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**END OF SECTION**

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SECTION 01 00 00 - REQUIREMENTS OF MICHIGAN CONSTRUCTION MATOC

PART 1 - GENERAL

1.1 SCOPE

- A. Project provides for furnishing all plant, labor, materials, equipment and furnishings for the project at Selfridge ANGB, Battle Creek ANGB, and Alpena CRTC, MI as described herein and shown on the construction drawings. Hierarchy of contract documents is as follows: Delivery Order requirements (Statement of Work or Statement of Objectives) precedes default specifications.
- B. The Contractor will be held responsible for all requirements described in the Contract Documents and all work including that of all tier subcontractor(s), if any, shall be done in accordance with the Contract Documents. Failure to be familiar with all contract requirements will not relieve the Contractor of the responsibility to comply.
- C. The Contract Documents Are Complementary: What is required by one is as binding as if required by all. The Contractor shall coordinate all portions of the work such that it is delivered complete.
- D. The organization of the specification’s divisions, sections, and attachments, and the arrangement of the Drawings shall not control the Contractor in dividing the work among subcontractor(s) or in establishing the extent of the work to be performed by any trade.

1.2 INSURANCE - MINIMUM AMOUNTS

- A. Reference Contract Clause titled, “Insurance -Work on a Government Installation (FAR 52.228-5). Kinds and minimum amounts are as follows:

KIND	AMOUNTS
Workmen’s Compensation	\$100,000 (see paragraph 1.2, below)
Comprehensive General Liability	\$500,000 per occurrence for bodily injury
Comprehensive Automobile Liability	\$200,000 per person and \$500,000 per accident for bodily injury and \$20,000 for property damage
(If applicable)	\$200,000 per person and \$500,000 per occurrence
Aircraft Public and Passenger Liability	for bodily injury, other than passenger liability and \$200,000 per occurrence for

property damage; coverage for passenger

liability bodily injury shall be at least  
\$200,000 multiplied by the number of seats

\$200,000 multiplied by the number of seats or  
passengers, whichever is greater

- B. Except in states with exclusive or monopolistic funds that do not permit workers' compensation to be written by private carriers.
- C. NOTE: Before commencing work under this contract, the Contractor shall certify to the Contracting Officer, in writing, that the required insurance has been obtained. The policies referenced in the certification (s) shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective (1) for such period as the laws of the state in which this contract is to be performed prescribe or (2) until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer. The Contractor shall maintain a copy of proofs of required insurance, and shall make copies available to the Contracting Officer upon request. The Contractor shall maintain a copy of all subcontractors' proofs of required insurance, and shall make copies available to the Contracting Officer upon request.

1.3 Reserved

1.4 WORK SCHEDULE

- A. All work at the Combat Readiness Training Center shall be accomplished during normal working hours (0745 to 1630 hours) exclusive of Saturdays, Sundays, and federal holidays unless other times are approved by the Contracting Officer, or otherwise stated in the Contract. Coordinate the work schedule with the Contracting Officer. Approval for other hours must be requested from the Contracting Officer at least 72 business hours in advance.
- B. All work at the Battle Creek Air National Guard Base shall be accomplished during normal working hours (0745 to 1630 hours) exclusive of Saturdays, Sundays, and federal holidays unless other times are approved by the Contracting Officer, or otherwise stated in the Contract. Coordinate the work schedule with the Contracting Officer. Approval for other hours must be requested from the Contracting Officer at least 72 business hours in advance.
- C. All work at the Base shall be accomplished during normal working hours (0700 to 1700 hours) exclusive of Saturdays, Sundays, and federal holidays unless other times are approved by the Contracting Officer, or otherwise stated in the Contract. Coordinate the work schedule with the Contracting Officer. Approval for other hours must be requested from the Contracting Officer at least 72 business hours in advance.
- D. The following Federal legal Holidays are observed by this Base:

New Year's Day	1 January
Martin Luther's King's Birthday	Third Monday of January
President's Day	Third Monday of February

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Memorial Day	Last Monday of May
Independence Day	4 July
Labor Day	First Monday in September
Columbus Day	Second Monday in October
Veteran's Day	11 November
Thanksgiving Day	Fourth Thursday in November
Christmas Day	25 December

- E. NOTE: Any of the above holidays falling on a Saturday will be observed the preceding Friday, holidays falling on a Sunday will be observed on the following Monday.
- F. Prior to commencing work on the job initially, resumption of work after prolonged interruption (7 calendar days or more) commencement of any warranty work, and upon completion of warranty work, the Contractor must notify the Contracting Officer (or his/her Contracting Officer Representative). When relocating to new sites, returning to sites for follow-up work on a phased work plan, notification to the Contracting Officer's Representative is sufficient. Notification should be by personal contact; however, advance notification may be by telephone, or in writing, and should be accomplished sufficiently in advance to allow scheduling of inspection forces. The above precautions are to ensure construction inspection and recording of work proceedings.

1.5 INVOICING AND PAYMENT

- A. Properly prepared invoices, bearing the contract number, shall be submitted in duplicate to the Contracting Office, (MACC), on designated invoice forms provided at the pre-construction meeting PRIOR to uploading in Wide Area Workflow (WAWF) the DFAS paying system. This submission will be for review prior to submitting an electronic invoice through Wide Area Workflow (WAWF). See end of this Section for important information and codes needed.). Payment will be made by in accordance with FAR Clause 52.232-5 Fixed-Price Construction Contracts and FAR Clause 52.232-27, Prompt Payment for Construction Contracts, **All payments will be made by electronic transfer of funds (EFT).**
- B. To meet compliance with DFARS 252.232-7003, Electronic Submission of Payment Requests, you shall submit your request for payment (invoice) through WAWF. For more information on the WAWF system, including how to register, visit <https://wawf.eb.mil>. Payment will be made by paying office specified in the contract award in accordance with the clauses Payments under Fixed-Price Construction Contracts, FAR 52.232-5, and Prompt Payment for Construction Contracts, FAR 52.232-27.
- C. The Government will make payment through WAWF upon satisfactory completion of work AND receipt of a proper certification for payment. **Do not input invoice into WAWF until the pre-approval of invoice is received from the contracting officer. This will lessen the need for rejections in WAWF** Payment may be withheld unless all contractual requirements including but not limited to: RECEIPT OF PROPER WEEKLY PAYROLLS IAW DAVIS BACON REQUIREMENTS, Small Business Subcontracting Reports, have been timely received.
- D. All requests for payments through WAWF must include a Subcontractor Payment Register pursuant to FAR Clause 52.232-5 and a contractor's certification that reads as follows:

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I hereby certify, to the best of my knowledge and belief that –

The amounts requested are only for performance in accordance with the specifications, terms and conditions of the contract; All payments due to subcontractors and suppliers from previous payments received under the contract have been made, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements and requirements of Chapter 39 of Title 31, United States Code; This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from subcontractor or supplier in accordance with the terms and conditions of the subcontract; and This certification is not to be construed as final acceptance of a subcontractor's performance.

- E. The Government will make payment upon satisfactory completion of work AND receipt of a proper certification for payment. Payment may be withheld unless all contractual requirements, including but not limited to: RECEIPT OF PROPER WEEKLY PAYROLLS IAW CONSTRUCTION WAGE REQUIREMENTS FAR 52.222-6, and Small Business Subcontracting Reports, have been timely received. Payrolls shall indicate CLIN to which they are applicable.
- F. A release of claims is required for all final payment requests and shall be submitted by the contractor with the final invoice.
- G. Refer to Section 01 29 00, Applications for Payment, for additional information.

### 1.6 SECURITY REQUIREMENTS

- A. The contractor shall comply with all security regulations imposed by the base/post commander and/or agency occupying the space where work is to be performed. Any necessary security clearances shall be obtained prior to commencement of work.
- B. It is expected that new security requirements to satisfy contractor personal identification requirements in Homeland Security Presidential Directive (HSPD-12), "Policy for a Common Identification Standard for Federal Employees and Contractors," and Federal Information Processing Standards Publication (FIPS PUB) Number 201, "Personal Identity Verification (PIV) of Federal Employees and Contractors" are incorporated in the life of this contract. Contractor shall comply with all requirements, at no additional cost to the Government.
- C. The contractor shall ensure that all parts of the facility where work is being performed are adequately protected against vandalism and theft.
- D. Contractors shall follow instructions provided by the Security Forces for access to the insert location. If a gate pass is not granted to a contractor allowing the delivery of goods, execution of warranty support, or performance of services please contact the contracting officer. Be sure that all of your employees have the proper ID (driver's license, state ID, immigration card, U.S. Passport, etc.). If they do not have the proper ID, they will be turned away.
- E. The Prime Contractor and all of its subcontractors will be required to wear orange or lime colored safety vests while performing work on the installation.
- F. U.S. Government will not be held liable for any delays or breach of contract caused by refusal of the Security Forces to allow entry.

- G. All prospective contractors MUST be U.S. citizens or MUST have established and maintain legal residence in the U.S., and are authorized by the US government to work in the United States (i.e. Green card, worker authorization, etc.). All prospective contractors MUST have at least one form of U.S. government issued photo identification (driver's license, U.S. passport, U.S. work visa, etc.) for entry to the installation. Security Forces will review any questionable identification documents for determination as to whether or not said identification is authorized for access to the installation.
- H. All prospective contractors/contractor employees, once it has been established that they maintain the appropriate credential as described in one above, are subject to a Criminal History Check.
- I. Note: For the purposes of Contracting services, it is implied that, that any and all parties agree to a Criminal History Background Check once entered into any contract. Any documents that are provided and found fraudulent to include, but not limited to driver's licenses, contracting licenses, etc., will result in an arrest and potential termination for default from the contract. All contractors are subject to search in order to obtain entry onto the installation and while working on the installation. Any refusal to submit to a search of their person or vehicle will be deemed as a violent act of aggression against the installation and will be cause for dismissal from the installation and revocation of future privileges and installation access.

**1.7 Requirements for: Antiterrorism / Operations Security / Information Protection**

- A. Access and General Protection/Security Policy and Procedures. This standard language is for contractor employees with an area of performance within Government controlled installation, facility, or area. The contractor shall comply with all applicable installation/facility access and local security policies and procedures, which may be obtained from the Contracting Officer's Representative (COR). The contractor shall also provide all information required for background checks to meet installation access requirements to be accomplished by the local installation's Security Forces, Director of Emergency Services or local Security Office. The contractor shall ensure compliance with all personal identity verification requirements as directed by DoD, HAF and/or local policy. Should the Force Protection Condition (FPCON) change, the Government may require changes in contractor security matters or processes.
- B. For Contractors that do not require CAC, but require access to a DoD Facility and/or Installation. Contractor and all associated sub-contractors employees shall comply with adjudication standards and procedures using the National Crime Information Center Interstate Identification Index (NCIC-III) and Terrorist Screening Database (TSDB) (AFI 31-101 and AFI 10-245), applicable installation, facility and area commander installation/facility access and local security policies and procedures (provided by government representative), or, at OCONUS locations, in accordance with status of forces agreements and other theater regulations.
- C. AT Level I Training. This standard language is for contractor employees with an area of performance within an Government controlled installation, facility or area. All contractor employees, to include subcontractor employees, requiring access Government Installations, Facilities and Controlled Access areas shall complete AT Level I awareness training within 10 calendar days after contract start date or effective date of incorporation of this requirement into the contract, whichever is applicable. Certificates of completion for each affected contractor employee and subcontractor employee will be maintained by the COR or Antiterrorism Representative. AT level I Awareness Training is available at the following website: <http://jko.jten.mil>

1.8 ENTRY TO BASE/ACCESS TO SITE

- A. Combat Readiness Training Center is a closed Base, pursuant to Sec 21, Internal Security Act of 1950, 50 U.S.C. 797 and, as such, only those persons granted permission may enter. It is, therefore, required that control be exercised over Contractor personnel while working on the Base. To maintain this control, a listing of all Contractor personnel who will be working under the contract, must be submitted to the Contracting Officer five working days prior to the start of work under the contract. The preferred method of providing this list is via email, to the contract administrator. The listing shall include, but not limited to: contract number, project number, employee name, and the estimated starting and ending date of each employee. Subsequent listings of all additions or deletions will be submitted as employees are hired or released.
- B. Battle Creek Air National Guard Base is a closed base, pursuant to Section 21, Internal Security Act of 1950, 50 U.S.C. 797 and, as such, only those persons granted permission may enter. It is, therefore, required that control be exercised over Contractor personnel while working on the Base. To maintain this control, a list (herein attached) of all Contractor personnel (prime and all tiers of subcontractors) who will be working under the contract, must be submitted to the Contracting Officer a minimum of 5 working days prior to the start of work. The preferred method of providing this list is via email, to the Contracting Officer. The list shall include, but is not limited to, contract number, project number, project title, company names, employee names, and the estimated start and end date of each person’s employment on the Project. Subsequent lists updating all personnel additions and/or deletions will be submitted as indicated above as employees are hired or released.
- C. Michigan National Guard Bases are closed bases, pursuant to Section 21, Internal Security Act of 1950, 50 U.S.C. 797 and, as such, only those persons granted permission may enter. It is, therefore, required that control be exercised over Contractor personnel while working on the Base. To maintain this control, a list (herein attached) of all Contractor personnel (prime and all tiers of subcontractors) who will be working under the contract, must be submitted to the Contracting Officer a minimum of 5 working days prior to the start of work. The preferred method of providing this list is via email, to the Contracting Officer. The list shall include, but is not limited to, contract number, project number, project title, company names, employee names, and the estimated start and end date of each person’s employment on the Project. Subsequent lists updating all personnel additions and/or deletions will be submitted as indicated above as employees are hired or released.
- D. During construction, the Contractor shall permit base personnel access to the facilities within the work area. The Contractor shall provide protection to persons and property throughout the progress of the work.
- E. In the event of a declared National Emergency the Contracting Officer may be required to stop work on this contract for security reasons. Contractor shall ensure the Contracting Officer has a current “Off Duty” contact name and telephone number at all times to facilitate notification.
- F. The Contractor shall be responsible for compliance with all regulations and orders of the Commanding Officer of the Military Installation, respecting identification of employees, movements on installation, parking, truck entry, and all other military regulations, which may affect the work. Special requirements will be identified in the statement of work for an individual task order.
- G. The work under this Contract may be performed at an operating Military Installation with consequent restrictions on entry and movement of nonmilitary personnel and equipment.



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- H. The Military Installation may have specific requirements, which will be identified by the Individual Task Orders.
- I. The contractor shall inform all personnel working under its jurisdiction (including subcontractor and visiting supplier personnel) that access to areas outside of the immediate work area, excluding direct haul and access routes, contracting and COR and point of supply and storage is prohibited. Circulation of said personnel will be limited to official business only. Persons in violation of the above may be apprehended and turned over to the appropriate authorities.

1.9 UNAUTHORIZED PERSONNEL

- A. The Contractor shall inform all personnel working under his jurisdiction (including sub-contractor and visiting supplier personnel) that access to areas outside of the immediate work area excluding, direct haul and access routes, contracting and Civil Engineering offices and point of supply and storage is prohibited. Circulation of said personnel will be limited to official business only. Persons in violation of the above will be apprehended and appropriately disciplined.

1.10 CONTRACTOR STAFF AND EMPLOYEES

- A. Prior to commencing on-site construction, the contractor shall provide the Contracting Officer with a telephone number and FAX number at which the contractor or his representative may be contacted at any time during regular working hours and an emergency number at which the contractor may be contacted in situations requiring immediate attention.
- B. Supervision. The Government shall not exercise any supervision or control over the contractor employees performing services under this contract; such employees shall be accountable not to the Government, but solely to the contractor, who in turn is responsible to the Government.
- C. Contractor's Employees. All work under this contract shall be performed in a skillful and workmanlike manner. The Contracting Officer may, in writing, require the contractor to remove from the job site, any employee the Contracting Officer deems incompetent, careless or otherwise objectionable.
- D. Contractor personnel shall either wear distinctive clothing bearing the name of the company or appropriate badges that contain the company name and employee name at all times while performing work on base.
- E. The Contractor shall not employ any person who is an employee of the US Government if employing that person would create a conflict of interest.
- F. The Contractor shall not employ any person who is an employee of the Department of the Air Force, either military or civilian, unless such person seeks and receives approval according to DODD 5500-7, Joint Ethics Regulation.

1.11 INSPECTION OF SITE

- A. The Contractor shall be responsible for the complete determination and coordination of the work of all trades. Reference Contract Clauses FAR 52.236-19, "Organization and Direction of Work."
- B. It is expected that contractor visit the premises and thoroughly familiarize themselves with the details of the work and working conditions. A certification from the contractor that they have visited or the understanding of potential consequences for not attending the site will be required at the time of proposal.

- C. It is the responsibility of the contractor to have compared the premises and the site with the Specifications and Drawings, and to have satisfied themselves as to all conditions of the premises, the existing obstructions, the actual elevations, and any other conditions affecting the execution and completion of the work prior to submission of a proposal. Reference Contract Clause FAR 52.236-3, “Site Investigation and Conditions Affecting the Work.”
- D. No allowances or extra construction on behalf of any Contractor will be permitted by reason of error or oversight. Reference Contract Clause FAR 52.236-3, “Site Investigation and Conditions Affecting the Work.”
- E. Carefully check the site where this project is to be erected and observe any overhead wires and equipment. Any such work shall be moved, replaced, or protected, as required, whether or not shown or specified.
- F. All dimensions shown on the Drawings are based on “as-built” record drawings and, to the extent possible, accurately represent existing conditions; however, there may be some variance between existing conditions and Contract Drawings. The Contractor is responsible for verifying all dimensions and for reporting to the Contracting Officer any discrepancies that may affect performance of the work represented by Contract Drawings and Specifications. Reference Contract Clause DFARS 252.236-7001 “Contract Drawings and Specifications.”

1.12 CORRELATION OF DRAWINGS, SPECIFICATIONS, AND CONTRACTS

- A. The Contract specifications and the accompanying Drawings are intended to describe and provide for the attached project. They are intended to be cooperative and what is called for by one shall be as binding as if called for by all. The Contractor shall understand that the work herein described shall be complete in every detail, notwithstanding that every item necessarily involved is not particularly mentioned, and the Contractor shall be held to provide all labor and material for the entire completion of the work intended to be described and shall not avail any manifestly unintentional error or omission, should any exist. Should any error or inconsistency appear in the Drawings and/or specifications, the Contractor, before proceeding with the work, shall make mention in writing of same to the Contracting Officer for proper adjustment, and in no case shall proceed with the work in uncertainty. Reference Contract Clauses FAR 52.236-21 “Specifications and Drawings for Construction” and DFARS 252.236-7001, “Contract Drawings, Maps and Specifications”.

1.13 REPORT OF ERROR AND DISCREPANCIES

- A. The Contractor shall be responsible for the coordination and proper relation of all aspects of the work. The Contractor shall field verify all dimensions and promptly notify the Contracting Officer in writing of any discrepancies, prior to proceeding with any phase of the work. Where exact locations are not given for the positioning of equipment and devices, they shall be positioned to permit easy access for maintenance and for removal and replacement of component parts per manufacturer’s recommendations and applicable codes.
- B. The Contractor shall be responsible for any and all discrepancies in work due to failure to obtain dimensions and investigate conditions at the Project site before fabrication and installation of materials.
- C. The Contractor shall bear all costs in replacing all materials and labor lost due to not observing the above paragraph and such replaced materials shall meet the approval of the Contracting Officer.

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- D. Any proposed changes to the specifications by the Contractor must be submitted in writing to the Contracting Officer for approval prior to implementation.
- E. Omissions from the drawings or specifications or the misdescription of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.
- F. Reference Contract Clauses FAR 52.236-21, “Specifications and Drawings for Construction.” FAR 52.246-12 “Inspection of Construction,” and DFARS 252.236-7001, “Contract Drawings, and Specifications.”

1.14 DIVISION OF WORK

- A. The various divisions of the specifications shall not be considered as negotiations of the material and labor involved. The arrangement and order of these divisions have been made for convenience only, and it is not the intent, nor shall it be so construed, that a particular trade or Subcontractor must perform that work included in any one division. Reference Contract Clause FAR 52.236-21, “Specifications and Drawings for Construction.”
- B. Any item mentioned under any division heading must be supplied even though it is not specified under the heading for the respective work, but is shown on the Drawings. No claims for extras arising out of real or alleged error in such arrangement or order of the various divisions will be given consideration.

1.15 METHOD OF CARRYING ON THE WORK

- A. All work under the Contract shall be arranged and carried on in such a manner as to complete work in the least possible time. The Contractor shall consult with the Contracting Officer as to methods or sequence of carrying on the work. A definite program of work shall be arranged before starting. Master schedule shall be provided and presented 5 calendar days following issuance of Notice to Proceed unless waived by the Contracting Officer. Reference Contract Clause FAR 52.236-15, “Schedules for Construction Contracts.”
- B. Activities in the vicinity of this Project may be kept in full or partial operation during construction. The Contractor shall coordinate with the Contracting Officer to schedule construction activities. Reference Contract Clause FAR 52.236-8, “Other Contracts.”
- C. The Contractor shall be responsible for the coordination of his work with any other contractor in the area, making them aware of proposed work that may affect the work of their particular trade in process of performance (Reference Contract Clause FAR 52.236-8 “Other Contracts”).

1.16 STANDARDS OF MANUFACTURE

- A. All recognized regulatory/code standards shall be in accordance with the most current published adopted edition prior to the release for bid/proposal of the Contract Documents.
- B. For the purpose of establishing the standard of construction and the requirements to be met in the work, these Specifications and the Drawings are based on the use of products hereinafter specified, and adapted to the installation as required to meet current Base Standards to include but not limited to Vision 2020, ANG ETLs, and appropriate UFCs.

- C. Where brand names are shown, these names are intended to describe a quality of product, and in no way are intended to limit products of equal quality. Therefore, products of other manufacturers may be employed for this work provided they are equivalent materials and construction and equally adaptable to the conditions as approved by the Contracting Officer. Reference Contract Clause FAR 52.236-5, “Materials and Workmanship.”

1.17 CONTRACT ADMINISTRATION

- A. The contracting office of the 127th Wing, MACC, is the office having administrative jurisdiction over this contract for all matters. A list of the names and telephone numbers of the Government team comprising the contract administrator, Contracting Officer’s Representative (COR), consultant, and point of contact at the project site will be provided at the post-award/pre-construction conference.
- B. All correspondence shall be addressed to the Contracting Officer. A copy of all correspondence shall be furnished to the contracting officer’s representative. Enclosures attached to or transmitted with the correspondence shall also be furnished with an original and one copy. Each letter shall make reference to the contract name, contract number, project number, and project title, and shall have only one subject. For tracking purposes, a sequential numbering system should be used for all correspondence.

1.18 PAPERLESS CONTRACTING

- A. The National Guard is fully committed to the Federal Government’s electronic commerce and paperless contracting initiatives. As such, it is anticipated that to the maximum extent possible to include but not limited to correspondence, modification distribution, etc., to include specifications and drawings, will be issued using electronic methods, i.e., electronic mail (e-mail). Contractors shall have and maintain capability to receive documents in this manner.
- B. Additionally, it is anticipated that within the life of this contract, other electronic processes will be enacted. These include, but are not limited to, electronic bidding/offers, change order proposals, and electronic invoicing. When implemented by the Contracting Officer, contractors shall participate fully in any of these new requirements at no additional cost to the Government.

