenance agreements and similar continuing commitments, and
M) Other items/matters applicable to the item in question.

22.2. As part of instruction for operating equipment, demonstrate each of the following procedures which is applicable:

A) Start-up,
B) Shut down,
C) All operating adjustments and procedures,
D) All maintenance procedures,
E) All diagnostic procedures,
F) Emergency operations,
G) Safety procedures,
H) Noise and vibration adjustments,
I) Economy and efficiency adjustments,
J) Effective energy utilization, and
K) Other procedures applicable to the item in question.

23. SUBSTANTIAL COMPLETION

23.1. Substantial Completion requires all materials and equipment to be installed and operational to the extent the Owner can use the Work for its intended purpose.

23.2. When the Contractor feels the project is substantially complete, the Contractor shall notify the Architect and the Owner in writing.

23.3. Within a reasonable time after receipt of the list, the Architect will inspect to determine status of completion.

23.4. Should the Architect determine that the work is not substantially complete the Architect promptly will so notify the Contractor.

23.4.1 The Contractor shall remedy the deficiencies and notify the Architect when ready for re-inspection.
23.4.2 The Architect will re-inspect the Work.

23.5. When the Architect concurs that the work is substantially complete:

23.5.1 The Architect will prepare a "Certificate of Substantial Completion" on AIA Form G704, accompanied by the Contractor's list of items to be completed or corrected, as verified by the Architect.
23.5.2 The Architect will submit the Certificate to the Owner and to the Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.

24. FINAL COMPLETION

24.1. Final Completion shall be achieved no later than thirty (30) days after Substantial Completion, unless a later date is established on the Certificate of Substantial Completion.

24.2. When the Contractor corrects all deficiencies on the punch list generated from the Substantial Completion Inspection Section above, the Contractor shall notify the Architect and Owner in writing.

24.3. Before notifying the Architect of Final Completion status, certify that:

24.3.1 The Contract Documents have been reviewed.
24.3.2 Work has been inspected for compliance with the Contract Documents.
24.3.3 Work has been completed in accordance with the Contract Documents.
24.3.4 All systems have been tested and are operational.
24.3.5 Work is completed and ready for final inspection.

24.4. The Architect will make an inspection to verify status of completion.

24.5. Should the Architect determine that the work is incomplete or defective:

24.5.1 The Architect promptly will so notify the Contractor.
24.5.2 The Contractor shall remedy the deficiencies promptly, and notify the Architect when ready for re-inspection.
24.5.3 The Architect will re-inspect the work.

24.6. When the Architect determines that the work is acceptable under the Contract Documents the Architect will request the Contractor to make closeout submittals.

25. CLOSEOUT SUBMITTALS

25.1. Before applying for final payment, furnish to the Owner:

25.2. A hard-backed binder (3-hole punch/tabbed binder) containing the following:

A) A typewritten materials list, in triplicate, showing every manufacturer item/material used in the job. Include catalog number, manufacturer's name and address, distributor's name and address. Type lists neatly and index according to respective specification sections of work,
B) A list of all subcontractors, including fabricators, used in the work, and the nature of the work performed by each. Show company name, address, and telephone number. If Company has more than one office, show data for the office handling the work and the home office,
C) A properly executed Contractor's General Warranty form, and
D) All other warranties, forms, certifications, and other documents required by the technical specifications.

25.3. Project Record Documents described within these General Requirements.

25.4. All keys and control or security components that are not a permanent part of installed equipment.

26. WARRANTY

26.1. The Contractor warrants to Owner that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will conform with the requirements of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractors warranty excludes remedy for damage or defect caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage. If required by the Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

26.2. The period of the warranty shall be for one year (365 calendar days) from the date of Substantial Completion for all work described in the contract documents and any approved change orders. The Contractor is required to honor any special warranties which may be required in the scope of work as described in the specifications and contract documents.