1.19 PRE-CONSTRUCTION CONFERENCE

- A. Before work commences on this contract, the Contracting Officer will conduct a conference to acquaint the contractor with Government policies and procedures that are to be observed during the execution of the work and to develop mutual understanding relative to the administration of the contract. Contractors and/or major subcontractors shall attend this meeting at no additional cost to the Government.

1.20 PARTNERING

- A. The Government intends to encourage the formation of cohesive partnerships with the contractors on selected contracts. This partnership will be structured to draw on the strengths of each organization in order to identify and achieve reciprocal goals. The objective is effective contract performance in achieving completion within budget, on schedule, and in accordance with the Plans and Specifications. This partnership between the contractor and the Government will be voluntary and its implementation will not be a part of the contract requirements nor will it result in a change to the contract price or terms.

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1.21 PROPOSED KEY PERSONNEL, MINIMUM QUALIFICATIONS OF KEY PERSONNEL, PROPOSED SUBCONTRACTORS, PROCESSES, PROCEDURES AND MATERIALS

- A. Unless specifically deleted in writing by the Contracting Officer at time of award, any proposed key personnel, minimum qualifications for incoming or replacement key personnel, subcontractors, processes, procedures or materials are hereby incorporated into the contract resulting from the solicitation, and performance shall be limited to individuals, qualifications, firms, procedures, and materials that were specifically identified in proposals or agreed to in negotiations. The Contractor shall obtain the Contracting Officer’s written consent before making any substitutions or changes.
- B. Key Personnel Descriptions: An individual Key Team Member may not hold more than one key role, without the Contracting Officer’s written consent. The following are minimum qualifications for the required key personnel:
- C. Project Manager: The Contractor’s Project Manager shall have either: (1) an applicable engineering degree and 5 years of experience as a Project Manager working on projects similar in size and scope to the solicited project, or (2) 10 years of experience as a Project Manager working on projects similar in size and scope to the solicited project.
- D. Site Superintendent: The Contractor’s Site Superintendent shall have: (1) a minimum of 5 years of experience working on projects similar in size and scope to the solicited project, or (2) 10 years of experience as a Site Superintendent working in general construction areas that included extensive interactions with the Government.
- E. Quality Control Manager: The QC Manager must be a graduate engineer, graduate architect, or a graduate of construction management, with a minimum of 5 years of construction experience OR a construction person with a minimum of 10 years of experience working on projects similar in size and scope to the solicited project.
- F. Safety Manager: The Safety and Health Officer shall have a minimum of 5 years of experience working on projects similar in size and scope to the solicited project, and 5 years of experience working with the requirements described in Paragraph 28, SAFETY ASSURANCE.
- G. When identifying Key Personnel, eMail, Phone Number, and Cell Phone Number shall be included.

1.22 DESIGNATION OF TECHNICAL REPRESENTATIVE

- A. The Contracting Officer will appoint a qualified Contracting Officer’s Representative (COR) for the purposes of technically administering the contract; however, all matters concerning this contract or any work ordered placed against this contract must first be approved by the Contracting Officer. This in no way authorizes anyone other than the Contracting Officer to commit the Government to changes in terms of the contract.

1.23 BRAND NAME CLARIFICATION

- A. Where the specifications refer to acceptable manufacturers or manufacturer’s products, an equal product of another manufacturer may be substituted. Brand names are used to set a standard of quality. Reference Contract Clause FAR 52.236-5 “Materials and Workmanship.”

1.24 MEANING OF APPROVED, DIRECTED, ETC.

- A. “Approved”, “Directed”, “Required”, “Applicable”, and/or words of like or similar effect, when used in the specifications shall be interpreted to mean “Approved By”, “Directed By”, etc., the Contracting Officer unless otherwise specifically stipulated.

1.25 MISPLACED MATERIALS

- A. Any material that is deposited other than in areas designated as approved by the Contracting Officer shall be rehandled and deposited where directed. No payment will be made for rehandling such material. The Contracting Officer will notify Contractor of any noncompliance with the foregoing provision.

1.26 COMPLIANCE WITH CODES AND REGULATIONS

- A. All work shall be done in accordance with the applicable codes and/or ordinances in force at the time of construction. It is the Contractor’s responsibility to ensure that where EPA, MDEQ, or other such regulations control the removal, handling, installation or disposal of materials, they shall be strictly adhered to whether or not specifically referenced in the construction documents.
- B. Contractor shall have Material Safety Data Sheets (MSDSs) available at the site on any materials used to comply with MIOSHA and EPA. Reference Contract Clause FAR 52.223-3, “Hazardous Material Identification and Material Safety Data.”

1.27 SUBMITTALS

- A. Construction Submittals:
  - 1. Submittal Schedule: In accordance with the AF Form 66, Schedule of Material Approval Submittals, as herein attached, the Contractor is required to submit all Shop Drawings and material submittals to the Contracting Officer within 10 days after receipt of the Notice to Proceed (NTP), or within the timeframe directed by the Contracting Officer. The submittal schedule is considered not all inclusive. The Contractor shall also submit additional material submittals as may be required by these Contract Specifications.
  - 2. Submittal Preparation: When preparing each submittal, the Contractor shall comply with the submittal schedule in such detail as to demonstrate conformance with all its requirements. Refer to Section 01 33 00, Submittals, for additional information. Submittals shall be given a distinct identification system by Line Item if multiple Line Items are applicable. Individual submittal documents shall not be comprised of items for more than one Line Item. Every submittal for a material item, or items to be installed, for which the submittal schedule requires catalog data, shall include the specific catalog and model specification number designation(s), unless specifically directed otherwise by these Specifications or by the Contracting Officer. Each submittal shall provide the appropriate number of copies as specified on the submittal schedule, and shall include an AF Form 3000, Material Approval Submittal, as herein attached, or approved equal. Reference Contract Clause FAR 52.236-5, “Material and Workmanship,” FAR 52.225-5, “Buy American Act-Construction Materials,” FAR 52.223-3, “Hazardous Material Identification and Material Safety Data,” and DFAR 252.227-7033, “Rights in Shop Drawings.”
  - 3. Submittal Accuracy:

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- a. The Contractor assumes full responsibility for the appropriate and accurate submission of all material submittals as furnished by the Contractor and all tier subcontractors.
  - b. Prior to submitting a material submittal the Contractor shall:
    - 1) Ensure that an individual within the company, with the appropriate authority to certify, signs the certification on the AF Form 3000.
    - 2) Ensure that the Contractor’s certification shall constitute a representation to the Government that the Contractor has verified and determined the applicability and accuracy of the submittal contents, including as necessary but not limited to, that dimensions, field measurements, materials, catalog numbers, and similar data being submitted are in compliance with the work and the Contract Documents.
    - 3) Ensure that any material deviation from the original requirements of the Contract Documents shall be brought to the attention of the Contracting Officer at the time of its submission. The material deviation shall be identified on the AF Form 3000, or approved equal, as a deviation.
  4. Submittal Approval: In accordance with the submittal schedule and prior to the purchase of materials the Contractor shall submit for approval the materials he/she proposes to supply. The Contracting Officer will inform the Contractor as to whom submittals should be forwarded for review (example: the Architect-Engineer (A-E) firm or the Contracting Officer) at the post award/preconstruction conference. If direction is given to send submittals to the A-E, then the Contractor shall also submit a “suspense” copy of each entire submittal to the Contracting Officer. No unapproved or disapproved materials shall be used. It is the Contractor’s responsibility to review the specifications to ensure that all required materials are submitted for approval prior to installation. It is recognized that all submittals may not immediately be available for review; however, it is the Contractor’s responsibility to ensure that submittals are prepared in sufficient time to allow the Government up to 14 calendar days for review. Reference Contract Clause FAR 52.236-5, “Material and Workmanship.”
  5. Resubmittal Reviews: For submittals requiring A-E review to include test reports, if an original submittal and its first resubmittal are disapproved, a fee may be charged at Contracting Officer’s discretion for reviewing a second resubmittal, and each subsequent resubmittal payable to the A-E for review costs.
- B. Refer to Section 01 33 00, Submittals, for additional information.
- 1.28 REQUESTS FOR INFORMATION (RFI)
- A. A Contractor’s Request for Information (RFI), as herein attached, shall address technical questions only and shall be submitted to the Contracting Officer in an approved RFI format.
  - B. The Contractor shall allow a minimum of 3 business days from the date the Government receives the RFI to receive a response.
  - C. Section 01 31 00, Coordination and Project Meetings, for additional information.

1.29 CHANGE ORDER REQUEST

- A. Upon the approval of a change order the contractor shall have 10 business days to assemble costs proposals and submit them to the USG.

1.30 PROGRESS SCHEDULES, PROGRESS REPORTS, AND PROGRESS MEETINGS

A. Progress Schedules:

1. All projects exceeding 60 calendar days or required by the delivery order require submission of a work progress schedule. Reference Contract Clause FAR 52.236-15, “Schedules for Construction Contracts.”
2. The Contractor shall prepare a progress schedule required for completion of each of the various divisions of work.
3. The Contractor shall prepare the progress schedule using AF Form 3064, Contract Progress Schedule, as herein attached, or computer generated format, as approved by the Contracting Officer.
4. Furniture and portable office equipment in the immediate area will be moved by the contractor to a location designed by the COR and replaced to its original position, or an alternate location as determined by the COR, upon completion of the work. Schedules for movement of furniture and equipment and delivery of materials shall be incorporated in the progress schedule and shall be made with a minimum of interference to Government operations and personnel. So far as practicable, the work shall be completed by section and confined to limited areas. Coordination with the COR and the user activity shall be accomplished at least three days in advance.
5. The Contractor shall ensure the schedule encompasses all divisions of work for the Project, to include contract closeout documents.
6. Contract close-out documents shall constitute a minimum of 5 percent of the total contract cost.
7. The Contractor shall, within 10 calendar days (or another period of time as determined by the Contracting Officer) after receipt of the Notice to Proceed (NTP), submit (hardcopy, and CD or e-mail file), in the number of copies as specified on the AF Form 66, a practicable progress schedule, along with an AF Form 3000, to the Contracting Officer for approval. Master schedule shall be provided and presented 5 calendar days following issuance of Notice to Proceed. The schedule shall show the sequence, in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of work. The work shall be scheduled so that, upon the start of construction, work progresses in a continuous and diligent manner. A schedule which does not reflect steady and reasonable progress throughout the construction period will be rejected. Reference Contract Clause FAR 52.236-15, “Schedules for Construction Contracts.”
8. If there are possible deviations from the original plan, those must be noted by the Contractor and approved by the Contracting Officer before work changes are implemented. A revised schedule shall be provided within 5 calendar days following Contracting Officer’s acknowledgement of deviations.



9. For projects exceeding \$1 million, the Contractor shall provide to the Contracting Officer, unless otherwise directed, a project plan (along with the AF 3064) in the most current version of Microsoft Project to define work tasks and track progress. At least 5 days prior to work initiation, the Contractor shall provide the Contracting Officer hardcopy Gantt charts and a formatted CD, or e-mail file, of the plan. Additionally, the Project plan shall have a cost per task field for each task – this is commonly called line item cost. No work may start until the Contracting Officer approves the plan in writing.
  - a. This schedule shall include a line item for rough inspections by Government personnel as outlined in the various sections of the specifications or on the plans. A rough inspection is required on all installed systems prior to sealing off or closing in a wall, pipe chase, suspended ceiling system etc. These systems include but are not limited to domestic and heating water lines, communication and electric runs, all insulation material to be covered by other material (GWB, wood panel etc), duct runs, ceiling suspension systems, roofing systems, raised flooring, fire detection/protection/suppression systems, etc. A second or finish inspection will be conducted after these systems are “hidden” to insure the quality of the finished product. The second or finish inspection does not constitute the final project inspection that is accomplished at project completion. The Contractor shall request these inspections through the Contracting Officer at least 5 working days prior to the desired inspection date.
- B. Progress Reports: The Contractor is required to provide monthly progress reports covering the period from Notice to Proceed through final inspection. These reports shall track progress by Line Item, if the contract contains multiple Line Items. Progress reports shall be submitted to the Contracting Officer in electronic format for review and approval using AF Form 3065, Contract Progress Report, as herein attached. The Contracting Officer will designate the frequency of submission for Progress Reports.
- C. Progress Meetings: A weekly meeting may be held with the Contractor, COR, and Contracting Officer (KO), if necessary, to discuss work progress, problems, and potential change orders. The Contractor shall attend these meetings at no additional cost to the Government. Prior to beginning work on specific work elements of a project, the Contractor shall confer with the COR and agree on a sequence of procedures and means of access to premises and buildings; space for storage of materials and equipment; delivery of materials; and use of approaches, use of corridors, stairways, and similar means of passage.
- D. Refer to Section 01 31 00, Coordination and Project Meetings, for additional information.

#### 1.31 WORK PROGRESS AND PREPARATION OF PROGRESS SCHEDULES AND REPORTS

- A. A weekly meeting may be held with the Contractor, COR and Contracting Officer (KO), if necessary, to discuss work progress, problems and potential change orders. The Contractor shall attend these meetings at no additional cost to the Government. Prior to beginning work on specific work elements of a project, the contractor shall confer with the COR and agree on a sequence of procedures and means of access to premises and buildings; space for storage of materials and equipment; delivery of materials; and use of approaches, use of corridors, stairways and similar means of passage.
  1. In accordance with FAR Clause 52.236-15, “Schedules for Construction Contracts”, the contractor shall within five days after the Notice To Proceed is issued, or another period of time determined by the KO, prepare and submit to the KO for approval three copies of a practicable schedule showing the order in which the contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing features of work. A composite schedule for the overall contract shall also be provided. The schedule shall be on an AF Form 3064, Contract

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Progress Schedule, or an approved computer generated format similar to the AF Form 3064. The work shall be scheduled so that, upon the start of construction, work progresses in a continuous and diligent manner. A schedule which does not reflect steady and reasonable progress throughout the construction period will be rejected. Both the Contractor and the COR are required to provide bi-weekly progress reports (AF Form 3065 –NGB Contract Progress Report) covering the period from notice to proceed through final inspection. Unless agreement cannot be made on the applicable percentage of progress a joint report will be submitted to the Contracting Officer. This reports shall be submitted on the NGB Contract Progress Report form (similar to an AF Form 3065), or an approved computer generated similar format. These reports shall track progress by CLIN, if contract contains multiple CLINs, multiple AF Form 3064 and NG Contract Progress Reports will also be required for payment purposes.

B. Additionally, for projects exceeding \$1M, the contractor shall provide a project plan in a commercially available network scheduling software that meets requirements of the specification to define work tasks and track progress. At least five days prior to work initiation, the contractor shall provide the Contracting Officer a hardcopy CPM and a formatted diskette or CD copy, or e-mail file copy, of the plan that shall include definition of rescues. No work may start until the Contracting Officer approves the plan in writing.

C. The Contractor shall prepare a work progress schedule required for completion of each of the various divisions of work. Updated plans and Form 3064 showing work progress (hardcopy and formatted diskette or CD, or e-mail file copy), unless otherwise directed by the Contracting Officer, shall be provided. If there are possible deviations from the original plan, those must be noted and approved by the Contracting Officer before work changes are implemented. The schedule shall be submitted to the Contracting Officer, in the number of copies as directed. Reference Contract Clause FAR 52.236-15, “Schedules for Construction Contracts”. The reports contemplated by the clause herein titled “Schedules for Construction Contracts” shall be accomplished on and in accordance with instructions pertaining to AF Form 3064, “Contract Progress Schedule” and a “National Guard Contract Progress Report”.

D. The contractor shall provide, if applicable, a detailed plan/map of anticipated trucking routes, anticipated staging area/ lay down area(s), and the anticipated utilization of both installation and flight line Entrance Control Points. The contractor may use their own documents / forms / software, as long as the Government can view, decipher, and distribute the information electronically. Ten working days prior to commencement of work, the contractor shall provide these things and obtain approval by the Contracting Officer / COR. They shall be kept current, and re-approved as changes occur

E. A “NGB Contract Progress Report” (similar to AF FORM 3065) shall be updated and provided Bi-Weekly. (Per CLIN)

F. An AF FORM 66, or a pre-approved Submittal Log equal, shall be maintained, and provided Bi-Weekly.

G. An approved RFI Log shall be maintained and provided Bi-Weekly by the Contractor.

H. Joint Progress Meetings shall be held Bi-Weekly during contract performance. (Period of Performance), or another determined occurrence as necessary for proper coordination and execution.

1. Meeting minutes shall be taken, maintained, and electronically distributed via email, by the contractor during/after all scheduled meetings.

1.32 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

- A. This Paragraph specifies the procedure for the determination of time extensions for unusually severe weather. In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:
- B. The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.
- C. The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the contractor.
- D. Weather delays will be based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The contractor's progress schedule must reflect consideration of these anticipated adverse weather delays in all weather dependent activities.
- E. Upon acknowledgment of the notice to proceed (NTP) and continuing throughout the contract, the contractor will record on the daily Contractor Quality Control (CQC) report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delays must prevent work on critical activities for 50 percent or more of the contractor's scheduled workday.
- F. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a bilateral modification.

1.33 PERFORMANCE OF SERVICES DURING CRISIS DECLARED BY THE NATIONAL COMMAND AUTHORITY (September 2002)

- A. Services determined to be essential for performance during crisis according to DoDI 3020.37 are plant operations, emergency and urgent work requests, disaster preparedness, emergency operations and infrastructure maintenance (including construction). The services provided by this contract have been designated as essential contractor provided services and must be continued during a crisis. The contractor shall continue providing service to all applicable ANG and Army TOC contracts in progress [for some services, 24 hours a day] until the crisis is over. The contractor shall ensure that enough skilled personnel are available during a crisis for any operational emergency due to utility failure, damage control, and damage repair. A crisis management plan shall be submitted to the Contracting Officer within 10 calendar days after contract start date. The contractor shall identify essential personnel by submitting an essential personnel list to the Contracting Officer within 10 calendar days after contract start date. The list shall contain the individuals' names, addresses, social security numbers, security clearances (if any), and duty title.

1.34 SAFETY ASSURANCE

- A. All work including the handling of hazardous materials or the disturbance or dismantling of structures containing hazardous materials shall comply with the applicable requirements of 29 CFR 1910/1926. Work involving the disturbance or dismantling of asbestos or asbestos-containing materials; the demolition of structures containing asbestos; and/or disposal and removal of asbestos, shall also comply with the requirements of 40 CFR, Part 61, Subparts A and B, ETL 1110-1-118 and DA Circular 40-83-4. All work shall comply with applicable state and municipal safety and health requirements. Where there is a conflict between applicable regulations, the most stringent shall apply. The Safety Manual is available at the following web site: <http://www.usace.army.mil/inet/usace-docs/eng-manuals/em385-1-1/toc.htm>. The Contractor shall assume full responsibility and liability for compliance with all applicable regulations pertaining to the health and safety of personnel during the execution of work. The Government shall not be held liable for any actions on the part of the Contractor, any tier subcontractor(s), or any of their respective employees that result in illness, injury, or death. Work shall conform to EM 385-1-1, US Army Corps of Engineers Safety and Health Requirements Manual.
- B. The required inspections, tests and reports made by the Contractor, any tier subcontractor(s), specially trained technicians, equipment manufacturers, and others as required, shall be at the Contractor's expense (herein attached). Reference FAR Clause: 52.236-13 Accident Prevention
- C. Special facilities, devices, equipment, clothing, and similar items used by the Contractor in the execution of work shall comply with applicable regulations.
- D. The Contractor shall comply with the recommendations contained in Part 6 of the U.S. Department of Transportation, Federal Highway Administration's "Manual on Uniform Traffic Control Devices," 2003 edition with Revision 1, available at <http://mutcd.fhwa.dot.gov/> to ensure proper warnings to motorists and adequate traffic control. The Contractor shall provide all warning lights, barricades, and other traffic control devices and signs.
- E. Crawl spaces and attics are to be treated as confined space entry. Contractor must follow 29 CFR 1910.146 and use Air Force Form 1024 when making an entry. NOTE: A confined space does not include areas above suspended acoustical tile ceiling.
- F. Where an employee can fall more than 6 feet, a fall protection system must be used; 29 CFR 1926.500 stipulates where this can occur and the different types of fall arrest systems.
- G. The Contractor must provide Material Safety Data Sheets (MSDS) to the Contracting Officer and receive approval before they begin the work.
- H. All references to protection of the site and adjacent buildings when trenching, shall include protection of all employees also.
- I. Inspections, Tests and Reports. The required inspections, tests and reports made by the Contractor, Sub-contractor, specially trained technicians, equipment manufacturers and other as required, shall be at the Contractor's expense.
- J. Special facilities, devices, equipment, clothing and similar items used by the Contractor in the execution of work shall comply with applicable regulations.
- K. Traffic Control Devices. The Contractor shall comply with the recommendations contained in Part 6 of the U. S. Department of Transportation, Federal Highway Administrations "Manual on Uniform Traffic

Control Devices (D6. -1978) to ensure proper warnings to motorists and adequate traffic control. The Contractor shall provide all warning lights, barricades and other traffic control devices and signs.

- L. In addition, the Contractor shall:
  - 1. Caution vehicle operators to avoid intrusion on the runway, taxiway, or operational flight line.
  - 2. Obtain flight line authorization from the Airfield Manager, through the Contracting Officer's Representative, before operating a vehicle on the flight line.
  - 3. Yield to all emergency vehicles including security police, fire department, ambulance, and ambulance buses when their red lights and/or sirens are operating.
  - 4. Coordinate movement of heavy oversized equipment such as cranes, extended flatbed trailers and large earth moving vehicles with the base security police through the Contracting Officer's Representative.
  - 5. Provide personnel to direct traffic when Contractor-operated vehicles block one or both lanes of a two-lane road.
- M. Refer to Section 01 35 23, Safety Policies and Procedures, for additional information.

#### 1.35 FIRE PROTECTION

- A. The Contractor shall at all times maintain good housekeeping practices to reduce the risk of fire damage. All scrap materials, rubbish, and trash shall be removed daily from in and about the building and shall not be permitted to be scattered on adjacent property.
- B. Suitable storage space shall be provided 50 feet minimum outside the building area for storing flammable materials and paints; no storage will be permitted in the building. Excess flammable liquids being used inside the building shall be kept in closed metal containers and removed from the building during unused periods.
- C. The Contractor shall provide a fire extinguisher at each location where cutting and/or welding is being performed. Where electric or gas welding or cutting is done, interposed shields of incombustible material shall be used to protect against fire damage due to sparks and hot metal.
- D. When temporary heating devices are used, a watchman shall be present to cover all periods when other workmen are not on the premises.
- E. The Contractor shall provide fire extinguishers in accordance with the recommendations of NFPA Nos. 10 and 241. However, in all cases a minimum of four (4) fire extinguishers shall be available for each building.
- F. Fire Codes: The Contractor shall obey all requirements of the National Fire Codes, Air Force Fire Regulations and Installation Fire Regulations, as they relate to his work on the Installation.

1.36 BURN PERMIT

- A. Prior to commencing any open flame burning, or welding operations, the Contractor shall obtain a Burn permit from the Base Fire Department. Request shall include a description of activities and duration of work. Allow a minimum of 5 days for burn permit approval.

1.37 PROTECTION FOR OPEN FLAME DEVICES

- A. When open flame and/or spark producing devices, i.e., acetylene oxygen welding equipment, electric arc welding, etc., are employed for job accomplishment, the following procedures are mandatory:
  - 1. Inspect all surroundings and equipment to insure that combustible substances are not present in any area where contact of metal at a temperature above the flashpoint of any compound is possible.
  - 2. Ensure that no open containers or spills of combustible substances are present.
  - 3. Ensure that ignition is not possible by conduction, convection, radiation, or dispersion of molten metal.
  - 4. Proper protection equipment and practices will be used, i.e., fireproof blankets, wetting of surrounding area, removal of combustible materials where practicable, earth filled backing, and portable fire extinguishers of proper type on hand.
  - 5. When the above devices are being used notify the Installation Fire Department 24 hours ahead of usage.

1.38 CONTRACTOR QUALITY CONTROL/TESTS

- A. Contractor Quality Control (CQC) Program:
  - 1. The Contractor shall comply with the quality control provisions as specified herein, and provide and maintain an effective Contractor Quality Control (CQC) program in accordance with the Contract. The Contractor shall perform all quality control inspection and/or testing required by this Contract unless specifically designated to be performed by the Government. The quality control program consists of plans, workmanship, fabrication, construction, and operations that comply with Contract requirements. The program shall cover construction operations, including fabrication both onsite and offsite, and shall be keyed to the proposed construction sequence.
  - 2. Where work is specified to be in conformity with Standard Specifications of the American Society for Testing Materials (ASTM), or with Federal specifications or with specifications of well-known recognized technical and trade organizations, but no tests are specifically stipulated in connection herewith, the Contractor shall furnish and pay for any tests or certifications required by the Contracting Officer to show that the proposed materials meet with the applicable requirements.
  - 3. The Contractor shall submit a written certification from any recognized testing agency, adequately equipped and competent to perform such services, that the material or equipment has been tested and conforms to the standards, including the method(s) of testing used.
  - 4. Wherever testing or analysis of material is required, such testing unless otherwise noted will be made at the Contractor's expense.

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5. Subsequent testing of those materials which fail to meet specifications will be accomplished by the Contractor at no cost to the Government.
6. Samples used for testing shall be selected as specified for the various tests elsewhere in these Specifications, but in every case the method of selecting samples and the location for selection shall be as approved by the Contracting Officer.
7. Tests shall be made in accordance with the specified testing procedures and/or methods and otherwise as required to provide compliance with all Contract requirements. Tests shall be made by independent, commercial testing laboratories approved in writing by the Contracting Officer.
8. Results of all tests shall be recorded on certified test reports of the commercial testing laboratories. Reports shall include a statement that the materials tested do or do not meet the requirements of the Contract specifications. Six copies of all reports shall be forwarded directly to the Contracting Officer for approval within 5 days of the actual performance of the test. The testing agency shall immediately notify (verbally) the Contracting Officer of any tests, which indicate failure to meet the Contract requirements.
9. Any item for which test reports show failure to meet all Contract requirements shall be retested at the Contractor's expense as often as required until full compliance with Contract requirements is shown.
10. The Contractor will provide a plan for contingencies, and will accomplish repairs in the event of utility and/or communications emergency situations

B. Contractor Quality Control (CQC) Plan:

1. Within 10 days of the award of the Contract, the Contractor shall provide 3 copies of the Project CQC Plan to the Contracting Officer. This document, as a minimum, shall include: 1) the name and address of the independent testing agency and the responsible principal with the firm, 2) a summary of QC tests required by the specification and to be provided by the testing agency, and 3) typical daily report(s) forms to be used for this Project. The plan shall also indicate organizational procedures to immediately notify the Contracting Officer, and COR, or designated representative of test results in noncompliance with the specification and recommendations on correction. The testing agency must be an independent company and not owned or partially owned by the Contractor or any relation or employee of the Contractor.
2. The Contracting Officer will review the quality control plan. The Contractor shall make such changes and additions as necessary for clarity and completeness as requested by the Contracting Officer. Acceptance of the Contractor's plan is predicated on satisfactory performance during construction. Acceptance is conditional and the Government reserves the right to require the Contractor to make changes in quality control plans, personnel and operations to correct deficiencies, and to assure Contract compliance.
3. When the Contractor proposes changes in the quality control plan or implementation during construction, the Contracting Officer shall be notified in writing. The Contractor shall implement no changes prior to acceptance in writing by the Contracting Officer.
4. If the Contractor fails to submit an acceptable quality control plan within the time herein prescribed, the Contracting Officer may refuse to allow construction to start if an acceptable interim plan is not furnished or may withhold funds from progress payments until such time as the

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Contractor submits an acceptable final plan. Reference Contract Clause FAR 52.232-5, “Payments Under Fixed Price Construction Contracts.”

- C. Refer to Section 01 44 00, Quality Requirements, for additional information

1.39 INSPECTIONS AND TESTS

- A. Inspections and tests are for the sole benefit of the Government and shall not relieve the Contractor of the responsibility of providing quality control measures to ensure that the work strictly complies with the contract requirements. No inspection or test by the Government shall be construed as constituting or implying acceptance. Reference Contract Clause FAR 52.246-12, “Inspection of Construction.”

1.40 SPARE MATERIAL/PARTS

- A. Spare materials/parts, if required by the Contract, will be identified in the applicable divisions and parts of the specifications. The Contractor is responsible for reviewing the Contract specifications to ensure all required spare materials/parts have been turned over to the Government.
- B. All required spare materials/parts must be turned over to the Government within 14 calendar days from the date of Beneficial Occupancy, Substantial Completion, or Final Acceptance. If paragraph “a” above is applicable, the Contractor shall also complete the columns entitled “Date Contractor Delivered” and “Quantity Delivered” on the attached spreadsheet, Attachment 8, and submit the completed spreadsheet to the Contracting Officer within 7 calendar days after submission of all required spare materials/parts.

The spare materials/parts spreadsheet is considered part of the Contract closeout documents. Final payment will not be made to the Contractor until the Contracting Officer has received and accepted the completed spreadsheet.

1.41 MATERIAL TESTING BY NATIONAL LABORATORIES

- A. Electrical materials and equipment shall be new and bear the Underwriters Laboratories (UL) label or be listed in the UL Electrical Construction Materials Directory or Electrical Appliance and Utilization Equipment Directory, wherever standards have been established by the agency.
- B. The Contractor shall submit proof that the material or equipment proposed to be furnished under this Specification conforms to the standards of Underwriters Laboratories. The label of Underwriters Laboratories (UL) shall be accepted as conforming to this requirement.
- C. In lieu of the label, the Contractor may submit a written certification from any recognized testing agency, adequately equipped and competent to perform such services, that the material or equipment has been tested and conforms to the standards, including the methods of testing used.
- D. Refer to Section 01 32 00, Construction Progress Schedules, for additional information.

1.42 CUTTING AND REPAIRING

- A. Unless otherwise specified hereinafter, the Contractor shall do all necessary cutting, drilling, fitting, and patching of work and corresponding work that may be required to make several parts come together and fit to receive, or be received, by work of other trades shown upon, or Reference Contract Clause FAR 52.236 21 “Specifications and Drawings for Construction” e



- B. The Contractor shall be held responsible for all cutting, replacement, and repairing of work due to faulty workmanship, including that which is not specifically covered by these Specifications for trades that are affected. The Contractor will also be held responsible for providing, without extra cost to the Government, any small incidental items which are not specifically mentioned in trade specifications, but which are necessary to complete the work in accordance with the Drawings, and under the general understanding that the work at completion shall be a finished and workmanlike job. Reference Contract Clause FAR 52.236-21 “Specifications and Drawings for Construction”
- C. Refer to Section 01 73 29, Cutting and Patching, for additional information.

1.43 LAYOUT AND GRADES

- A. All lines and grade work not presently established at the site shall be laid out by the Contractor in accordance with the Drawings and Specifications. The Contractor shall maintain all established boundaries and benchmarks and replace as directed any which are destroyed or disturbed. Reference Contract Clause FAR 52.236-17, “Layout of Work.”
- B. The Contractor shall engage a Professional Engineer or Registered Land Surveyor, licensed to practice in the State of Michigan, to properly establish all locations, grades, elevations, dimensions, joints, etc., necessary to the proper location of all items of work included in this Contract. All such items shall be established in relation to the benchmark and control points noted on the Drawings.
- C. Reference Contract Clause: 52.236-17: Layout of Work

1.44 REFUSE AND SALVAGE MATERIALS

- A. All refuse, debris, and construction waste material shall be legally disposed of off base at the Contractor’s expense. (Reference FAR 52.236-12 “Cleaning Up.”). Accumulations of refuse on the site will not be permitted. Use of Government-owned dumpsters by the Contractor is not authorized.
- B. All salvage property removed and not reinstalled under this Contract shall be returned to the Government at a place on Base designated by the Contracting Officer, or properly disposed of when directed by the Contracting Officer.
- C. Non-hazardous solid waste must be diverted to recycling, through appropriate means available to the Contractor, if such diversion is less than or equal to the equivalent cost of landfill or incineration.
  - 1. At the end of each quarter the contract is in effect the Contractor must supply a report including the following:
    - a. Amount (in tons) of nonhazardous solid waste, including construction and demolition debris, that is composted, mulched, recycled, reused, donated, or otherwise diverted from a disposal facility.
    - b. Amount (in tons) of solid waste, including construction and demolition debris, transferred to a disposal facility (landfill).

1.45 CONTRACTOR OFFICE AND STORAGE

- A. Parking of contractor vehicles shall be restricted to the contractor’s designed on-site area or the work area. The company name shall be prominently displayed on all construction vehicles parked on the job site.
- B. Security of material storage areas on the job site shall be the responsibility of the contractor. The area shall be kept neat and orderly and free of debris.
- C. No secure storage space will be provided by the Government. The Government will not be responsible for property belonging to, or under the present control of the Contractor. The Contractor is to protect materials. An unsecured, open area will be designated by the Contracting Officer for storage of construction equipment and materials during the period covered by the Contract. Reference Contract Clause FAR 52.236-10, “Operations and Storage Areas.”
- D. Contractor shall construct such temporary sheds as may be required for the use of workers and as required for tool cribs and storage of all work under the Contract. Temporary sheds shall be confined to the space assigned by the Contracting Officer. Sheds shall be of approved construction and wood floors, lighting, and heat shall be provided in all parts used by workers. Exterior of sheds shall be painted, all parts maintained in good condition throughout the life of the Contract, and at completion, all parts shall be removed and the premises cleaned up. Reference Contract Clauses FAR 52.236-10, “Operations and Storage Areas”.

1.46 TELEPHONE COMMUNICATIONS SECURITY MONITORING

- A. All communications with DOD organizations are subject to communications security (COMSEC) review. Contractor personnel must be aware that telephone communications networks are continually subject to intercept by unfriendly intelligence organizations. The DOD has authorized the military departments to conduct COMSEC monitoring and recording of telephone calls originating from, or terminating at, DOD organizations. Therefore, civilian contractor personnel are advised that any time they place a call to, or receive a call from, a DOD organization, they are subject to COMSEC procedures. The contractor shall assume the responsibility for ensuring wide and frequent dissemination of the above information to all employees dealing with DOD information.

1.47 TEMPORARY FIELD OFFICES

- A. As soon as practicable after award of Contract, and until final completion of the work, and subject to approval by the Contracting Officer, the Contractor may, for their own use and benefit, provide, maintain, and later remove a suitable temporary office(s). All field offices shall be painted on the exterior, maintained in good repair, provided with adequate heating and lighting, and maintained in a clean and sanitary condition at all times. All temporary utility connections will be the responsibility of the Contractor. Contractor furnished utility meters will be required for the purpose of documenting energy usage and determining charges to the Contractor. If the contractor has chosen to provide a temporary office at their discretion, all utility charges will be the responsibility of the Contractor at no additional cost to the Government. The site of the temporary office shall be restored to original condition. Reference Contract Clause FAR 52.236-10, “Operations and Storage Areas.” and 52.236-14: Availability and Use of Utility Services.

- 1. Contractor to provide billing information.
- 2. Contractor Name, POC, Physical Office Address, E-mail Address, DUNNS. Account number.

3. Meter is recorded first week of the Month. Utility cost of .11 cents per kilowatt-hour used will be billed.
  4. Current approved location for mobile office, Parking lot North of Building 825. Agreement to remove after contract completion, for current year air show, or at the request of the Contracting Officer.
- B. Water is available from existing water spigots. No more than 200 gallons will be supplied without separate metering and charges being applied, both at the Contractors expense.
- C. The Contractor is reminded that smoking in buildings on a Government facility is prohibited. Contractors must provide a smoking area for employees a minimum of 50 ft. away from any building.
- 1.48 TEMPORARY TOILET FACILITIES
- A. Contractor is to provide, at own expense, all temporary toilet facilities needed for their own employees. All temporary toilet facilities shall meet the requirements of health authorities having jurisdiction and shall be kept clean and in a sanitary condition at all times.
- 1.49 TEMPORARY UTILITY SERVICES (DELETE if Contractor is responsible for Utilities)
- A. The Contracting Officer has determined that Government-operated utilities, on jobsites, that are adequate and will be furnished to the contractor without charge where existing outlets are available. The contractor is responsible for installing temporary service outlets, as necessary, at its expense in accordance with the clause entitled “Availability and Use of Utility Services” (FAR Clause 52.236-14). The following utilities will be available: Existing Electrical Outlets. Existing water spigot. (Does not include water from a fire hydrant.) Any expense incurred to gain access to these utilities (temporary tap-ins, etc.) shall be the responsibility of the Contractor and all utilities shall be returned to their original configurations at the end of the contracts. No alterations to existing utilities shall be accomplished without the written permission of the Contracting Office. The following utility/utilities will be made available: will be specified in each individual task order.
- B. Contractor shall be responsible for gas charges once gas service is established until accepted by the Government.
- C. Refer to Section 01 51 00, Temporary Utilities, for additional information.
- 1.50 WORK ACTIVITY AND UTILITY INTERRUPTIONS
- A. Work Activity Interruptions:
1. If it becomes necessary to interrupt work activities in buildings and/or areas for construction purposes, permission to do so must be requested in writing a minimum of 72 hours to the Contracting Officer as initial part of coordination prior to the planned interruption.
  2. Any temporary construction for facilities used by the Contractor for preventing interruption of normal work activity or loss of utility services shall be subject to Contracting Officer’s approval.
- B. Utility Interruptions:

1. Work in connection with this Contract, which requires utility outages, including electrical, water, gas, steam, etc., which will close down or limit (as determined by the Contracting Officer) normal activities in the building, construction area or other affected areas, shall be performed by the Contractor at a time other than the regular work period of the organization occupying the facility. Work required by the Contractor on a nonstandard basis or at premium pay shall be done at no additional cost to the Government.
2. The Contractor's progress schedule shall include a preliminary listing of all proposed shutdown dates. Every effort shall be made to make all shutdowns as brief as possible, and as limited in extent as possible.

1.51 BLOCKING OFF BASE STREETS

- A. For Combat Readiness Training Center: At least two (2) hours prior to the blocking of any street, the Contractor shall advise the COR, Base Fire Department and Base Security Police of his intentions, identifying the location and the estimated time of closure. No more than two streets shall be closed at any time, and the two shall be no closer than five blocks from each other. However, there shall be no closures of any streets on base without at least five (5) working days of prior notification to both the COR, Base Fire Department, Base Security Officer and the Contracting Officer.
- B. For Battle Creek Air National Guard Base: At least two (2) hours prior to the blocking of any street, the Contractor shall advise the COR, Base Fire Department and Base Security Police of his intentions, identifying the location and the estimated time of closure. No more than two streets shall be closed at any time, and the two shall be no closer than five blocks from each other. However, there shall be no closures of any streets on base without at least five (5) working days of prior notification to both the COR, Base Fire Department, Base Security Officer and the Contracting Officer.
- C. For Selfridge Air National Guard Base, specifically: There shall be no closures of Jefferson and George Avenues, and Wilbur Wright Boulevard, without at least 8 days of prior written notification by the Contractor to the Contracting Officer.
- D. At least 72 hours prior to the blocking of any street, the Contractor shall coordinate with the Contracting Officer, the intention to block, identifying the location, and the estimated time of closure. No more than two streets shall be closed at any time.

1.52 EXCAVATING PERMIT

- A. For Combat Readiness Training Center: Contractor is required to secure an excavating permit from Base Civil Engineering, before proceeding with any exterior on-site excavating or digging. The Base Civil Engineer must have three (3) to four (4) working days notice from the Contractor prior to permit being secured.
- B. For Battle Creek Air National Guard Base:
- C. For All Air National Guard Bases: Contractor is required to secure a excavating permit from Base Civil Engineering, before proceeding with any exterior onsite excavating or digging. The Base Civil Engineer must have 72 business hours to locate and mark utilities after the permit has been approved and submitted. Far Clause: 52.236-7 Permits and Responsibilities.
- D. The site may contain pockets of methane. If methane is encountered immediately stop work and contact the Base Fire Department, COR, and KO.

1.53 COMPRESSED AIR

- A. Contractor shall provide all compressed air used for work under the Contract including temporary lines and connections. Contractor shall be responsible for removing all temporary lines and connections at the completion of the work.

1.54 WEATHER PROTECTION AND TEMPORARY HEATING

- A. The Contractor shall provide and maintain weather protection as may be required to properly protect all parts of the project and site from damage during construction.
- B. The Contractor shall be responsible for repairs and maintenance to the heating system or units during the progress of construction and shall deliver same to the Government, at termination of such use, in perfect condition, cleaning out all air ducts, and replacing all filters. Any temporary heating shall be at the expense of the Contractor.

1.55 OVERLOADING

- A. The Contractor shall be held responsible if overloading occurs to any part or parts of structures and electrical systems beyond their safe calculated carrying capacities by placing of materials, equipment, tools, machinery, or any other item thereon.
- B. The Contractor shall, under regulations prescribed by the Contracting Officer, use only authorized roadways. When materials are transported in prosecution of the work, vehicles shall not be loaded beyond the loading limit established by Federal, State and Local law or regulation. When it is necessary to cross curbing or sidewalks, protection against damage shall be provided by the Contractor.

1.56 ARCHEOLOGICAL, PALEONTOLOGICAL, AND ENDANGERED SPECIES FINDS

- A. Any archeological finds (evidence of human occupation) or paleontological finds (evidence of prehistoric plant or animal life) made by the Contractor are to be reported to the Contracting Officer immediately. The Contractor will then continue with work in other areas without interruption. The Contractor shall protect native endangered flora and fauna and notify Contracting Officer of any construction activities that might threaten endangered species or their habitats.

1.57 REAL PROPERTY DATA-INSTALLED COSTS – DD FORM 1354

- A. Contractors shall furnish real property data to the Government for each new construction and/or renovation project awarded, unless otherwise notified. The real property data shall be furnished via DD Form 1354, Transfer and Acceptance of Military Real Property (herein attached). The Contractor is responsible for accuracy of the data current up to the time of submission.
- B. For major renovation and/or complex projects, or those expected to exceed 12 months, the Contractor shall furnish real property data no less than on a quarterly basis. Frequency of submission shall be standard throughout the duration of the Project. Contractors are advised to record information on the DD Form 1354 as the Project progresses, due to the volume of data required to be furnished. Upon completion of the Project, the Contractor shall furnish a comprehensive DD Form 1354.
- C. On completion of the Project, the Contractor shall furnish to the Contracting Officer the completed DD Form 1354, Transfer and Acceptance of Military Real Property, as herein attached, to identify all equipment installed in the project, and the installed cost of each item.

- D. The DD Form 1354 is considered part of the Contract closeout documents. Final payment will not be made to the Contractor until the Contracting Officer has received and accepted the completed form and worksheet.

1.58 DAMAGES AND REPAIRS

- A. All damages to Government Facilities and property of a third party by the Contractor's operations shall be repaired, or replaced, at the Contractor's expense, as directed by the Contracting Officer. Any Government property damaged as a result of the work, materials, or operations of the Contractor shall be restored at no additional expense to the Government.
- B. The Government shall be reimbursed for all utility charges resulting from damage to utilities infrastructure caused by Contractor negligence or fault.
- C. Reference Contract Clause FAR 52.236-9, "Protection of Existing Vegetation, Structures, Equipment, Utilities and Improvements."

1.59 RECORD AND RED-LINED DRAWINGS

- A. During construction of a project and on the jobsite, the Contractor shall maintain an accurate record of all deviations and corrections from the approved Drawings and Specifications that may occur in the work as actually constructed. Drawings shall be made available for the Government inspector and Designer of Record (Type C services) to be able to inspect/review. The Contractor shall enter such deviations and corrections on the approved Drawings promptly, and submit to the Contracting Officer at completion of the Project. The red-lined drawings shall provide complete information including descriptions, Drawings, dimensions, marked prints, etc., as required for correction of the tracings to the as-built conditions, and shall indicate all deviations and corrections concerning the actual locations of all subsurface utility lines. In order for the location of these lines and appurtenances to be determined in the event the surface opening or indicators become covered or obscured, the record drawings shall show, by offset dimensions to two permanently fixed surface features, the end of each run including each change in direction. Valves splice boxes, and similar appurtenances shall be located by dimensioning along the utility run from a reference point. The average depth below the surface of each run shall also be recorded. The Government does not guarantee the accuracy of existing record drawings; it is the Contractor's responsibility to verify all as-built conditions.
- B. The information should be color coded for easy decoding as follows:
  - 1. Red: When showing information added to the Drawings.
  - 2. Green: When showing information deleted from the Drawings.
  - 3. Blue and Circled in Blue: To show notes.
- C. The red-lined drawings shall be complete with any deviation in actual construction.
- D. The Contractor shall provide to the Contracting Officer, in addition to hard copies of the red-lined drawings, two CD's containing the as-built Drawings in CAD form, using a compatible version of AutoCAD and in PDF format.

- E. Record (As-Built) drawings are considered part of the Contract closeout documents. Final payment will not be made to the Contractor until the Contracting Officer has received and accepted all required as-built drawings.
- F. Refer to Section 01 78 39, Project Record Documents, for additional information.

1.60 VERIFICATION OF DIMENSIONS

- A. The contractor shall be responsible for the coordination and proper relation of all aspects of the work. He/she shall field verify all dimensions and advise the Contracting Officer of any discrepancies prior to proceeding with any phase of the work. Where exact locations are not given for the positioning of equipment and devices, they shall be positioned to permit easy access for maintenance and for removal and replacement of component parts

1.61 MAINTENANCE OF TRAFFIC AND SAFETY

- A. Where possible, the Contractor and workers shall not interfere with the normal operations of traffic, particularly emergency vehicles and equipment. The Contractor is responsible for safety on the Project site.
- B. The Contractor shall use only established haul routes. When materials are transported in prosecution of the work, vehicles shall not be loaded beyond the loading limit established by federal, state or local law, or regulation. When it is necessary to cross curbing or sidewalks, protection against damage shall be provided by the Contractor.
- C. It is the explicit intention of the contract that the safety of aircraft, 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 airfield with respect to his/her own operations and the operations of all his/her subcontractors as specified in this section. It is further understood and agreed that the Contractor shall provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airfield.
- D. With respect to the Contractor's operations, and those of all tier subcontractors, the Contractor shall provide marking, lighting, and other acceptable means of identifying personnel, equipment, vehicles, storage areas, and any work or condition that may be hazardous to the operation of aircraft, fire-rescue equipment, or maintenance vehicles at the Base.
- E. The Contractor shall control his/her operations and the operations of his/her subcontractors and all suppliers so as to provide for the free and unobstructed movement of aircraft.
- F. The Contractor shall furnish, erect, and maintain weighted barricades, warning signs, and other traffic control devices as required maintaining traffic and insuring the safety of aircraft and the Contractor's equipment. The Contractor shall make own estimate of all labor, materials, equipment, and incidentals necessary for providing the maintenance of aircraft and vehicular traffic.
- G. When the work requires the Contractor to conduct operations within 100 feet of the edge of any active airfield pavement, the work shall be coordinated through the Contracting Officer's Representative at least 72 business hours prior to commencement of such work. The Contractor shall not commence such operations until so authorized by the Contracting Officer's Representative. All adjacent airfield

pavements are to remain active at all times, unless noted otherwise on the Drawings or coordinated as indicated with the COR.

- H. When the work requires the Contractor to conduct operations within 100 feet of the edge of an active taxiway pavement on an intermittent basis (intermittent opening and closing of the taxiway), the Contractor shall maintain constant communications with the Contracting Officer's Representative, Airport Manager, and FAA control tower as hereinafter specified; shall immediately obey all instructions to vacate the area; shall immediately obey all instructions to resume work in such area. Failure to maintain the specified communications or to obey instructions shall be cause for suspension of the Contractor's operations in the area until satisfactory conditions are provided. Adjacent taxiways cannot be closed to operating aircraft for Contractor's operations on a continual basis, but may be closed intermittently as coordinated with the COR.

1.62 SPECIAL CONDITIONS

- A. Any Contractor's equipment that causes or generates electromagnetic disturbances or interference shall be removed from service until properly repaired. The Contracting Officer may also require repositioning or removal of the equipment from the Base.
- B. The Contractor shall be responsible for the coordination of work with Base communications personnel who may be working in the area, and to make them aware of proposed work that may affect the work of their particular trade, in the process of performance.

1.63 COMMERCIALY OWNED/OPERATED RADIOACTIVE SOURCES USED ON SELFRIDGE ANGB MI, BATTLE CREEK ANGB, and ALPENA CRTS:

- A. When using radioactive sources for soil compaction tests or stress/support studies for detection of structural/weld defects in structural framing, pressurized pipe, vessels, etc. on Military Installations, the operator shall comply with the following requirements.
- B. 72 business hours prior to bringing the radiation generator on to the Military Installation, the Contractor shall provide the Base Radiation Safety Officer (RSO) and the Contracting Officer with the following information/documentation for review and approval:
  - 1. A copy of the Radioactive Source Permit with operational use conditions/restrictions with expiration date or a Certification of Exemption from licensure from the Nuclear Regulatory Commission (NRC) or Agreement State (AS).
  - 2. A current list of trained and qualified employees that will be using the radioactive source.
  - 3. The name of the Permit Radiation Safety Officer (PRSO), emergency contact telephone number, and current address for each source use..
  - 4. Operating instruction(s)/technical order(s) for the equipment that contains the radioactive source.
  - 5. Designated storage location of the radioactive source if it remains on base overnight.
  - 6. Proposed marking of the storage location if it exceeds 2mR/hr as measured at the surface of the storage container.
  - 7. A copy of the Contractor's Radiation Safety Program.



8. An Emergency Response Plan in the case of an emergency for a lost or damaged source and/or overexposure incident/injury.
  9. The portion of the contract that identifies the location(s) of where the source will be used, for how long, and for what type use.
- C. After approval is received for use of the specific radiation generator, the Contractor shall:
1. Meet proper Department of Transportation (DOT) and NRC shipping criteria to include properly filled out shipping manifest(s), container marking/labels, and placards on the vehicle as needed when transporting the source onto and around Base. The Contractor's documents shall also allow for removal of the source from the Base when needed. The source and the activity shall dictate which DOT and NRC regulations and CFR's are applicable. These include, but are not limited to 10 CFR Parts 19, 20, 21, 30, 33, 34, and 71 for the permit and the operation; 29 CFR 1910, 1096 for occupational safety and health activities when using the instrument; 40 CFR Part 190 for environmental protection activities; 49 CFR Parts 172 and 173 for transporting the instrument, and 10 CFR Parts 30, 40, 50, 70, 73, and 150 if the source is lost or stolen.
  2. Limit authorized use of radio luminescent signs and markers to areas with low occupancy and where electrical power is not available except at prohibitive cost.
- D. The Contractor shall not:
1. Buy radioactive materials or accept radioactive materials into the DoD inventory without approval from the Radioisotope Committee (RIC).
  2. Buy or use radium without RIC approval.
  3. Buy radio luminescent signs and markers solely for energy conservation in general administrative, industrial, and housing applications.
- E. The Base RSO, or designated representative, reserves the right to inspect work sites. If the Base RSO determines any operation involving a radioactive source is deemed to be unsafe and requires suspension or termination in accordance with applicable laws, rules, and regulations, such suspension or termination will be coordinated with the Contracting Officer.
- F. References:
1. 10 CFR Parts 19, 20,21 30, 33,34, 40, 50, 70,71,73, 150.
  2. 29 CFR Parts 1910, 1096, 1926.
  3. 40 CFR Part 190.
  4. 49 CFR Parts 172,173.
  5. FAR 52.223-7 -- Notice of Radioactive Materials.
- G. Acronyms and Terms Defined:

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1. NRC (Nuclear Regulatory Commission): Agency responsible for managing radioactive materials in the United States.
2. RSO (Radiation Safety Officer): Individual responsible for managing radioactive material on an installation.
3. PRSO (Permit Radiation Safety Officer): Individual permitted/authorized to own/operate a radioactive source.
4. AS (Agreement State): State authorized to administer radiation programs within its boundaries to the NRC requirements.
5. CFR (Code of Federal Regulations): Numerical listing of all federal regulations.
6. DOT (Department of Transportation): Agency responsible for regulating the shipment of materials in commerce.
7. OSHA (Occupational Safety and Health Administration): Agency responsible for managing an employee's work environment.
8. EPA (Environmental Protection Agency): Agency responsible for managing the external environment of the United States.
9. RIC (Radioisotope Committee): Office within the United States Air Force responsible to the NRC for the management of radioactive material in the Air Force.

### 1.64 TRANSPORTATION, HANDLING AND STORAGE

- A. The contractor shall coordinate with suppliers and shippers to ensure that incoming materials are properly identified with the contractor's name, contract number and project title. The contractor shall designate an authorized individual to be available to receive shipment. The Government will not provide storage other than that available at the project site.
- B. Storage of supplies, materials and equipment on the project site shall be accomplished in such a manner so as to prevent mechanical and climatic damage and loss due to vandalism or theft. Equipment temporarily removed in the performance of work and stored on the job site shall be stored and protected in accordance with previous paragraphs, and shall be replaced in a condition compatible with its original state. Security for equipment and material removed from the job site for temporary storage until reuse shall be the responsibility of the contractor

### 1.65 ENVIRONMENTAL IMPACT

- A. All waste materials generated by any work under a contract performed on a Government installation shall be handled, transported, stored, and disposed of by the Contractor and by all tier subcontractors at all times in accordance with all applicable federal, state, or local environmental laws, ordinances, regulations, court orders, or other types of rulings having the effect of the law, including, but not limited to Executive Order 12088, 13 October 1978; the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 ET SEQ); the Clean Air Act as amended (42 U.S.C. Sec 1857 ET SEQ); the Endangered Species Act, as amended (16 U.S.C. Sec 1531, ET SEQ); the Toxic Substances Control Act, as amended (15 U.S.C. Sec 2601, ET SEQ); the National Historic Preservation Act, as amended (16 U.S.C. Sec 470, ET SEQ); the Solid Waste Disposal Act, Resource Conservation and Recovery Act (RCRA), as amended

(42 U.S.C. 6901 ET SEQ); and the Archaeological and Historic Preservation Act, as amended (16 U.S.C. Sec 469, ET SEQ). Should the United States Government be held liable for any neglect or improper actions by the Contractor or any tier subcontractor regarding removal or disposal of any hazardous waste, the Contractor shall reimburse the Government for all such liability.

1.66 SOLID WASTE DISPOSAL AND DIVERSION TRACKING

- A. All materials reused, recycled or disposed of in the course of a construction or demolition contract shall be quantified on the Air Force (AF) Form 72 – Solid Waste and Diversion Tracking Form.
- B. All non-hazardous solid waste materials including demolition and construction debris (concrete, piping, etc.) transferred off the installation must be accounted.
- C. In accordance with the Deputy Undersecretary of Defense DoD Pollution Prevention Measure of Merit (MOM) Memorandum, HQ USAF/ILLEV, dated 6 August 1998, the attached Solid Waste Disposal and Diversion Tracking form (SANGB Form 72), as herein attached must be submitted at the end of each quarter during performance of the Contract.
- D. Refer to Section 01 62 35, Recycled/Recovered/Biobased Materials, for additional information.

1.67 ENERGY AND WATER EFFICIENCY AND RENEWABLE ENERGY

- A. Since it is the Government’s policy to acquire supplies and services that promote energy and water efficiency, advance the use of renewable energy products, and help foster markets for emerging technologies, so shall the Contractor provide energy-using products for construction, renovation, or maintenance of a public building, by acquiring energy-using products designated by the Department of Energy’s Federal Energy Management Program (FEMP).
- B. The Contractor shall provide energy-using equipment that is Energy Star rated, or has the FEMP recommended efficiency. Where Energy Star or FEMP recommendations have not been established, provide equipment with efficiency in the top 25% for the type of equipment procured. Provide only energy using equipment that meets the FEMP requirements for low standby power consumption. Reference FAR Clause: 52.223-15: Energy Efficiency in Energy Consuming Products.

1.68 POLLUTION PREVENTION

- A. All work shall be performed in a manner minimizing pollution of air, water, and land as required.
- B. Transporting materials to or from the site shall be accomplished in a manner preventing materials or particles from becoming airborne. Wetting shall be used as a dust control method. Gravel, sand, and concrete shall be contained within vehicles to prevent spillage. Tarpaulins must be fastened over load before entering surrounding streets. Removal of any materials dropped or blown off vehicles shall be the responsibility of the Contractor.
- C. Burning of any material is strictly prohibited.
- D. Stream beds, lakes, drainage ways, sanitary and storm sewers, etc., shall not be polluted by fuels, oils, hazardous materials, or other harmful materials. Grading and other controls shall be accomplished to prevent surface drainage from the construction site containing harmful amounts of sediment from draining onto adjacent areas.

- E. Flushing of concrete trucks is restricted to the location specifically designed for this purpose by the Contracting Officer's Representative.
  - F. Excess mortar, plaster, or drywall materials shall not be disposed of on Government property. Water utilized for plastering or drywall equipment shall be disposed of in accordance with the instructions of the COR, and under no circumstances shall water be disposed of in areas which are planted or scheduled to be planted.
  - G. Refer to Section 01 57 19, Environmental Protection, and Section 01 57 00, Erosion and Sediment Control, for additional information.
- 1.69 HAZARDOUS MATERIAL USAGE: Ref FAR Clause: 52.223-3 -- Hazardous Material Identification and Material Safety Data.
- A. If planning to use hazardous material (HM) for the work, the Contractor shall comply with all federal, state, and local environmental and safety standards for HM usage.
  - B. Hazardous Material (HM) shall be construed to mean any item that is:
    - 1. A health hazard or physical hazard as defined in 29 CFR 1910.1200(c).
    - 2. Regulated in its disposal by EPA as defined in 40 CFR.
    - 3. Hazardous as defined by DOT regulations as defined in 49 CFR.
    - 4. Hazardous as defined by the Dangerous Goods Regulations of the International Air Transport Association.
  - C. Typical examples of hazardous materials used on the jobsite include, but are not limited to:
    - 1. Petroleum based liquids/gases (gasoline, kerosene, diesel, propane, butane, acetylene, etc.).
    - 2. Explosives.
    - 3. Adhesives and glues.
    - 4. Shot charges for anchor systems.
    - 5. Volatile solvents (such as PVC cleaner and glues, paint thinners).
    - 6. Nonwater based paints.
    - 7. Liquid sealants.
    - 8. Epoxies and coating systems.
    - 9. Acidic or alkali cleaners.
  - D. The Contractor shall use the SANGB Form 23, Contractor HM Identification Form, Part 1, as herein attached, to report to the HMP all HM required for the Contract.

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1. The Contractor HM Identification form shall provide the following to the HMP:
  - a. A list that identifies each material, and its respective quantity, for all proposed HM.
  - b. A material safety data sheet (MSDS) for each material on the HM list.
  - c. Disposal procedures for excess material not used on the HM list.
- E. Additional HM required by the Contractor shall be identified to the COR for approval by the HMP using subsequent SANGB Form 23 submittals.
- F. The Contractor shall maintain the Contractor HM Identification Form on the jobsite for inspection/verification purposes.
- G. The Contractor shall establish an HM storage and issue location that complies with federal, state, and local environmental regulations. Materials issued shall be tracked for quantities used. Unused materials shall be inventoried and removed from the installation either prior to close out of the Contract, or to the expiration date of the HM.
- H. The Contractor shall accompany the Contracting Officer's Representative (COR) and the installation Environmental Manager (EM) on the Project closeout inspection to ensure all used and unused HM has been removed from the installation, and to ensure Part II of the SANGB Form 23, Contractor HM Identification Form, as herein attached, is completed and submitted to the Contracting Officer. This requirement shall not be a punch list item and must be accomplished prior to the Government accepting beneficial occupancy of the facility or construction item.
- I. The SANGB Form 23, Part II shall be completed as part of the Contract closeout documents. Final payment will not be made to the Contractor until the Contracting Officer has received and accepted the completed form.
- J. Any material suspected of being hazardous that is encountered during performance of a project shall immediately be brought to the attention of the Contracting Officer, at which time a determination will be made as to whether hazardous material testing shall be performed. If the Contracting Officer directs the Contractor to perform tests, and/or the material is found to be of a hazardous nature requiring additional protective measures, a task order modification may be required, subject to equitable adjustment under the terms of the contract.
- K. The Contractor is advised that friable and/or non-friable asbestos-containing material may be encountered in project areas and will be specified in individual Task Orders. Friable asbestos-containing material is any material that contains more than one percent asbestos by weight, and, that hand pressure can crumb, pulverize or reduce to powder when dry. Non-friable asbestos-containing materials are materials in which asbestos fibers are bound by a matrix material, saturate, impregnate or coating. Non-friable asbestos-containing materials do not normally release airborne asbestos fiber during routine handling and end-use. However, excessive fiber concentrations may be produced during uncontrolled abrading, sanding, drilling, cutting, machining, removal, demolition, or other similar activities. 29 CFRs 1910.1001, 1910.1009 and 2916-55 shall be referenced in the event asbestos-containing materials are encountered. Friable asbestos-containing materials are not authorized for use in new construction or maintenance projects.

1.70 PETROLEUM, OIL, AND LUBRICANT (POL)

The following are requirements for the storage, transportation, disposal, and utilization of POL on Selfridge ANGB, Battle Creek ANGB, and ALPENA CRTC.

A. Compliance Requirements:

1. Any activity that stores, transports or dispenses petroleum products must be familiar with the Base Spill Prevention, Containment and Countermeasures (SPCC) Plan.
2. A discharge of oil into navigable waters of the State, or adjoining shorelines, or into areas that may affect natural resources (wetlands) must reported to immediately to the Fire Department.
3. Each activity storing, transporting or dispensing petroleum products must have appropriate containment and/or diversionary structures and cleanup equipment readily available to prevent the discharge from reaching navigable watercourses (this includes ditches that directly connect to streams, ponds, lakes or rivers as well as the storm sewer system).
4. Any containment system must be designed to hold at least the maximum capacity of any single tank plus sufficient freeboard.
5. All bulk storage tanks must be provided with a secondary means of containment for the entire contents of the largest single tank, plus sufficient freeboard to allow for precipitation.
6. Buried piping transporting POL must have a protective coating or wrapping and be cathodically protected (if soil conditions warrant).
7. Flammable liquids must be stored in containers that are secure and prevents the excess release of vapors.
8. Drainage of rainwater from diked areas must be inspected by a certified industrial storm water operator prior to discharge.
9. If rainwater from diked areas contains quantities of petroleum products, the water must be properly treated; petroleum recovered and disposed of properly by the owner/operator of the containment system.

B. Spill Response Actions:

1. Initiate evacuation, if necessary.
2. Notify Base Fire Department by calling 911, and report the following information if it is known or can reasonably be determined:
  - a. Name of individual reporting spill
  - b. Location of spill
  - c. Number of injured personnel and type of injuries, if applicable
  - d. Substance spilled

- e. Estimated amount spilled
  - f. Estimated rate at which material is currently spilling
  - g. Estimated time of spill occurrence
  - h. Extent of spill travel
  - i. Necessity of the Base Fire Department to respond to protect life, property, and environment
  - j. Any additional pertinent information such as other potential hazards
3. Stop spill flow when possible without undue risk of personal injury.
  4. Contain the spill using whatever means readily available.
  5. Make spill scene OFF LIMITS to unauthorized personnel.
  6. Restrict all sources of ignition when flammable substances are involved.
  7. Report to the On-Scene-Commander upon his/her arrival to the scene.
  8. Report ALL spills to the Fire Department.

C. Acronyms and Terms Defined:

1. Navigable Waters of the State:
  - a. All water currently used, used in the past, or may be used in interstate or foreign commerce.
  - b. Interstate waters, including wetlands.
  - c. All other waters such as intrastate lakes, rivers, streams and wetlands.
  - d. All impoundments of water.

D. References:

1. 40 CFR 112 Oil Pollution Prevention
2. 29 CFR 1919.106 Flammable and Combustible Liquids
3. AFI 32-7001 Environmental Management
4. AFI 32-7044 Storage Tank Environmental Compliance

1.71 SOIL MANAGEMENT AND RELOCATION

The following requirements are associated with soil relocation guidance at SANGB:

A. Compliance Requirements:

1. Background concentrations of metals in soils at the installation exceed Michigan Department of Environment, Great Lakes, and Energy (EGLE), former Michigan Department of Environmental Quality (MDEQ), Cleanup Criteria Requirements for Response Activity (formerly the Part 201 Generic Cleanup Criteria and Screening Levels) for residential direct contact, groundwater surface water interface, and drinking water protection criteria. All soils relocated outside the installation property boundaries must be sampled, characterized, and sent to a licensed disposal facility.
2. All soil relocation at the installation requires coordination with, and approval from the Environmental Management (EM) Office.
3. Contact the EM Office as updated installation-specific individual metal analytical concentrations may be in effect.

B. References:

1. Soil Relocation Guidance for SANGB Memorandum, dated 24 October 2018.

C. Refer to Section 01 57 00, Erosion and Sediment Control, for additional information.

1.72 CROCK WELLS AND GROUNDWATER WELLS

The following requirements are associated with crock wells and groundwater wells guidance at SANGB:

A. Compliance Requirements:

1. There are no active domestic water or crock wells used at the installation. There are no plans to install any domestic water or crock wells for public use in the future.
2. Installation of new domestic water or crock wells are not authorized at SANGB.
3. Contact the Environmental Management Office as updated installation-specific guidelines may be in effect.

B. References:

1. Crock Wells and Groundwater Wells Guidance for SANGB Memorandum, dated 03 May 2002.

1.73 HEATING, VENTILATION, AIR CONDITIONING, AND REFRIGIERATION

A. Compliance Requirements:

1. The Contractor shall comply with the applicable requirements of sections 608 and 609 of the Clean Air Act (42 U.S.C. 7671g and 7671h) as each or both apply to this contract. Specifications should incorporate Federal Acquisition Regulations (FAR) Clauses 52.223-12 and 52.223-11, as appropriate.
2. Specifications for the management of recovered refrigerant must be consistent with requirements as specified in AFMAN 32-7089. (i.e. recovery of refrigerants should be returned to the Department of Defense (DoD) stockpile).



3. Per AFMAN 32-7089 all refrigerant system records must be provided to the government within 10 business days of service, including refrigerants added, removed, or lost, and AC/R equipment in service, repaired, replaced, and decommissioned. When refrigerant system records are provided to the government they must be provided to the COR, 127th Wing Civil Engineering HVAC Shop, and 127th Wing Environmental Management Office via e-mail. If the contractor has questions concerning point of contacts and/or e-mail addresses for submittal of refrigerant system records they should inquire with the contracting officer's representative before providing records.

B. References:

1. 42 U.S.C. 7671g and 7671h
2. AFMAN 32-7089

1.74 WORK BY GOVERNMENT

- A. The Government reserves the right to undertake performance by Government forces, for the same type or similar work as contracted herein, as the Government deems necessary or desirable, and to do so will not breach or otherwise violate this Contract.

1.75 COORDINATION WITH GOVERNMENT ACTIVITIES

- A. If it becomes necessary to interrupt work activities in buildings and/or areas for construction purposes, permission to do so must be requested in writing to the Contracting Officer TEN working days prior to commencing work on the planned interruption and shall be subject to Civil Engineering approval. Written requests for street closing shall be submitted for approval of the Civil Engineer TEN working days prior to closing the street.
- B. Work in connection with this contract which requires utility outages, including electrical, water, gas, steam, etc., which will close down or limit (as determined by the Contracting Officer) normal activities in the building, construction area or other affected areas, shall be performed by the contractor at a time other than the regular work period of the organization occupying the facility. Work required by the contractor on a non-standard basis or at premium pay shall be done at no additional cost to the Government. Request for utility outages shall be submitted to the Civil Engineer, in writing TEN working days prior to commencing work and shall be subject to his/her approval.
- C. Any temporary construction for facilities used by the contractor for preventing interruption of normal work activity or loss of utility services shall be subject to Contracting Officer's approval.

1.76 UNAUTHORIZED PERSONNEL

- A. The contractor shall inform all personnel working under his jurisdiction (including subcontractor and visiting supplier personnel) that access to areas outside of the immediate work area; excluding direct haul and access routes, contracting and Civil Engineering offices, and points of supply and storage; is prohibited. Circulation of said personnel will be limited to official business only. Persons in violation of the above will be apprehended and appropriately disciplined.

1.77 PROJECT IDENTIFICATION AND SIGNS

- A. General: This paragraph applies to the basic requirements for temporary project identification and information signs, as herein attached, required during construction:
  - 1. Submittals: As specified in the applicable section of the Specifications.
  - 2. Protective Coatings: As specified in the applicable section of the Specifications.
- B. Quality Assurance: Design sign and structure to withstand wind and environmental conditions of locality. Provide with finish adequate to withstand weathering, fading, chipping, and peeling for duration of construction.
- C. Submittals:
  - 1. Submit as specified in the applicable section of the Specifications.
  - 2. Include, but not limited to, the following:
    - a. Shop Drawings and product data as applicable.
    - b. Show content, layout, lettering, colors, structure, and foundation.
- D. Identification Signs: Project Identification.
  - 1. Construct structure and framing of wood or metal, structurally adequate to resist design requirements of locality.
  - 2. Construct sign surface of minimum 3/4-inch thickness exterior grade plywood with medium density overlay. Panels shall be of size to minimize joints. Overall size shall be 48 inches by 96 inches.
  - 3. Rough hardware shall be galvanized or aluminum.
  - 4. Coating: Paint as specified in the applicable section of the Specifications, colors selected by the Contracting Officer.
  - 5. Information Content:
    - a. Government agency logos (to be provided at preconstruction meeting).
    - b. Project number and title.
    - c. Contractor's name.
    - d. Architect-Engineer's name.
    - e. Contracting Officer's name and telephone number.
    - f. Project Engineer's name and telephone number(s).

- g. Contracting Officers Technical Representative’s (COR) name and telephone number.
- E. Informational Signs:
- 1. Construction:
    - a. This includes signs for traffic, construction workers, and general public in regards to directions, warnings, hazards, location of areas, facilities, equipment, and other items of a similar nature.
    - b. Provide signs of design, size, color, and lettering as required by regulatory agencies. Signs shall be painted metal, wood, plastic, or fiberglass and of materials suitable for the conditions in which they are placed, such as weathering and fading.
    - c. Construct structure and framing of wood or metal, structurally adequate to resist the design requirements of area of the Project.
- F. Bulletin Board: Bulletin board shall be not less than 36 inches by 48 inches in size, for displaying the Equal Employment Opportunity Poster, a copy of the wage decision contained in the Contract, Wage Rate Information Poster, and other information approved by the Contracting Officer and as required under FAR 52.222-27 “Affirmative Action Compliance Requirements for Construction.” The bulletin board shall be located at the work site in a conspicuous place easily accessible to all employees. Legible copies of the above items shall be displayed until work under the Contract is complete.
- G. Safety Sign: The safety sign shall be located in a conspicuous place within view of all employees and visitors. Paint shall be gloss exterior enamel. Lettering shall be as shown on the Drawing. The Contractor shall keep the safety sign current by posting the numbers daily.
- H. Installation: Project and Contractor Identification Sign.
- 1. Install in appropriate location so as not to obstruct traffic, pedestrians, or construction operations.
  - 2. Erect on framing or foundation, and rigidly brace.
  - 3. Maintain sign in good repair, in a clean and neat condition.
  - 4. Remove upon completion of Project.
- I. Installation: Other Signs and Bulletin Boards.
- 1. Install at appropriate locations and in sufficient quantities to assure visibility. Relocate as required by progress of work.
  - 2. Remove all signs, framing, supports, and foundations upon completion of the Project.

1.78 CONSTRUCTION PHASING (NOT USED)

1.79 SPECIAL MOUNTING REQUIREMENTS FOR ALL OVERHEAD CONSTRUCTION AND EQUIPMENT

- A. As a minimum, all overhead utilities, equipment, and other fixtures weighing 31 pounds (14 kilograms) or more must be mounted to resist forces of 0.5 times their weight in any direction and must resist a force 1.5 times their weight in the downward direction. These requirements supersede any less stringent mounting requirements listed in the remainder of the Specifications. However, they do not preclude more stringent requirements in the remainder of these Specifications.

1.80 SITE CLEANUP

- A. The Contractor shall maintain the construction site in as clean and orderly condition as possible. All refuse and/or salvage material shall be gathered and disposed of periodically to maintain the site in this condition. All roadways, taxiways, and ramp areas within the work area, or used by the Contractor, shall be swept and vacuumed daily to assure safe operation of aircraft. The method of cleaning and equipment employed shall be subject to the approval of the Contracting Officer. Reference Contract Clause FAR 52.236-12, "Cleaning Up."

- 1. At the end of each workday, the contractor shall clean up the work and storage areas and stack all materials in a manner approved by the Contracting Officer or his designated representative. Upon completion of a project, the contractor shall ensure that all dirt, trash, and debris resulting from the construction operations are removed from the work area. Unless directed otherwise in the contract or by the Contracting Officer, disposal of debris shall be made at the contractor's expense and shall be delivered to a state approved disposal site located off base. Debris shall not be left in such a manner that wind or other weather conditions can cause the debris to be scattered outside the work area (i.e., on nearby runways, ramps or taxiways). Work area includes Job Trailer and surrounding area that incorporates stored materials / parking.

- 2. The hauling and disposal of excess fill material including rock, gravel, sod, broken concrete or asphalt, plaster, etc., shall be the responsibility of the contractor. Disposal shall be in accordance with applicable state and local regulations.

- B. The Contractor shall inspect the work site and haul route daily for potential Foreign Object Debris (FOD) that may be blown into active aircraft operation areas during off-hours. FOD that can be blown around must be cleaned up or secured because storms and winds often come during off-hours and scatter debris everywhere.

- C. During and after periods of rain, the construction site may have a very high water table and/or areas of standing surface water. Dewatering techniques are a Contractor's option; however, the Contracting Officer shall approve the method prior to start of work. The Contractor shall not allow dirt, debris, or soil wash into the storm water drainage system.

- D. Following completion of the work, the Contractor shall clean the entire area of any debris and/or excess of misplaced material due to his/her operation and obtain Contracting Officer's approval of the finished

work. (Reference Contract Clause FAR 52.246-12, “Inspection of Construction” and FAR 52.236-12, “Cleaning Up.”)

- E. Refer to Section 01 73 00, Cleaning, for additional information.

1.81 INSPECTION AND ACCEPTANCE

- A. The Contractor shall conduct a prefinal inspection in the presence of the Contracting Officer’s Representative (COR). Any discrepancies noted shall be corrected prior to final inspection.
- B. When work on the Project is completed in accordance with the Contract, the Contractor shall provide a written request to the Contracting Officer for final inspection at least 72 business hours prior to the desired date.
- C. Civil engineering personnel and the Contracting Officer, in the presence of the Contractor, will perform the final inspection once all work is completed in accordance with the Contract, including, but not limited to, all items listed by the Government at Substantial Completion. Any discrepancies noted shall be corrected within the time specified by the Contracting Officer.
- D. The Contractor is cautioned to ensure they have completed adequate quality control reviews prior to scheduling prefinal or final inspections. In the event the Contracting Officer finds that the Project is not ready for the applicable inspection (too many discrepancies), the Contractor may be held liable for the costs of a repeat inspection. If the inspection involves A/E personnel these costs may include additional labor, travel, and miscellaneous expenses.
- E. Following the completion of the work, the Contractor shall clean the entire area from any debris and/or excess of misplaced material due to his operation and obtain Contracting Officer’s approval of this finished work.

1.82 DEMONSTRATIONS, COMMISSIONING, AND TESTING

- A. Demonstrations, commissioning, and testing requirements will be identified in the applicable divisions and parts of the Specifications. The Contractor is responsible for reviewing the Contract specifications to ensure all required demonstrations, commissioning, and tests are performed.
- B. Demonstrations, commissioning, and testing requirements must be completed within 14 calendar days from the date of Beneficial Occupancy, Substantial Completion, or Final Acceptance.
- C. Prior to all demonstrations, commissioning, and testing requirements being performed, the Contractor shall coordinate scheduling with the Government Inspector. The scheduling shall be requested at least 3 business days prior to date of demonstration, commissioning, or testing.
- D. After completion of all demonstrations, commissioning, and testing, the Contractor shall complete the column entitled “Date Contractor Conducted” on the attached spreadsheet, Attachment 7, and submit the completed spreadsheet to the Contracting Officer within 7 calendar days.
- E. The demonstrations, commissioning, and testing spreadsheet are considered part of the Contract closeout documents. Final payment will not be made to the Contractor until the Contracting Officer has received and accepted the completed spreadsheet.
- F. Refer to Section 01 75 00, Starting of Systems, for additional information

1.83 OPERATION AND MAINTENANCE (O&M) DATA

- A. Upon completion of the Project, the Contractor shall provide the Contracting Officer with two electronic copies and one bound set containing maintenance, repair, and operating instructions for each item of equipment or system installed, and parts lists for each piece of installed equipment. In addition, the Contractor must complete columns E and F of the attached O&M Data Listing Spreadsheet, as herein attached, and submit with the O&M data documents.
- B. Operations and Maintenance (O&M) data are considered part of the contract closeout documents. Final payment will not be made to the Contractor until the Contracting Officer has received and accepted the O&M Data Spreadsheet and all required O&M data.
- C. Refer to Section 01 78 23, Operation and Maintenance Data, for additional information.

1.84 SUBSTANTIAL COMPLETION

- A. Work on the Project will be considered substantially complete when it has sufficiently progressed in accordance with the Contract Documents to allow the facility to be occupied and/or utilized for its intended use. This includes, but is not limited to, completion of all work needed to provide safe occupancy and utilization, complete protection of the work from the environment, completion of all required inspections and certifications of systems and components, possession of permit or permission to occupy from the authority having jurisdiction, delivery of all operations and maintenance manuals, and delivery of all training services.
- B. When the work is considered substantially complete, the Contractor shall submit a written request to the Contracting Officer for certification of substantial completion. The Contractor shall include with the request, a list of all remaining items requiring completion or correction in accordance with the Contract Documents.
- C. On receipt of the request for certification, the COR will inspect the work. If the COR finds any item incomplete or requiring correction, such that work on the Project is not substantially complete, the Contractor shall complete or correct the identified item(s) and then request another inspection.
- D. When work on the Project is substantially complete, a certificate or letter of Substantial Completion will be issued to the Contractor. At the same time, a list identifying all remaining items requiring completion or correction for final acceptance, along with a respective time frame for completion of these items, will be provided to the Contractor.

1.85 WARRANTY OF CONSTRUCTION

- A. In addition to the specific warranties required by the specifications for certain portions of the work to be performed under this Contract, the Contractor shall furnish a written Warranty of Construction for all of the work to be performed under this Contract, against defects in materials and/or workmanship for a period of 1 year from the applicable date of Beneficial Occupancy or Final Inspection and Acceptance, whichever comes first, of the completed work by the Government.
- B. All work including workmanship, material, and equipment (other than Government furnished equipment) shall be warranted for the full period of standard manufacturer's warranty, but in no case shall be warranted for a period of less than 1 year. Upon notice from the Contracting Officer of any failure during this warranty period, the part or parts shall be replaced promptly with new parts by and at the expense of the Contractor. Whenever the manufacturer of a piece of equipment supplied by the Contractor

customarily provides a warranty covering the equipment, the Contractor shall promptly turn over such to the Contracting Officer.

- C. Reference Contract Clauses FAR 52.246-21, “Warranty of Construction” and FAR 52.246-12, “Inspection of Construction.”
- D. Refer to Section 01 74 00, Warranties, for additional information

1.86 EXTENDED MANUFACTURER WARRANTIES

- A. An extended manufacturer warranty provides coverage beyond the standard 1 year manufacturer’s warranty.
- B. Requirements for extended warranties will be so stated in the Contract specifications. The Contractor is responsible for reviewing the specifications to identify all these requirements, and to ensure all extended warranty documents are submitted for both approval and acceptance.
- C. An extended warranty document included as part of a material submittal for review and approval will not be considered as the final extended warranty document required by the Contract.
- D. All required final extended warranty documents must each contain, in addition to specific warranty data, the following information:
  - 1. Warranty Certificate/Claim Number.
  - 2. Manufacturer’s name, address, and telephone number.
  - 3. Project title and contract number.
- E. The Contractor shall submit all required final extended warranty documents, for review and acceptance, to the Contracting Officer (or as otherwise directed) in a binder format, as part of the contract closeout documents. In addition, the Contractor must complete columns F, G, and H of the attached Extended Manufacturer Warranty Spreadsheet, as herein attached, and submit with the warranty documents.
- F. All extended warranties commence on the date of beneficial occupancy or final acceptance, whichever comes first.
- G. The final extended warranties are considered part of the Contract closeout documents. Final payment will not be made to the Contractor until the Contracting Officer has received and accepted the completed spreadsheet and all required final extended warranty documents.

1.87 KEYS

- A. The Contractor shall be responsible for any Government-owned keys that have been issued to him for access to facilities or areas pertinent to this contract.
- B. Upon completion of the work in an area, or upon request of the Contracting Officer, the key or keys relevant to the area shall be returned immediately. Keys shall be returned prior to final task order payments.

- C. Should the Contractor Lose a Key: The Contractor shall notify the Contracting Officer, immediately and in writing, but not later than one (1) working day after he is aware of the loss. Should the key not be found before final acceptance, the final contract payment shall be reduced by the replacement cost for each key not returned and, if required by the Contracting Officer, any re-keying costs and cost of any other damages suffered by the Government.

1.88 PERFORMANCE EVALUATION OF CONTRACTOR

- A. As a minimum, the contractor’s performance will be evaluated upon final inspection. Any specific requirements for contract quality control and quality assurance by the Government personnel will be defined in the specifications. The contractor will be rated as outstanding, satisfactory or unsatisfactory in the areas of contract quality control, timely performance, and effectiveness of management, compliance with labor standards, and compliance with safety standards. The contractor will be notified of any unsatisfactory rating, either in an individual element or in the overall rating, prior to completing the evaluation, and all contractor comments will be made a part of the official record. Performance evaluation reports will be available to all DoD Contracting Officers for their future use.
- B. Past Performance evaluations will be posted via <https://www.cpars.gov>. It is the responsibility of the contractor to request access to this site.

1.89 CLOSEOUT

- A. The Contractor shall submit the final invoice and Release of Claims to the Contracting Officer. Reference Contract Clause FAR 52.232-27, “Prompt Payment for Construction Contracts.”
- B. Final payment will not be made to the Contractor until the Contracting Officer has received, reviewed, and accepted all required Contract closeout documents and/or items.
- C. Refer to Section 01 77 00, Project Closeout, for additional information.

1.90 The Following is provided to assist in the subcontractor reporting required by 52.204-10 REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT AWARDS

AGENCY CODE \_\_\_\_\_

The Following is provided to assist in submission of WAWF Invoices

**PARTIAL PAYMENTS ARE AUTHORIZED FOR THIS ORDER**

WIDE AREA WORKFLOW STATEMENT (FEB 2006)



IAW 252.232-7003, all invoices must be submitted via WAWF. It is mandatory that you use this E-Invoicing system to ensure timely payment of your invoice.

The web site for this system is <https://wawf.eb.mil>. There are no charges to use WAWF. All questions relating to system setup and vendor training can be directed to the help desk at Ogden. Their number is 1-866-618-5988.

THE FOLLOWING CODES WILL BE REQUIRED TO ROUTE YOUR INVOICES AND ADDITIONAL E-MAILS CORRECTLY THROUGH WAWF.

TYPE OF INVOICE SUBMISSION:

- Invoice
- Invoice and Receiving Report (Combo)
- Invoice as 2-in-1 (Services Only)
- Construction Invoice
- CAGE Code\*: **Six (6) digit code in Block 14**
- Pay DoDAAC\*: **Six (6) digit code in Block 27**
- Issue DoDAAC: **Six (6) digit code in Block 7**
- Admin DoDAAC\*: **Six (6) digit code in Block 26**
- Inspect By DODAAC\*: **Six (6) digit code found at Ship to Address under Delivery Information**
- Contracting Officer\*: **Six (6) digit code in Block 7**

**Required Fields in WAWF**

Contractor: **WAWF will prompt asking for "additional E-mail submissions" after clicking "SIGNATURE".**

**The following E-Mail addresses MUST be input in order to prevent delays in processing:**

Inspector (COR): **As provided at the pre-construction conference**

Buyer/Administrator: **As provided at the pre-construction conference**

Contracting Officer: **As provided at the pre-construction conference**

Invoices: **As provided at the pre-construction conference**

**Failure to include email address will delay payment. The Government is not responsible for delays caused by improper submission and notification in WAWF.**

The paying office DoDAAC and mailing address can be located on the front of your award. You can easily track your payment information on the DFAS website at <http://myinvoice.csd.disa.mil/index.html>. Your purchase order/contract number or invoice number will be required to inquire status of your payment.

1.91 COMBATING RACE AND SEX STEREOTYPING

In accordance with Executive Order 13950, during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not use any workplace training that inculcates in its employees any form of race or sex stereotyping or any form of race or sex scapegoating, including the concepts that (a) one race or sex is inherently superior to another race or sex; (b) an individual, by virtue of his or her race or sex, is inherently racist, sexist, or oppressive, whether consciously or unconsciously; (c) an individual should be discriminated against or receive adverse treatment solely or partly because of his or her race or sex; (d) members of one race or sex cannot and should not attempt to treat others without respect to race or sex; (e) an individual's moral character is necessarily determined by his or her race or sex; (f) an individual, by virtue of his or her race or sex, bears responsibility for actions committed in the past by other members of the same race or sex; (g) any individual should feel discomfort, guilt, anguish, or any other form of psychological distress on account of his or her race or sex; or (h) meritocracy or traits such as a hard work ethic are racist or sexist, or were created by a particular race to oppress another race. The term "race or sex stereotyping" means ascribing character traits, values, moral and ethical codes, privileges, status, or beliefs to a race or sex, or to an individual because of his or her race or sex, and the term "race or sex scapegoating" means assigning fault, blame, or bias to a race or sex, or to members of a race or sex because of their race or sex.

2. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under the Executive Order of September 22, 2020, entitled Combating Race and Sex Stereotyping, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

3. In the event of the contractor's noncompliance with the requirements of paragraphs (1), (2), and (4), or with any rules, regulations, or orders that may be promulgated in accordance with the Executive Order of September 22, 2020, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246, and such other sanctions may be imposed and remedies invoked as provided by any rules, regulations, or orders the Secretary of Labor has issued or adopted pursuant to Executive Order 11246, including subpart D of that order.

4. The contractor will include the provisions of paragraphs (1) through (4) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor, so that such provisions will be binding upon each subcontractor vendor. The contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

1.92 SUPPLEMENTS

A. The supplements listed below, following “End of Section,” are a part of this Specification:

1. Attachment 1 - Contractor Base Pass Request.
2. Attachment 2 - AF Form 66 Modified, Schedule of Material Submittals.
3. Attachment 3 - AF Form 3000, Material Approval Submittal.
4. Attachment 4 - Request for Information (RFI) Format.
5. Attachment 5 - AF Form 3064, Contract Progress Schedule.
6. Attachment 6 - AF 3065, NGB Joint Progress Report.
7. Attachment 7 - Demonstrations Commissioning Testing Spreadsheet.
8. Attachment 8 - Spare Material Parts Spreadsheet.
9. Attachment 9 - Extended Manufacturer Warranty Spreadsheet.
10. Attachment 10 - DD Form 1354, Transfer and Acceptance of Military Real Property.
11. Attachment 11 – AF Form 3000, Design Build Material Concurrence Submittal.
12. Attachment 12 - O&M Data Spreadsheet.
13. Attachment 13 - SANGB Form 23, Contractor Hazardous Material Identification.
14. Attachment 14 - Solid Waste Disposal and Diversion Tracking Form.
15. Attachment 15 - Project Sign (Sample).

END OF SECTION 01 00 00





<b>MATERIAL APPROVAL SUBMITTAL</b> <small>(See Instructions on Reverse)</small>	FORM APPROVED OMB NO. 9000-0062 Expires Apr.30 1993
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Public reporting burden for this collection of information is estimated to average 20 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to the Department of Defense, Washington Headquarters, Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project OMB No 9000-0062, Washington DC 20503. Please DO NOT RETURN your form either of these addresses. Send your completed form to: SAF/AQCO, Pentagon, Washington DC 20330-1000.

TO: ( Contracting Officer)	FROM: (Contactor)	DATE
CONTRACT NUMBER	SUBMISSION NUMBER	SUBMITTAL <input type="checkbox"/> NEW <input type="checkbox"/> RESUBMITTAL
PREVIOUS SUBMITTAL NUMBER	PROJECT NUMBER	

TO BE COMPLETED BY CONTRACTOR			FOR GOVERNMENT USE ONLY			
ITEM NO.	SPECIFICATION SECTION / PARA NO./DRAWING NO.	DESCRIPTION OF MATERIAL (Include Type, Model Number, Catalog, Mfg., etc.)	APPROVED	DISAP-PROVED	SEE REVERSE	INITIAL

BY COMPANLETING THIS FORM, THE UNDERSIGNED CONTRACTOR CERTIFIES THAT THE MATERIAL COMPLIES WITH ALL SPECIFICATIONS OF SUBJECT CONTRACT.

DATE	TYPE OR PRINT NAME AND TITLE	SIGNATURE
------	------------------------------	-----------

**FOR GOVERNMENT USE ONLY**

TO: (Base Civil Engineering Officer)

For Evaluation and Action

DATE	TYPE OR PRINT NAME AND GRADE	SIGNATURE
------	------------------------------	-----------

TO: (AF Contracting Office)

RECOMMAND	<input type="checkbox"/> APPROVAL	<input type="checkbox"/> DISAPPROVAL AS INDICATED ABOVE AND SUBJECT TO ANY APPLICABLE COMMENTS ON THE REVERSE
-----------	-----------------------------------	---

DATE	TYPE OR PRINT NAME AND GRADE	SIGNATURE
------	------------------------------	-----------

TO: (CONTRACTOR)

<input type="checkbox"/> APPROVED	<input type="checkbox"/> DISAPPROVED AS INDICATED ABOVE AND SUBJECT TO ANY APPLICABLE COMMENTS ON THE REVERSE SIDE.
-----------------------------------	---

DATE	TYPE OR PRINT NAME AND GRADE	SIGNATURE
------	------------------------------	-----------

DATE	TYPE OR PRINT NAME AND GRADE	SIGNATURE
------	------------------------------	-----------

**REQUEST FOR INFORMATION**

(Contractor Company Name)

RFI No.: \_\_\_\_\_

To:

Project No. and Title:

Contract No:

From:  
Office Location:

Phone:

Fax:

Date Submitted: **RFIStarted**

Response Requested By:

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**INFORMATION REQUESTED**

Specification Section #'s:

Drawing No.:

Description of Information Requested:

By \_\_\_\_\_

---

**RESPONSE**

**RFIAnswer**

By:

\_\_\_\_\_

Date

Cc:

<b>CONTRACT PROGRESS SCHEDULE</b> (See Contractor's Instructions on Reverse)	Form Approved OMB NO. 0704-0188
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Public reporting burden for this collection of information is estimated to average 15 minutes per response. Including the time for reviewing instructions, searching existing data sources, gathering maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department Defense of Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project 0704-0188. Washington DC 20503. Please DO NOT RETURN your (form questionnaire) to either of these addresses. Send your completed (form questionnaire) to: SAF AQCO. Washington DC 20330-1000.

1. CONTRACT NO.	8. PROJECT TITLE	10. APPROVAL RECOMMENDED BY:	
2. STARTING DATE	9. SUBMITTED BY:	DATE SIGNED	INSTALLATIONS ENGINEERS'S SIGNATURE
3. COMPLETION DATE	DATE SIGNED	11. APPROVED BY:	
4. PURCHASE REQUEST NO.	CONTRACTOR'S NAME (Last, First, Middle Init CONTRACTOR'S SIGNATURE (Street, City, State, Zip Code)		DATE SIGNED
5. PROJECT NO.			CONTRACTING OFFICER'S SIGNATURE
6. ACTUAL STARTING DATE			
7. ACTUAL COMPETION DATE			

LINE NO.	WORK ELEMENTS	%	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
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**INSTRUCTIONS TO CONTRACTORS**

1. Prepare four copies of AF Form 3064, in accordance with these instructions and submit to the Contracting Officer at the time stated in the contract or as established by the Contracting Officer.
2. Blocks 1, 2, and 3. Enter the contract number, starting date, and completion date as shown on the contract.
3. Block 8. Enter the title of the project as shown on the contract.
4. Block 9. Enter name and address of your firm. The four copies submitted to the Contracting Officer shall be dated and signed by the Contractor or an authorized representative of the firm.
5. Column A - Line Items. This column numbers the project's major elements of work.
6. Column B - Major elements of work. Major elements of work such as excavation, concrete work, carpentry, engineering, installation of communication electronic facilities, etc., shall be shown in Column B in logical sequence and in sufficient detail to identify the element. Contract closeout documents constitute 5% of the total project cost and shall be reflected as the final major element of work.
7. Column C - Percentages. The corresponding percentage for each listed work element to complete the job shall be shown opposite each work element in Column C. For example: if 3 work elements are indicated, excavation, concrete work, and backfill, and it is estimated that excavation is 50% of the total job, concrete 30%, and backfill 15%, these percentages must be shown opposite each element, along with the required closeout documents work element for 5%. The total of all percentages shall equal 100%.
8. Columns D through Q - Periodic Progress. Columns D through Q shall be used to show planned periodic progress, i.e. weekly, bi-weekly, monthly, etc., as required by the Contracting Officer, during the performance period of the contract. Only the top half of the space for each Line Item under these columns shall be used by the Contractor. Using the example from above, with an 8 week performance period, with 10% excavation work to be completed the 1st week and 20% each week thereafter until excavation is complete, 10 would be shown in the upper half of Line 1 under Column D, 20 under Column E, and 20 under Column F for a total of 50%. Continue this process for the remaining work elements. If the contract extends beyond the original period of performance, additional copies of AF Form 3064, denoting the appropriate alterations, shall be spliced onto the original form as a continuation of the performance record.
9. The TOTAL amount of work planned at intervals as shown in Columns D through Q shall be totaled and entered in the top half of the space (under the appropriate column) for the Line No. immediately below the last denoted work element. Continuing the example from above, the totals for Columns D through F would equal 10, 20, 20, and so forth for the remaining work elements. The total shall equal 100%.
10. Graph the planned work progress by plotting, using a broken or dotted line showing the cumulative total progress for planned intervals.
11. In the event the contract is modified by the Contracting Officer under the terms of the contract, changing the progress of work as originally scheduled, adding or deleting work, or changing the original completion date, a revised progress schedule shall be prepared and submitted to the Contracting Officer for approval. In preparing the revised schedule, the amount of work completed shall be considered, together with the revised completion date as set forth in the contract modification. Considering these factors, the work under the contract shall be rescheduled over the revised total performance period in the same manner that the original schedule was prepared. The revised completion date shall be entered in Block 3, and labeled (ex: First Revised Schedule) immediately beneath the form title. Time of submission of the revised schedule will be determined by the Contracting Officer.
12. At such intervals as may be established by the Contracting Officer, the Contractor shall submit to the Contracting Officer AF Form 3065, "Contract Progress Report," indicating the percentage of work accomplished for each work element during the established reporting period. Accurate reports are of the utmost importance to the Contractor and to the Government, since the percentage of completion, or progress, reported is used in administration of the contract and shall be used in connection with approval of progress payments under the contract. Care should be taken to plan the work in such manner that it can be accomplished as stated in this schedule. If for any reason it becomes known that any part of the progress under this contract will be delayed, this fact should be reported to the Contracting Officer immediately.

<b>CONTRACT PROGRESS REPORT</b>					OMA No. 9000-0068 Expires Apr 30, 1999	
<small>Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestion for reducing this burden to the Department of Defense, Washington Headquarters Services, Directorate for Information Operations and reports (OMB No. 9000-0058), 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</small>						
<b>PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS. RETURN COMPLETED FORM TO: SAF/AQCO, 1060 Air Force Pentagon, Washington DC 20330-1060</b>						
CONTRACTOR				ADDRESS		
REPORT NO.	PERIOD COVERED FROM:            TO:		PROJECT NO.	CONTACT NO.		COMPLETION DATE
LINE NO.	WORK ELEMENT			% OF TOTAL JOB	% COMPLETED THIS PERIOD	% COMPLETED CUMULATIVE
<b>TOTAL</b>				0.00	0.00	0.00
<b>REMARKS</b>						
At the Contracting Officer's discretion and according to the payments clause of the contract, the information provided on this form may be used for computing progress payments.						
<b>PROGRESS OR COMPLETION CERTIFICATE</b>						
I hereby certify that the contractor has completed the indicated percentage of the contract per contract specifications.						
<b>SUBMITTED BY OR FOR</b>						
<input type="checkbox"/> CONTRACTOR			<input type="checkbox"/> BASE CIVIL ENGINEER			
TYPE OR PRINT NAME AND TITLE			SIGNATURE		DATE	
<b>REVIEWED BY OR FOR CONTRACTING OFFICER</b>						
TYPE OR PRINT NAME AND TITLE			SIGNATURE		DATE	

PREVIOUS EDITION IS OBSOLETE

PROJECT NO. TITLE:

CONTRACT NO.

DEMONSTRATIONS, COMMISSIONING, TESTING

Line Item (a)	Spec Section (b)	Demonstration/Commissioning/ Testing Description (c)	Contractor to Provide (d)	Date Contractor Conducted (e)
	08331-5 Para 3.03	Overhead Coiling Doors	<p>Start-Up Services: Engage a factory-authorized representative to perform startup services and to train Owner's maintenance personnel as specified below:</p> <ol style="list-style-type: none"> <li>1. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.</li> <li>s. Test door closing when activated by detector or alarm connected fire-release system. Reset door closing mechanism after successful test.</li> <li>2. Train Owner's maintenance personnel on procedures and schedules related to startup and shutdown, troubleshooting, servicing, preventive maintenance, and procedures for testing and resetting release devices.</li> <li>3. Review data in the maintenance manuals.</li> <li>4. Schedule training with Owner with at least 7 days advance notice.</li> </ol>	
2	10651-5 Para 3.05	Operable Panel Partitions	<p>Engage a factory-authorized service representative to train Government's maintenance personnel to adjust, operate, and maintain operable panel partitions.</p> <ol style="list-style-type: none"> <li>1. Test and adjust seals, hardware, carriers, tracks, and other operable components. Replace damaged or malfunctioning operable components.</li> <li>2. Train Government's maintenance personnel on procedures and schedules for starting and stopping troubleshooting, servicing, and maintaining equipment and schedules.</li> <li>3. Review data in maintenance manuals.</li> <li>4. Schedule training with the Contracting Officer with at least 7 days advance notice.</li> </ol>	

**SAMPLE - Your project requirements will be provided to you**

PROJECT NO. TITLE:

CONTRACT NO.

## DEMONSTRATIONS, COMMISSIONING, TESTING

Line Item (a)	Spec Section (b)	Demonstration/Commissioning/ Testing Description (c)	Contractor to Provide (d)	Date Contractor Conducted (e)
3	11400-15 Para 3.05	Food Service Equipment	Provide services of Installer's technical representative, and manufacturer's technical representative where required, to instruct Owner's personnel in operation and maintenance of food service equipment.  1. Schedule training with Owner's representative; provide at least 7 days notice.	
4	15185-5 Para 3.06	Hydronic Pumps	Engage a factory authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain hydronic pumps as specified below:  1. Train Owner's maintenance personnel on procedures and schedules for starting and stopping, troubleshooting, servicing, and maintaining pumps.  2. Review data in maintenance manuals.  3. Schedule training with Owner, with at least 7 days advance notice.	
5	15430-9 Para 3.06	Plumbing Specialties	Engage a factory authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain trap seal primer systems and grease interceptors. Refer to Division 1	
6	15441-4 Para 3.06	Domestic Water Pumps	Engage a factory authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain controls and pumps.	
7	15486-5 Para 3.05	Fuel-Fired Domestic Water Heaters	Engage a factory authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain water heaters.  1. Train Owner's maintenance personnel on procedures for starting and stopping troubleshooting, servicing, and maintaining equipment.	

PROJECT NO. TITLE:

CONTRACT NO:

SPARE MATERIAL/ PARTS LISTING

Line Item (a)	Spec Section (b)	Spare Materials/Parts Description (c)	Contractor to Provide (d)	Date Contractor Delivered (e)	Quantity Delivered (f)
1	08705-7 Para 2.21	Key Cabinet	A. Size to permit minimum 50% expansion of system.  Note: See attached E-mail from Ed Wamboldt dated 15-Jul-05		
2	08705-7 Para 2.22	Finish Hardware	A. Provide extra locks, closers, and latches to Owner for maintenance purposes.  1. Provide one of each function and type  B. Provide six (6) sets of lock tools.		
3	09310-2 Para 1.07	Glazed Wall Tile	Contractor to supply extra 2% of each tile used in marked cartons.		
4	09320-2 Para 1.07	Ceramic Mosaic Floor Tile	Contractor to supply extra 2% of total of each tile used in marked cartons.		
5	09335-2 Para 1.07	Paver Floor Tile	Contractor to supply 2% of total quantity of each tile and trim units used in marked cartons.		
6	09510-2 Para 1.07	Acoustic Ceiling Systems	Contractor to supply extra 2% of each acoustic tile or panel and suspension system installed. Package with protective covering for storage and identify with appropriate labels.		
7	09680-3 Para 1.08	Carpet	Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels clearly describing contents. 1. Carpet: Before installation begins, furnish quantity of full-width units equal to 5% of amount installed. 2. Resilient Accessories: Furnish not less than 3 linear feet for each 150 linear m (500 linear feet) or fraction thereof, of each type, color pattern, and size of resilient accessory installed.		

**SAMPLE - Your project requirements will be provided to you**

PROJECT NO. TITLE:

CONTRACT NO:

## SPARE MATERIAL/ PARTS LISTING

Line Item (a)	Spec Section (b)	Spare Materials/Parts Description (c)	Contractor to Provide (d)	Date Contractor Delivered (e)	Quantity Delivered (f)
8	09950 Para 1.06	Wall Coverings	<ol style="list-style-type: none"> <li>1. Furnish extra materials from same production run as wall covering installed. Package materials with protective covering and identify with labels describing contents.</li> <li>2. Furnish quantity of full-size rolls equal to 10% amount installed.</li> </ol>		
9	12511-2 Para 1.06	Horizontal Louver Blinds	<p>Furnish extra materials described below that match products installed, are packed with protective covering for storage, and are identified with labels clearly describing contents.</p> <ol style="list-style-type: none"> <li>1. Horizontal Louver Blinds: Before installation begins, furnish quantity of full-size units equal to 5% of amount of each size installed.</li> </ol>		
10	15562-2 Para 1.07	Indirect-Fired Packaged H & V Units	<p>Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.</p> <ol style="list-style-type: none"> <li>1. Filters: One (1) set of each filter type for ea unit</li> <li>2. Fan Belts: One set for each unit.</li> </ol>		
11	15732 Para 1.07	Rooftop Air Conditioners	<p>Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.</p> <ol style="list-style-type: none"> <li>1. Fan Belts: One (1) set for each belt-drive fan</li> <li>2. Filters: One (1) set of each filter type for ea unit</li> </ol>		
12	15763-2 Para 1.06	Fan Coil Units	<p>Furnish extra materials described below that match the products installed and that are packaged with protective covering for storage and identified with labels for each filter installed.</p> <ol style="list-style-type: none"> <li>1. Fan Coil Unit Filters: Furnish two (2) spare filters for each filter installed.</li> </ol>		

Tab G-10 (Close Out)

SELFRIDGE ANGB, MICHIGAN

PROJECT NO. TITLE:

CONTRACT NO.:

REQUIRED EXTENDED MANUFACTURER WARRANTIES (OVER THE STANDARD ONE YEAR WARRANTY PERIOD)

	Spec Section (b)	Warranty Description (c)	Limits of Warranty (d)	Warranty Years (e)	Certificate Number/ Serial No (f).	Warranty Expiration Date (g)	Manufacturer's Name (h)
ES (OV)	07411	Metal Roof Panels Spec Page 07411-4	<b>Special Warranty</b> - Manufacturer's standard form in which mfr agrees to repair or replace components of metal roof panel assemblies that fail in material or workmanship within the specified warranty period: 1. Failures include, but are not limited to: a. Structural Failures, including rupturing, cracking, or puncturing b. Deterioration of metals, metal finishes, & other materials beyond normal weathering	2			
2	07411	Metal Roof Panels Spec Page 07411-4	<b>Panel Finishes Special Warranty.</b> Mfr's standard form in which mfr agrees to repair finish or replace metal roof panels that show evidence of deterioration of factory-applied finishes within specified warranty period: 1. Fluoropolymer Finish: Deterioration includes, but is not limited to: a. Color fading more than 5 Hunter units when tested according to ASTM D2244.	20	<b>SAMPLE - Your project requirements will be provided to you</b>		
3	07411 Cont'd	Metal Roof Panels	b. Chalking in excess of a No. 8 rating when tested according to ASTM D4214. c. Cracking, checking, peeling, or failure of paint to adhere to bare metal	20			
4	7411	Metal Roof Panels Spec Page 07411-4	<b>Weathertightness Special Warranty for Standing-Seam Metal Roof Panels.</b> Mfr's standard form in which mfr agrees to repair or replace standing-seam metal roof panel assemblies that fail to remain weathertight, including leaks.	20			

SELFRIDGE ANGB, MICHIGAN

PROJECT NO. TITLE:

CONTRACT NO.:

REQUIRED EXTENDED MANUFACTURER WARRANTIES (OVER THE STANDARD ONE YEAR WARRANTY PERIOD)

Line Item (a)	Spec Section (b)	Warranty Description (c)	Limits of Guarantees/ Warranty (d)	Warranty Years (e)	Certificate Number/ Serial No (f).	Warranty Expiration Date (g)	Manufacturer's Name (h)
5	07552	SBS Modified Bituminous Membrane Roofing  Spec Page 07552-4	Special warranty includes roofing membrane, base flashings, roofing membrane, accessories, roof insulation, fasteners, cover boards, walkway products and other components of roofing system. Failure includes roof leaks.  Roofing Installer's warranty, signed by Installer, covering all components of roofing system such as roofing membrane, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, roof pavers, and walkway products	20  2			
6	07722	Roof Scuttle  Spec Page 07722-1  -	Roof Scuttle(s) shall be guaranteed by the manufacturer for proper operation and against defects in workmanship and materials.	5			
7	08210	Wood Doors  Spec Page 08210-1  -	<b>Solid Core Interior Doors:</b> Submit two copies of written guarantee on door mfg's standard form signed by mfg, installer, and Contractor	Life of Original Installation Guarantee			

1. Prior to submitting the extended warranties to the Government for review and acceptance, the Contractor is to ensure that all the extended warranties have been registered with the manufacturer and that the manufacturer's warranty registration number is listed on each warranty.
2. Contractor is also responsible for ensuring that the manufacturer's company name, street address, and telephone number is listed on each extended warranty.
3. Columns (f), (g), and (h) on this form must be completed by the Contractor and accompany the warranties when they are submitted for review and acceptance.
4. All extended warranties and this completed Extended Warranty Listing are to be submitted in a binder to the Architect-Engineer Designing Firm prior to submitting.



PROJECT NO. TITLE:

CONTRACT NO:  
O AND M DATA LISTING

Line Item (a)	Spec Section (b)	Item Description (c)	Contractor to Provide (d)	Contractor Input Data to Binder (e)	Binder Item # (f)
1	06010-10 Para 3.5	Boiler.	Operation and maintenance manual.	Yes	1
2					
3					
4					
5					
6					
7					

**SAMPLE - Your project requirements will be provided to you**

PROJECT NO. TITLE:

CONTRACT NO:  
O AND M DATA LISTING

Line Item (a)				Date Contractor Delivered (e)	Quantity Delivered (f)
8					
9					
10					
11					
12					

# Contractor Hazardous Material Identification

## Part I

To be completed by Contractor prior to start date and shall be maintained on the job site.

Project Name: \_\_\_\_\_ Date: \_\_\_\_\_

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

Proposed Work Term: \_\_\_\_\_ to \_\_\_\_\_

Contractor Point of Contact: \_\_\_\_\_

Phone: \_\_\_\_\_

HM to be Used: MFG. / Product	M.S.D.S. Attached	QTY Used	Disposal Procedures	Comments

NOTE: This form is to be submitted to the HMPT for initial construction. All Hazardous Material (HM) used thereafter will be identified to Contracting Officer representative and tracked by the HMPT. See Part II for contractor closeout procedures. HMPT phone number is (586) 307-6104.

### HMPT Tracking Signatures

CEV: \_\_\_\_\_ SGPB: \_\_\_\_\_

HMPT: \_\_\_\_\_ CEF: \_\_\_\_\_

# Contractor Hazardous Material Identification

Part II  
Closeout Procedures

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

HM to be used: MFG/Product	Used/Unused Material Removed from Selfridge	Comments

Contractors will accompany Base Environmental on closeout inspection to ensure all used / unused HM was removed from the Base.

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

Closeout Signatures:

CEV: \_\_\_\_\_

Contracting Officers Representative: \_\_\_\_\_

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

## Solid Waste Recycling and Disposal Reporting Form

This tracking form is to assist the base in reporting solid waste metrics required to be submitted quarterly to the Deputy Undersecretary of Defense IAW DoD Pollution Prevention Measure of Merit (MoM) Memorandum, HQ USAF/ILEV, 6 August 1998. This form, along with accompanying weight tickets, must be submitted at the end of each quarter during the contract period.

Submit to 127CES/CEV, Bldg 127, 28900 Selfridge Ave, Selfridge MI, 48045 Attn: Solid Waste Tracking Manager. If you have any questions completing this form please contact the Selfridge Environmental Management Office at (586) 239-6259.

Project Name:

Contractor:  
(Print)

Government Inspector:  
(Print)

Reporting Period:  
(Quarter disposal/recycling was accomplished)

### Amount (in tons) of solid waste taken to a disposal/incineration facility.

Disposal Facility	Weight
Disposal Facility	Weight
Disposal Facility	Weight

### Amount (in tons) of solid waste that is composted, donated, recycled, reused, mulched or otherwise diverted from a disposal facility.

Diversion Facility	Weight
Diversion Facility	Weight
Diversion Facility	Weight



4'0" X 8'-0" SHEET OF 1/2" GRADE AC EXTERIOR PLYWOOD.  
PAINT ALL SIDES ONE COAT PRIMER AND TWO COATS GLOSS  
EXTERIOR ENAMEL  
COLOR: ISCC-NBS, COLOR DESIGNATION 56 STRING BROWN

TYPEFACE COLOR: FEDERAL STANDARD 595A,  
COLOR #17875 (GLOSS)

SPACE	HEIGHT (INCHES)	LINE	DESCRIPTION	LETTER HEIGHT (INCHES)	TYPEFACE
A	2	1	MICHIGAN AIR NATIONAL GUARD	2	HELVETICA MEDIUM
B	2	2	127TH WING	2	HELVETICA MEDIUM
C	4	3	CE ADMIN	5	HELVETICA MEDIUM
D	3	4	FACILITY	5	HELVETICA MEDIUM
E	2	5	GENERAL CONTRACTOR/A-E	1.5	HELVETICA REGULAR
F	2	6	CONTRACTING OFFICER	1.5	HELVETICA REGULAR
G	2	7	PROJECT MANAGER	1.5	HELVETICA REGULAR
H	2	8	CONTRACTING OFFICER'S REPRESENTATIVE	1.5	HELVETICA REGULAR
I	2	9	PLANNED COMPLETION DATE	2.5	HELVETICA MEDIUM

SECTION 01 10 00 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 STATEMENT OF WORK

- A. Scope: The work covered by these specifications consists of furnishing all plant, supervision, labor, equipment, licenses, permits, and materials necessary to perform all operations required to construct and complete the Delivery Order Requirements in accordance with these specifications and Drawings, and subject to the terms and conditions of the Contract.
- B. Location: The work to be performed is located at Selfridge Air National Guard Base, Michigan.
- C. The Work will be constructed in a single phase under a single prime contract.
- D. Definitions:
  - 1. Additive Bid Item (ABI): An amount proposed by bidders and stated on the Solicitation/Bid Form for certain work defined in the Bidding Requirements that may be added to the Base Bid amount if Government decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents. The cost for each ABI is the net addition to the Contract Sum to incorporate optional items into the Work. No other adjustments are made to the Contract Sum.

1.2 SPECIAL REQUIREMENTS OF THE INSTALLATION

- A. See Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- B. Contractor shall immediately clean up any debris tracked onto the Installation's streets resulting from this construction operation.
- C. Construction areas including equipment storage areas shall be kept clean and neat.
- D. No burning is permitted on the Installation.
- E. Point of Contact for the Installation is the Contracting Officer's Representative.

1.3 SANG FURNISHED/CONTRACTOR INSTALLED EQUIPMENT

- A. See Specification Section 01 64 00, SANG Furnished/Contractor Installed Equipment.

1.4 HEADROOM UNDER PIPES

- A. All horizontal runs of plumbing and heating pipes and/or electrical conduit suspended from ceilings shall provide for a maximum headroom clearance. In no case shall this clearance be less than 7 feet 0 inch without written consent from the Contracting Officer.
- B. Where piping or conduit is left exposed within a room, the same shall run true to plumb, horizontal or intended planes. Where possible, uniform margins are to be maintained between parallel lines and/or adjacent wall, floor, or ceiling surfaces.

1.5 LOCATION OF EQUIPMENT AND PIPING

- A. Drawings showing location of equipment, piping, ductwork, etc., are diagrammatic and job conditions shall not always permit their installation in the location shown.
- B. When job conditions prohibit installation of equipment, piping, ductwork, etc. in location shown, it shall be brought to the Contracting Officer's attention immediately and the relocation determined in a joint conference.
  - 1. The Contractor will be held responsible for the relocation of any items installed without first obtaining the Contracting Officer's approval.
  - 2. The Contractor shall remove and relocate non-approved items at his own expense if so directed by the Contracting Officer.

1.6 OCCUPANCY BY THE SELFRIDGE AIR NATIONAL GUARD

- A. The Government shall reserve the right and privilege of partial occupancy during and prior to the absolute completion of the total work.
- B. Access shall be allowed at all times to the SANG and its own Contractor's in the endeavor.

1.7 TESTS AND REPORTS

- A. See Section 01 45 23, Testing Services.

1.8 REFERENCES

- A. All references to the word "Government" in the specifications shall mean Selfridge Air National Guard except guarantees which shall be "Government".
- B. Wherever the word "provide" is used in the Contract Documents as a directive, it shall be interpreted to mean "provide and install system or component complete and ready for use."
- C. Wherever the term "Not in Mechanical Contract" (NIMC) or the term "Not in Electrical Contract" (NIEC) is used in the specifications and on the Drawings, it shall be interpreted to



## SELFRIIDGE ANGB, MICHIGAN

mean that the work is not a part of the particular sub-trade BUT IS INCLUDED under some other trade of the Contract. Wherever the term "Not in Contract" (NIC) is used, it shall be interpreted to mean that the item of work is not a part of the Contract, except as may be otherwise noted.

### D. Definitions:

1. SANG: Michigan Air National Guard at Selfridge ANGB.
2. Installation: The Base, Post, or facility on which the structure is being built.
3. Architect-Engineer: The person or firm responsible for preparing the Working Drawings and Specifications:  
CO: Contracting Officer:
4. GC: General Contractor, also referred to as 'Contractor.'

## 1.9 SUBMISSION OF PHOTOGRAPHS

- A. See Section 01 32 33, Construction Photographs.

END OF SECTION 01 10 00

SECTION 01 22 00 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements: Section 01 40 00, Quality Requirements, for general testing and inspecting requirements.

1.3 DEFINITIONS

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Government reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Contractor's expense, by an independent surveyor acceptable to Government.
- D. List of Unit Prices: A schedule of unit prices will be required when the Delivery Order specifically calls for it.

END OF SECTION 01 22 00

SECTION 01 25 00 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
  - 1. Section 01 60 00, Material and Equipment, for requirements for submitting comparable product submittals for products by listed manufacturers.
  - 2. Divisions 02 through 33 Sections for specific requirements and limitations for substitutions.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
  - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
  - 2. Substitutions for Convenience: Changes proposed by Contractor or Government that are not required in order to meet other Project requirements but may offer advantage to Contractor or Government.

1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
  - 1. Substitution Request Form: Use CSI Form 13.1A.
  - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.

- b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Government and separate contractors, that will be necessary to accommodate proposed substitution.
- c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
- d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
- e. Samples, where applicable or requested.
- f. Certificates and qualification data, where applicable or requested.
- g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
- h. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
- i. Cost information, including a proposal of change, if any, in the Contract Sum.
- j. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
- k. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

## 1.5 QUALITY ASSURANCE

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

## 1.6 PROCEDURES

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

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
1. Conditions: Contracting Officer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Contracting Officer will return requests without action, except to record noncompliance with these requirements:
    - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    - b. Requested substitution provides sustainable design characteristics that specified product provided for achieving LEED prerequisites and credits.
    - c. Substitution request is fully documented and properly submitted.
    - d. Requested substitution will not adversely affect Contractor's construction schedule.
    - e. Requested substitution has received necessary approvals of authorities having jurisdiction.
    - f. Requested substitution is compatible with other portions of the Work.
    - g. Requested substitution has been coordinated with other portions of the Work.
    - h. Requested substitution provides specified warranty.
    - i. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Contracting Officer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Contracting Officer will return requests without action, except to record noncompliance with these requirements:
- a. Requested substitution offers Government a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Government must assume. Government's additional responsibilities may include compensation to A-E for redesign and evaluation services, increased cost of other construction by Government, and similar considerations.
  - b. Requested substitution does not require extensive revisions to the Contract Documents.
  - c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
  - d. Requested substitution provides sustainable design characteristics that specified product provided for achieving LEED prerequisites and credits.
  - e. Substitution request is fully documented and properly submitted.
  - f. Requested substitution will not adversely affect Contractor's construction schedule.
  - g. Requested substitution has received necessary approvals of authorities having jurisdiction.

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- h. Requested substitution is compatible with other portions of the Work.
- i. Requested substitution has been coordinated with other portions of the Work.
- j. Requested substitution provides specified warranty.
- k. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

END OF SECTION 01 25 00

SECTION 01 26 00 – CONTRACT CONSIDERATIONS

PART 1 - GENERAL

1.1 STIPULATIONS

- A. General provisions of the Contract Documents, including General and Supplementary Conditions and Division 01 Specification Sections, apply to all work in this section.

1.2 SECTION INCLUDES

- A. Inspection and testing allowances.
- B. Schedule of values.
- C. Application for payment.
- D. Alternates.

1.3 RELATED SECTIONS

- A. Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- B. Section 01 29 00, Applications for Payment.
- C. Section 01 33 00, Submittals: Schedule of Values.
- D. Section 01 60 00, Material and Equipment: Product substitutions and alternates.

1.4 INSPECTION AND TESTING ALLOWANCES

- A. Cost of engaging an inspection or testing firm, execution of inspection and tests; and reporting results shall be included in the Contractor's costs.

1.5 SCHEDULE OF VALUES

- A. Submit typed schedule on AF Form 3064 and AF Form 3065 provided by Contracting Officer. Contractor's standard form or electronic media printout will be considered if it includes all of the information included in the standard forms.
- B. Submit Progress Schedule and Progress Report Schedules of Values in accordance with standard submittal requirements within 10 days after date of Contract Award.

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- C. Format: The Contractor shall provide sufficient items so that the Contracting Officer can determine what work is included within a line item. The Contractor must breakout material costs for items that will be billed when stored on site prior to installation.
- D. Executed Change Orders will be handled as independent items. They will be shown listed separately with progress shown independent from the overall schedule.

1.6 ALTERNATES/BID OPTIONS

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at the Contracting Officer's option. Accepted Alternates will be identified in Contract Award.
- B. Bid Options shall include a Contractor proposed time frame for acceptance by the Contracting Officer after Contract Award.

END OF SECTION 01 26 00



SECTION 01 29 00 – APPLICATIONS FOR PAYMENT

PART 1 - GENERAL

1.1 STIPULATIONS

- A. General provisions of the Contract Documents, including General and Supplementary Conditions and Division 01 Specification Sections, apply to all work in this section.

1.2 SECTION INCLUDES

- A. Procedures for preparation and submittal of Applications for Payment.

1.3 RELATED SECTIONS

- A. Document - General Conditions: Progress Payments and Final Payment.
- B. Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- C. Section 01 26 00, Contract Considerations.
- D. Section 01 33 00, Submittals: Submittal Procedures.
- E. Section 01 77 00, Project Closeout: Final Payment.

1.4 FORMAT

- A. Format to comply with AF Forms 3064 and 3065.

1.5 PREPARATION OF APPLICATIONS

- A. Present required information in typewritten form.
- B. Execute certification by signature of authorized officer.
- C. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.
- D. List each authorized Change Order as an extension on continuation sheet, listing Change Order number and dollar amount as for an original item of work.
- E. Prepare Application for Final Payment as specified in Section 01 77 00, Project Closeout.

1.6 APPLICATION SUBMITTAL PROCEDURES

- A. Submit three copies of each Application for Payment to the Contracting Officer or Contracting Officer Representative utilizing the Wide Area Work Flow (WAWF) application.
- B. Submit two copies of certified payroll reports for the pay period to the Contracting Officer.
- C. Content and Format: Utilize Schedule of Values for listing items in Application for Payment. The Application for Payment shall not exceed the progress reported on the AF Form 3065.
- D. Include Bills of Sale, Waiver of Lien Forms and mill certificates as required by Contracting Officer.
- E. Payment Period: Submit at intervals stipulated in the Agreement. Typically monthly, after 30th or 31st of the month.

1.7 SUBSTANTIATING DATA

- A. When Contracting Officer requires substantiating information, submit data justifying dollar amounts in question.
- B. Provide one copy of data with cover letter for each copy of submittal. Show Application number and date, and line item by number and description.

END OF SECTION 01 29 00

SECTION 01 31 00 – COORDINATION AND PROJECT MEETINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. General project coordination procedures.
  - 2. Administrative and supervisory personnel.
  - 3. Requests for Information (RFIs).
  - 4. Project meetings.

1.3 DEFINITIONS

- A. Request For Information (RFI): Requests from Government or Contractor seeking information or clarification from each other during construction. The RFI will also be used to notify the Government of changes in site conditions, unforeseen conditions, and any change which may result in increases in cost to the Government or increases in project duration.

1.4 COORDINATION

- A. Coordination: Plan construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.
  - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components before or after its own installation.
  - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
  - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved outlining any special procedures required for coordination. Include required notices, reports, coordination meeting discussion, and a list of meeting attendees for distribution to attendees and affected parties.

- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
  - 1. Preparation of Contractor's construction schedule.
  - 2. Preparation of the schedule of values.
  - 3. Installation and removal of temporary facilities and controls.
  - 4. Delivery and processing of submittals.
  - 5. Progress meetings.
  - 6. Preinstallation conferences.
  - 7. Startup and adjustment of systems.
  - 8. Project closeout activities.
  - 9. In-Progress Inspections and Final Acceptance Inspections.
  
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
  - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Government's property.

#### 1.5 KEY PERSONNEL

- A. Key Personnel Names: Within 10 days of Contract award, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
  - 1. Keep list current at all times.
  - 2. Refer to Part II, General Conditions, for additional requirements.

#### 1.6 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
  - 1. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
  
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
  - 1. Project name.
  - 2. Project number.
  - 3. Date.

4. Name of Contractor.
  5. Name of Government Representative.
  6. RFI number, numbered sequentially.
  7. RFI subject.
  8. Specification Section number and title and related paragraphs, as appropriate.
  9. Drawing number and detail references, as appropriate.
  10. Field dimensions and conditions, as appropriate.
  11. The Contractor shall provide suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  12. Contractor's signature.
  13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
    - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: Software-generated form with substantially the same content as indicated above, as provided by the Government.
- D. Government Representative's Action: Government Representative will review each RFI, determine action required, and respond. Allow 72 business hours for Government Representative's response for each RFI. RFIs received by Government Representative after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
    - a. Requests for approval of submittals.
    - b. Requests for approval of substitutions.
    - c. Requests for coordination information already indicated in the Contract Documents.
    - d. Requests for adjustments in the Contract Time or the Contract Sum.
    - e. Requests for interpretation of previous actions on submittals.
    - f. Incomplete RFIs or inaccurately prepared RFIs.
  2. Government Representative's action may include a request for additional information, in which case Government Representative's time for response will date from time of receipt of additional information.
  3. Government Representative's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit a Change Proposal.
    - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Government Representative in writing within 10 days of receipt of the RFI response.
- E. On receipt of Government Representative's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Government Representative within 7 days if Contractor disagrees with response.

- F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log monthly and provide for review and use at each weekly Contractor progress meeting. Software log shall contain not less than the following:
1. Project name.
  2. Name and address of Contractor.
  3. Name and address of Government Representative.
  4. RFI number including RFIs that were dropped and not submitted.
  5. RFI description.
  6. Date the RFI was submitted.
  7. Date Government Representative's response was received.
  8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

#### 1.7 PROJECT MEETINGS

- A. General: Government Representative will schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
- B. Preconstruction Conference: Government Representative will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Government.
1. Agenda: The preconstruction conference will discuss items of significance that could affect progress, including the following:
    - a. Tentative construction schedule.
    - b. Phasing.
    - c. Critical work sequencing and long-lead items.
    - d. Designation of key personnel and their duties.
    - e. **Base Access.**
    - f. Lines of communications.
    - g. Procedures for processing field decisions and Change Orders.
    - h. Procedures for RFIs.
    - i. Procedures for testing and inspecting.
    - j. Procedures for processing Applications for Payment.
    - k. Distribution of the Contract Documents.
    - l. Submittal procedures.
    - m. Preparation of record documents.
    - n. Use of the premises.
    - o. Work restrictions.
    - p. Working hours.
    - q. User occupancy requirements.
    - r. Procedures for disruptions and closures.
    - s. Construction waste management and recycling.
    - t. Parking availability.
    - u. Office, work, and storage areas.
    - v. Equipment deliveries and priorities.
    - w. First aid.
    - x. Security.

- y. Progress cleaning.
  - z. Security procedures and safety and fire prevention precautions.
  - aa. Features unique to this project.
2. Minutes: The Contracting Officer will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Government Representative of scheduled meeting dates.
  - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
    - a. Contract Documents.
    - b. Related RFIs.
    - c. Related Change Orders.
    - d. Purchases.
    - e. Deliveries.
    - f. Approved Submittals.
    - g. Possible conflicts.
    - h. Compatibility problems.
    - i. Time schedules.
    - j. Weather limitations.
    - k. Manufacturer's written recommendations.
    - l. Warranty requirements.
    - m. Compatibility of materials.
    - n. Acceptability of substrates.
    - o. Temporary facilities and controls.
    - p. Space and access limitations.
    - q. Regulations of authorities having jurisdiction.
    - r. Testing and inspecting requirements.
    - s. Installation procedures.
    - t. Coordination with other work.
    - u. Required performance results.
    - v. Protection of adjacent work.
    - w. Protection of construction and personnel.
  - 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
  - 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
  - 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Government Representative will conduct progress meetings **as required**.

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1. Attendees: In addition to representatives of Government and the Contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
  - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    - 1) Review schedule for next period.
  - b. Review present and future needs of each entity present, including the following:
    - 1) Interface requirements.
    - 2) Sequence of operations.
    - 3) Status of submittals.
    - 4) Deliveries.
    - 5) Off-site fabrication.
    - 6) Access.
    - 7) Site utilization.
    - 8) Temporary facilities and controls.
    - 9) Progress cleaning.
    - 10) Quality and work standards.
    - 11) Status of correction of deficient items.
    - 12) Field observations.
    - 13) Status of RFIs.
    - 14) Status of proposal requests.
    - 15) Pending changes.
    - 16) Status of Change Orders.
    - 17) Pending claims and disputes.
    - 18) Documentation of information for payment requests.
    - 19) Actual Percentage Complete and Scheduled Percentage Complete.
    - 20) Project Schedule.
3. Minutes: **The Contractor** will record and distribute the meeting minutes to each party present and to parties requiring information.
  - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

END OF SECTION 01 31 00



SECTION 01 32 00 - CONSTRUCTION PROGRESS SCHEDULES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Format.
- B. Content.
- C. Revisions to schedules.
- D. Submittals.

1.2 RELATED SECTIONS

- A. Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- B. Section 01 10 00, Summary of Work.
- C. Section 01 31 00, Coordination and Project Meetings.

1.3 GENERAL

- A. The Contractor prepared Construction Progress Chart shall serve as a guide in managing the construction progress.
- B. In preparing this system, the scheduling of construction shall be the responsibility of the Contractor.
- C. The selection and number of activities shall be subject to the Contracting Officer's approval.

1.4 FORMAT

- A. Contractor shall complete an AF Form 3064 "Contract Progress Schedule," an AF Form 3065, "Contract Progress Report," and a CPM Schedule **as required**. CPM shall clearly indicate critical path. AF Form 3064 shall be used to determine if project is on schedule, behind schedule, or ahead of schedule. CPM is used to determine logic and coordination.
- B. The format shall be designed to enable the Contracting Officer to evaluate the reasonableness of the proposed schedule, and to determine if the actual construction is on schedule.

1.5 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the 15th and last day of each month.
- D. Indicate delivery dates for SANG furnished products.
- E. Indicate all activities of SANG or the Vendors that will affect progress and contract completion dates. See Section 01 64 00, SANG Furnished/Contractor Installed Equipment.
- F. Phasing requirements shall be integrated into the Contractor prepared Progress Schedule.
- G. Coordinate content with Schedule of values.

1.6 SUBMITTALS

- A. Submit, through the Contracting Officer, a schedule defining the Contractor's proposed operations, within TEN DAYS AFTER DATE OF NOTICE TO PROCEED. The Contractor's general approach for the balance of the project shall also be indicated.
- B. Submit **one electronic copy, plus two copies.**
- C. CPM shall be submitted for approval prior to first payment application.
- D. Application for Payment will not be considered complete until the Contracting Officer receives the Progress Schedule and Progress Report (AF Form 3065).

1.7 DISTRIBUTION

- A. Distribute copies of reviewed schedules to Project site file, Subcontractors, Suppliers, and other concerned parties.
- B. Instruct recipients to properly report, in writing, problems anticipated by projections indicated in Schedules.

END OF SECTION 01 32 00

SECTION 01 32 33 - CONSTRUCTION PHOTOGRAPHS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Photography.
- B. Prints.
- C. Technique.
- D. Submittals.

1.2 RELATED SECTION

- A. Section 01 10 00, Summary of Work.

1.3 PHOTOGRAPHY

- A. Provide electronic photographic files of the site and construction throughout the progress of Work.
- B. Take photographs that illustrate the following:
  - 1. Site clearing.
  - 2. Excavations.
  - 3. Foundations.
  - 4. Structural framing.
  - 5. Concealing of rough work.
  - 6. Final completion.

1.4 DIGITAL PRINTS

- A. Full color digital photographs; one print of each view.
- B. Each photograph file shall be in **TIFF** format.
- C. Each photograph file shall use a name designation identifying the location, date, and time of the photo.

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1.5 VIEWS

- A. Provide photographs of the pertinent work and work that will be concealed from view or completed during the documentation period.
- B. Provide non-aerial photographs from four cardinal views at each specified time until Date of Final Acceptance.
- C. Provide photographs from four cardinal views of the interior of the building after the building is enclosed.
- D. Consult with Contracting Officer for instructions on additional views required.

END OF SECTION 01 32 33

SECTION 01 33 00 - SUBMITTALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01, General Requirements apply to this Section.

1. Section 01 00 00, Requirements of Selfridge Air National Guard Base.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submittals required for performance of the Work, including the following:

1. Contractor's construction schedule.
2. Submittal schedule.
3. Daily construction reports.
4. Shop Drawings.
5. Product data.
6. Samples.
7. Quality assurance submittals.

- B. Administrative Submittals: Refer to other Division 01, General Requirements and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to, the following:

1. Permits.
2. Applications for payment.
3. Performance and payment bonds.
4. Insurance certificates.
5. List of subcontractors.

- C. Related Sections: The following Sections contain requirements that relate to this Section:

1. Section 01 31 00, Coordination and Project Meetings, specifies requirements governing preparation and submittal of required Coordination Drawings and requirements for submittal and distribution of meeting and conference minutes.
2. Section 01 40 00, Quality Requirements, specifies requirements for submittal of inspection and test reports.
3. Section 01 77 00, Project Closeout, specifies requirements for submittal of Project Record Documents and warranties at project closeout.

### 1.3 DEFINITIONS

- A. Coordination drawings show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or to function as intended.
  - 1. Preparation of coordination drawings is specified in Section 01 31 00, Coordination and Project Meetings, and may include components previously shown in detail on Shop Drawings or product data.
- B. Field samples are full-size physical examples erected onsite to illustrate finishes, coatings, or finish materials. Field samples are used to establish the standard by which the work will be judged.
- C. Mockups are full-size assemblies for review of construction, coordination, testing, or operation; they are not samples.

### 1.4 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
- B. Submittal Preparation: Place a permanent label or title block on each submittal for identification, Indicate the name of the entity that prepared each submittal on the label or title block.
  - 1. Provide a space approximately 4 by 5 inches (100 by 125 mm) on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
  - 2. Include the following information on the label for processing and recording action taken.
    - a. Project name.
    - b. Date.
    - c. Name and address of the Contracting Officer.
    - d. Name and address of the Contractor.
    - e. Name and address of the subcontractor.
    - f. Name and address of the supplier.
    - g. Name of the manufacturer.
    - h. Number and title of appropriate Specification Section.
    - i. Drawing number and detail references, as appropriate.

C. Procedures:

1. Direct submittals to Contracting Office, unless specified otherwise.
2. The Contractor shall submit two hard copies of submittals to the Contracting Officer.
3. Electronic Submittals: Submittals shall be made in electronic format.
  - a. Each submittal shall be an electronic file in Adobe Acrobat Portable Document Format (PDF). Use the latest version available at time of execution of the Agreement.
  - b. Electronic files that contain more than 10 pages in PDF format shall contain internal book marking from an index page to major sections of the document.
  - c. PDF files shall be set to open "Bookmarks and Page" view.
  - d. Add general information to each PDF file, including title, subject, author, and keywords.
  - e. PDF files shall be set up to print legibly at 8.5-inch by 11-inch, 11-inch by 17-inch, or 22-inch by 34-inch. No other paper sizes will be accepted.
  - f. Submit new electronic files for each resubmittal.
  - g. Include a copy of the Transmittal of Contractor's Submittal form, located at end of section, with each electronic file.
  - h. Provide Contracting Officer with authorization to reproduce and distribute each file as many times as necessary for Project documentation.
  - i. Detailed procedures for handling electronic submittals will be discussed at the preconstruction conference.
4. Transmittal of Submittal:
  - a. Contractor shall:
    - 1) Review each submittal and check for compliance with Contract Documents.
    - 2) Stamp each submittal with uniform approval stamp before submitting to Contracting Officer.
      - a) Stamp to include Project name, submittal number, Specification number, Contractor's reviewer name, date of Contractor's approval, and statement certifying submittal has been reviewed, checked, and approved for compliance with Contract Documents.
      - b) Submittals that do not bear Contractor's approval stamp and will return them without action.
  - b. Complete, sign, and transmit with each submittal package, one Transmittal of Contractor's Submittal form attached at end of this section or in format approved by Contracting Officer.
  - c. Identify each submittal with the following:
    - 1) Numbering and Tracking System:
      - a) Sequentially number each submittal.

- b) Resubmission of submittal shall have original number with sequential alphabetic suffix.
    - 2) Specification section and paragraph to which submittal applies.
    - 3) Project title and Government's project number.
    - 4) Date of transmittal.
    - 5) Names of Contractor, Subcontractor or Supplier, and manufacturer as appropriate.
  - d. Identify and describe each deviation or variation from Contract Documents.
- 5. Format:
  - a. Do not base Shop Drawings on reproductions of Contract Documents.
  - b. Package submittal information by individual Specification section. Do not combine different Specification sections together in submittal package, unless otherwise directed in Specification.
  - c. Present in a clear and thorough manner and in sufficient detail to show kind, size, arrangement, and function of components, materials, and devices, and compliance with Contract Documents.
  - d. Index with labeled tab dividers in orderly manner.
- 6. Timeliness: Schedule and submit in accordance Schedule of Submittals, and requirements of individual Specification sections.
- 7. Processing Time:
  - a. Time for review shall commence on Contracting Officer's receipt of submittal.
  - b. Contracting Officer will act upon Contractor's submittal and transmit response to Contractor within 14 work days after receipt, unless otherwise specified.
  - c. Resubmittals will be subject to same review time.
  - d. No adjustment of Contract Times or Price will be allowed due to delays in progress of Work caused by rejection and subsequent resubmittals.
- 8. Resubmittals: Clearly identify each correction or change made.
- 9. Incomplete Submittals:
  - a. Submittals for Contractor's revision if preliminary review deems it incomplete.
  - b. When any of the following are missing, submittal will be deemed incomplete:
    - 1) Contractor's review stamp; completed and signed.
    - 2) Transmittal of Contractor's Submittal; completed and signed.
    - 3) Insufficient number of copies.
- 10. Submittals Not Required by Contract Documents:
  - a. Will not be reviewed and will be returned stamped "Not Subject to Review."
  - b. Government and A&E will keep one copy and return submittal to Contractor.
- 11. Second Resubmittal: Refer to Section 01 00 00, Requirements of Selfridge Air National Guard Base.



1.5 ACTION SUBMITTALS

A. Samples:

1. Copies: Two, unless otherwise specified in individual Specifications.
2. Preparation: Mount, display, or package Samples in manner specified to facilitate review of quality. Attach label on unexposed side that includes the following:
  - a. Manufacturer name.
  - b. Model number.
  - c. Material.
  - d. Sample source.
3. Manufacturer's Color Chart: Units or sections of units showing full range of colors, textures, and patterns available.
4. Full-size Samples:
  - a. Size as indicated in individual Specification section.
  - b. Prepared from same materials to be used for the Work.
  - c. Cured and finished in manner specified.
  - d. Physically identical with product proposed for use.

1.6 SUBMITTAL SCHEDULE

A. After development and acceptance of the Contractor's Construction Schedule, prepare a complete schedule of submittals in the form included in Section 01 00 00, Requirements of Selfridge Air National Guard Base. Submit the schedule within 10 days of the date required for submittal of the Contractor's Construction Schedule. Contractor shall:

1. Coordinate Submittal Schedule with the list of subcontracts, Schedule of Values, and the list of products as well as the Contractor's Construction Schedule.
2. Prepare the schedule in chronological order. Provide the following information:
  - a. Scheduled date for the first submittal.
  - b. Related Section number.
  - c. Submittal category (Shop Drawings, product data, or samples).
  - d. Name of the subcontractor.
  - e. Description of the part of the Work covered.
  - f. Scheduled date for resubmittal.
  - g. Scheduled date for the Contracting Officer's final release or approval.
  - h. Submit a minimum of 3 copies of each submittal.

B. Distribution: Following response to the initial submittal, print and distribute copies to the Contracting Officer, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the Project meeting room and field office.

1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

- C. Schedule Updating: Revise the schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

#### 1.7 DAILY CONSTRUCTION REPORTS

- A. Contractor shall prepare a daily construction report recording the following information concerning events at the site, and submit duplicate copies to the Contracting Officer at weekly intervals:
  - 1. List of subcontractors at the site.
  - 2. Approximate count of personnel at the site.
  - 3. High and low temperatures, general weather conditions.
  - 4. Accidents and unusual events.
  - 5. Meetings and significant decisions.
  - 6. Stoppages, delays, shortages, and losses.
  - 7. Meter readings and similar recordings.
  - 8. Emergency procedures.
  - 9. Orders and requests of governing authorities.
  - 10. Change orders received, implemented.
  - 11. Services connected, disconnected.
  - 12. Equipment or system tests and startups.
  - 13. Partial completions, occupancies.
  - 14. Substantial completions authorized.

#### 1.8 SHOP DRAWINGS

- A. Contractor shall submit newly prepared information drawn accurately to scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a Shop Drawing.
- B. Shop Drawings include fabrication and installation Drawings, setting diagrams, schedules, patterns, templates and similar Drawings. Include the following information:
  - 1. Dimensions.
  - 2. Identification of products and materials included by sheet and detail number.
  - 3. Compliance with specified standards.
  - 4. Notation of coordination requirements.
  - 5. Notation of dimensions established by field measurement.
  - 6. Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 36 by 48 inches (890 by 1220 mm).
  - 7. Initial Submittal: Submit one correctable, translucent, reproducible print and one blue- or black-line print for the Contracting Officer's review. The Contracting Officer will return the reproducible print.
  - 8. Initial Submittal: Submit 2 blue- or black-line prints for the Contracting Officer's review. The Contracting Officer will return one print.

9. Final Submittal: Submit 3 blue- or black-line prints; submit 5 prints where required for maintenance manuals. The Contracting Officer will retain 2 prints and return the remainder.
10. Final Submittal: Submit 3 blue- or black-line prints and two additional prints where required for maintenance manuals, plus the number of prints needed by the Contracting Officer for distribution. The Contracting Officer will retain 2 prints and return the remainder.
  - a. One of the prints returned shall be marked up and maintained as a "Record Document."
11. Do not use Shop Drawings without an appropriate final stamp indicating action taken.

#### 1.9 PRODUCT DATA

- A. Contractor shall collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, and performance curves.
  1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products that are not required, mark copies to indicate the applicable information. Include the following information:
    - a. Manufacturer's printed recommendations.
    - b. Compliance with trade association standards.
    - c. Compliance with recognized testing agency standards.
    - d. Application of testing agency labels and seals.
    - e. Notation of dimensions verified by field measurement.
    - f. Notation of coordination requirements.
  2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
  3. Preliminary Submittal: Submit a preliminary single copy of Product Data where selection of options is required.
  4. Submittals: Submit 2 copies of each required submittal; submit 4 copies where required for maintenance manuals. The Contracting Officer will retain one and will return the other marked with action taken and corrections or modifications required.
    - a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
  5. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.
    - a. Do not proceed with installation until a copy of Product Data is in the Installer's possession.

- b. Do not permit use of unmarked copies of Product Data in connection with construction.

#### 1.10 SAMPLES

- A. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.
  1. Mount or display Samples in the manner to facilitate review of qualities indicated. Prepare Samples to match the Contracting Officer's sample. Include the following:
    - a. Specification Section number and reference.
    - b. Generic description of the Sample.
    - c. Sample source.
    - d. Product name or name of the manufacturer.
    - e. Compliance with recognized standards.
    - f. Availability and delivery time.
  2. Submit Samples for review of size, kind, color, pattern, and texture. Submit Samples for a final check of these characteristics with other elements and a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
    - a. Where variation in color, pattern, texture, or other characteristic is inherent in the material or product represented, submit at least 3 multiple units that show approximate limits of the variations.
    - b. Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.
    - c. Refer to other Sections for Samples to be returned to the Contractor for incorporation in the Work. Such Samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of Sample submittals.
    - d. Samples not incorporated into the Work, or otherwise designated as the Contracting Officer's property, are the property of the Contractor and shall be removed from the site prior to Substantial Completion.
  3. Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit 3 sets. The Contracting Officer will return one set marked with the action taken.
  4. Maintain sets of Samples, as returned, at the Project Site, for quality comparisons throughout the course of construction.
    - a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
    - b. Sample sets may be used to obtain final acceptance of the construction associated with each set.

- B. Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the Work. Show distribution on transmittal forms.
  - 1. Field samples are full-size examples erected onsite to illustrate finishes, coatings, or finish materials and to establish the Project standard.
    - a. Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

#### 1.11 QUALITY ASSURANCE SUBMITTALS

- A. Contractor shall submit quality-control submittals, including design data, certifications, manufacturer's instructions, manufacturer's field reports, and other quality-control submittals as required under other Sections of the Specifications.
- B. Certifications: Where other Sections of the Specifications require certification that a product, material, or installation complies with specified requirements, submit a notarized certification from the manufacturer certifying compliance with specified requirements.
  - 1. Signature: Certification shall be signed by an officer of the manufacturer or other individual authorized to sign documents on behalf of the company.
- C. Inspection and Test Reports: Requirements for submittal of inspection and test reports from independent testing agencies are specified in Section 01 40 00, Quality Requirements.

#### 1.12 CONTRACTING OFFICER'S ACTION

- A. Except for submittals for the record or information, where action and return is required, the Contracting Officer will review each submittal, mark to indicate action taken, and return promptly.
  - 1. Compliance with specified characteristics is the Contractor's responsibility.
- B. Action: The Contracting Officer will respond to each submittal with a uniform, action The Contracting Officer will mark the submittal appropriately to indicate the action as follows:
  - 1. Final Unrestricted Release: When the Contracting Officer marks a submittal "Approved," the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
  - 2. Final-But-Restricted Release: When the Contracting Officer marks a submittal "Approved as Noted," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.
  - 3. Returned for Resubmittal: When the Contracting Officer marks a submittal "Not Approved, Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new

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submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.

- a. Do not use, or allow others to use, submittals marked "Not Approved, Revise and Resubmit" at the Project Site or elsewhere where Work is in progress.
4. Other Action: Where a submittal is for information or record purposes or special processing or other activity, the Contracting Officer will return the submittal marked "Action Not Required."
- C. Unsolicited Submittals: The Contracting Officer will return unsolicited submittals to the sender without action.

END OF SECTION 01 33 00

SECTION 01 35 23 – SAFETY POLICIES AND PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Contractor required health and safety plan. See Corp of Engineers Example included herein, Safety Policies and Procedures, and Section 01 57 19, Environmental Protection, for sample requirements.
- B. Construction Hazard Plan.

1.2 RELATED SECTIONS

- A. Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- B. Section 01 33 00, Submittals - (Job Hazard Analysis, Job Safety and Health Plan, Hazard Response Plan).
- C. Section 01 57 19, Environmental Protection.
- D. Section 01 78 39, Project Record Documents.

1.3 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.
  - 1. EM 385-1-1, Safety and Health Requirements Manual (Latest Edition).
  - 2. OSHA 1910 R.E.G. - 29CFR, OSHA 1910.120.

1.4 SUBMITTALS

- A. Submittals for SANG Approval: The following items shall be submitted for SANG approval:
  - 1. Designation of Safety Representative: The Contractor shall designate in writing a qualified employee OSHA Trained under 1926 responsible for the overall supervision of all accident prevention activities. Duties shall include ensuring applicable safety requirements are incorporated into work methods and inspecting the jobsite to ensure that safety measures and instructions are actually being applied. This person shall be on site at all time that work is in progress.
  - 2. The Contractor shall be trained/certified in OSHA 1926 procedures. All other employees performing site work will meet OSHA 1926 training requirements for their job capacity.

B. Submittals for Information Only: The following items shall be Contractor certified:

1. Job Hazard Analysis: Contractor shall develop a job hazard analysis for presentation at the preconstruction conference. The Contractor's job hazard analysis shall list potential hazards that could arise during the course of the work. For each hazard, the applicable paragraph of EM 385-1-1 shall be cited. (See Sample at end of this Section).
2. Job Safety and Health Plan.
  - a. The Contractor shall develop a Job Safety and Health Plan for presentation at the Preconstruction conference. The Contractor's Safety Plan shall make whatever provisions are necessary to conduct his work in accordance with current OSHA standards.
  - b. The following are minimum requirements for the health and safety plan:
    - 1) Safety Plans: Safety Plans will be the responsibility of the Contractor for construction areas identified by the installation and/or SANG as areas of known hazards only. These plans are required by 29 CFR 1910 and are the responsibility of the Contractor. This requirement will be coordinated through the Safety Office of the military installation by the Contractor.
    - 2) Minimum Requirements for the Health and Safety Plan are as follows:
      - a) Must be kept on site, and must be written.
      - b) Will contain a hazard analysis (safety and health risk) for each site task and operation (to be supplied by the installation).
      - c) Will include employee training (per paragraph (3) of 1910.120).
      - d) Will include personal protective equipment to be used by employees for each of the site tasks and operations (paragraph (g) (5) of 1910.120).
      - e) Will include provision for medical surveillance (paragraph (f) of 1910.120).
      - f) Will include the frequency and types of air monitoring, personal monitoring, environmental sampling techniques, instruments to be used (their maintenance and calibration).
      - g) Will include a site control program (per paragraph (d) of 1910.120) to be coordinated with the installation.
      - h) Will include a decontamination procedure (per paragraph (k) of 1910.120).
      - i) Will include an emergency response plan (per paragraph (1) of 1910.120).
      - j) Will include a confined space entry procedure (per 1910.146, 147 or program equivalent).
      - k) Will include provision for spill containment (per paragraph (j) of 1910.120).
      - l) Will include pre-entry briefings (prior to each site task activity) for all employees involved in the task, supervision, or emergency response.
      - m) Written verification of adherence to the "plan" by a Safety and Health Supervisor is required (the supervisor must meet the 1910.120 training requirements for supervisors).
      - n) Deficiencies will be corrected immediately upon discovery and after consultation with the Contracting Officer.



3. Hazard Response Plan: The plan unplanned or non-predicted discovery of such hazards as transite pipe, contaminated soils, and other possible hazards will be addressed within an Emergency Response Plan (EMR) by all contractors. This requirement will be coordinated through the Health and Safety Program of the military installation by the Contractor (sample provided).
  - a. Material Safety Data Sheets will be maintained at the site for all hazardous materials in use.

#### 1.5 MONTHLY SAFETY MEETINGS

- A. The Contractor will schedule subsequent safety meetings with Contractor and Subcontractor personnel on a monthly basis. Minutes of safety meetings shall be prepared and signed by the Contractor.

#### 1.6 ACCIDENT REPORTING AND RECORD KEEPING

- A. Accident reporting and record keeping shall be in accordance with Section 2, EM 385-1-1. Telephonic reports of injuries or property damage will be made as soon as possible after the incident and will be followed by a copy of U.S. Army Investigation Accident Report (DA Form 285).

#### 1.7 LIFE OF CONTRACT REQUIREMENTS

- A. The Contractor shall comply with EM 385-1-1 and all provisions of this section during the life of the contract.

### PART 2 - PRODUCTS (NOT USED)

### PART 3 - EXECUTION

#### 3.1 HEAD PROTECTION (HARD HATS)

- A. All work sites under this contract are designated Hard Hat Areas. The Contractor shall post the area in accordance with paragraph 7.C.03, EM 385-1-1 and shall ensure that all personnel, vendors and visitors use hard hats while within the limits of the work site.

#### 3.2 SUPPLEMENTS

- A. The supplements listed below, following "End of Section," are a part of this Specification:

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1. Sample Construction Hazard Plan.

END OF SECTION 01 35 23

**SAMPLE  
CONSTRUCTION HAZARD PLAN**

TO BE ACCOMPLISHED BY THE GENERAL CONTRACTOR FOR CONSTRUCTION  
AND POSTED IN ALL CONSTRUCTION TRAILERS

SHOULD AN UNPREDICTED DISCOVERY OF A HAZARDOUS MATERIAL OR CONDITION BE MADE DURING CONSTRUCTION THE FOLLOWING SEQUENCE OF ACTIONS IS REQUIRED WHEN THERE IS NO IMMEDIATE THREAT TO LIFE OR PROPERTY

ITEM	FIRST ACTION	NOTIFY	TELEPHONE NO.
Transite Pipe	Cease Activity in area of discovery	1. Contracting Officer's Representative, 2. Contracting Officer, 3. Base Environmental Manager when Unable to Contact 1, 2	
Contaminated Soil	Cease Activity in area of discovery cover with plastic	Same as above	
Buried Munitions	Cease Activity	Same as above	
UST	Same as above	Same as above	
Other			

Should there be an immediate threat to life or property, the emergency response plan for the installation, which is to be on file at the construction side, is to be followed in every detail. An example of this procedure is the rupture of a fuel line, liquid or natural gas.

SECTION 01 40 00 – QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-assurance and -control services required by CO and COR or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Sections include the following:
  - 1. As indicated in Section 01 00 00, Requirements of Selfridge Air National Guard Base.
  - 2. Section 01 32 00, Construction Progress Schedules, for developing a schedule of required tests and inspections.
  - 3. Section 01 33 00, Submittals, this section shall be used as a guideline for submitting documents discussed below.
  - 4. Section 01 45 23, Testing Services.
  - 5. Section 01 60 00, Material and Equipment.
  - 6. Section 01 73 29, Cutting and Patching, for repair and restoration of construction disturbed by testing and inspecting activities.
  - 7. Section 01 75 00, Starting of Systems.
  - 8. Divisions 02 through 49 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by the Government.
- C. Mockups: Full-size, physical assemblies that are constructed on-site. Mockups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Approved mockups establish the standard by which the Work will be judged.
- D. Laboratory Mockups: Full-size, physical assemblies that are constructed at testing facility to verify performance characteristics.
- E. Preconstruction Testing: Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.
- F. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards.
- G. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- H. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- I. Special Inspection: Inspections of materials, installation, fabrication, erection, or placement of components and connections requiring special expertise to ensure compliance with the Contract Documents and referenced standards, as required by Section 1704 of the 2006 IBC, as amended by UFC 1-200-01.
  - 1. Continuous Special Inspection: Full-time inspection of work requiring Special Inspection by an approved Special Inspector who is present in the area where the work is being performed.
  - 2. Periodic Special Inspection: Part-time or intermittent inspection of work requiring Special Inspection by an approved Special Inspector who is present in the area where the work has been or is being performed and at the completion of the work. Materials and systems in their entirety shall be inspected during or at completion of their placement. A final inspection shall be performed so that all periodically observed work can be corrected prior to other related work proceeding and covering or preventing correction of the inspected work.

- J. Testing Agency: A qualified independent entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- K. Special Inspector: Individual, employed by a qualified testing agency, who will demonstrate competence for inspection of a particular type of construction or operation requiring special inspection. Inspector for each type of construction shall be International Code Council (ICC) certified or otherwise approved by the authorities having jurisdiction.
- L. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, sub-subcontractor, or material/equipment supplier-installer to perform a particular construction operation, including installation, erection, application, and similar operations.
  - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to trades people of the corresponding generic name.
- M. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

#### 1.4 CONFLICTING REQUIREMENTS

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to COR for a decision before proceeding. (Refer to Section 01 31 00, Coordination and Project Meetings.)
- B. 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 requirements. Refer uncertainties to COR for a decision before proceeding.

#### 1.5 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
  - 1. Specification Section number and title.
  - 2. Description of test and inspection.
  - 3. Identification of applicable standards.

4. Identification of test and inspection methods.
5. Number of tests and inspections required.
6. Time schedule or time span for tests and inspections.
7. Entity responsible for performing tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

C. Reports: Prepare and submit certified written reports that include the following:

1. Project number.
2. Project name.
3. Contract number.
4. Date of issue.
5. CO name.
6. Name, address, and telephone number of testing agency.
7. Dates and locations of samples and tests or inspections.
8. Names of individuals making tests and inspections.
9. Description of the Work and test and inspection method.
10. Identification of product and Specification Section.
11. Complete test or inspection data.
12. Test and inspection results and an interpretation of test results.
13. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
14. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
15. Name and signature of laboratory inspector.
16. Recommendations on retesting and reinspecting.

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

## 1.6 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- C. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- E. Professional Engineer Qualifications: A qualified professional engineer who is a registered design professional legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F. Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
  - 1. Requirement for specialists shall not supersede building codes and regulations governing the Work.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 548; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
  - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
  - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
  - 1. Contractor responsibilities include the following:
    - a. Provide test specimens representative of proposed products and construction.
    - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
    - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
    - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
    - e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
    - f. When testing is complete, remove test specimens, assemblies, mockups, and laboratory mockups; do not reuse products on Project.
  - 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to COR with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.



- J. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups in location and of size indicated or, if not indicated, as directed by the COR.
  2. Notify COR 7 days in advance of dates and times when mockups will be constructed.
  3. Demonstrate the proposed range of aesthetic effects and workmanship.
  4. Obtain COR's approval of mockups before starting work, fabrication, or construction.
    - a. Allow 14 days for initial review and each re-review of each mockup.
  5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
  6. Demolish and remove mockups when directed, unless otherwise indicated.
- K. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Sections in Divisions 02 through 49.

#### 1.7 QUALITY CONTROL

- A. Contractor Responsibilities: The Contractor is responsible for quality-control and shall establish and maintain an effective quality-control program. The quality-control system shall consist of plans, procedures, and organization necessary to produce an end product that complies with the Contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence. The project superintendent will be held responsible for the quality of work on the job and is subject to removal by the CO for non-compliance with quality requirements specified in the Contract. The project superintendent in this context shall mean the individual with the responsibility for the overall management of the project including quality and production.
1. Contractor shall furnish for review by the Government, not later than 10 days after receipt of Notice to Proceed, the Contractor Quality-Control (CQC) Plan. The Plan shall identify personnel, procedures, control, instructions, test, records, and forms to be used. The Government will consider an interim plan for the first 10 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started. Refer to Section 01 00 00, Requirements of Selfridge Air National Guard Base, for additional information.
  2. Content of the CQC Plan: The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:
    - a. A description of the quality-control organization, including a chart showing lines of authority and acknowledgment that the CQC shall implement a quality-control system for all aspects of the work specified.

- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function and to include the Contractor's CQC System Manager.
  - c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work that is not in compliance with the Contract. The CQC System Manager shall issue letters of direction to all other various quality-control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.
  - d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with the Section 01 33 00, Submittals.
  - e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. The CO and/or COR will review the qualifications of the laboratory facilities.
  - f. Procedures for tracking quality-control phases and control, verification, and acceptance tests including documentation.
  - g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish procedures to verify that identified deficiencies have been corrected.
  - h. Reporting procedures, including proposed reporting formats.
  - i. A list of the definable features of work. A definable feature of work is a task that is separate and distinct from other tasks, has separate control requirements, may be identified by different trades or disciplines, or may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable feature under a particular section. This list will be agreed upon during a coordination meeting.
  - j. Refer to Section 01 00 00, Requirements of Selfridge Air National Guard Base, for additional information.
3. Government acceptance, by the CO, of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.
- a. After acceptance of the CQC Plan, the Contractor shall notify the CO in writing of any proposed change. Proposed changes are subject to acceptance by the CO.

- B. Tests and inspections not explicitly assigned to Government are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
    - a. Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product that conforms to Contract requirements. The Contractor is required to employ an independent third party inspection and testing facility.
    - b. Contractor shall not employ the same entity engaged by Government, unless agreed to in writing by COR.
  2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
  3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
  6. Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the Contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM D 3740 and ASTM E 329.
  7. If the selected laboratory fails a capability check, the Contractor will be assessed actual costs to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 01 33 00, Submittals.
- D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with COR and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify COR and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
  3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.

4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
  5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
  6. Do not perform any duties of Contractor.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
  2. Incidental labor and facilities necessary to facilitate tests and inspections.
  3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
  4. Facilities for storage and field curing of test samples.
  5. Delivery of samples to testing agencies.
  6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  7. Security and protection for samples and for testing and inspecting equipment at Project site.
  8. Government reserves the right to utilize the Contractor's onsite control testing laboratory and equipment to make assurance tests and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- H. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within 30 days of date established for the Notice to Proceed.
1. Distribution: Distribute schedule to CO, COR, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.
- I. Reporting and Records: Contractor shall furnish to the Government, immediately following the tests, reports of testing. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of an independent testing laboratory at the project site to be approved by the Contracting Officer. The Contractor shall perform the following activities and record and provide the following data:
1. Verify that testing procedures comply with Contract requirements.
  2. Verify that facilities and testing equipment are available and comply with test standards.
  3. Check test instrument calibration data against certified standards.
  4. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

5. Results of all tests taken, both passing and failing tests, shall be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test shall be given. If approved by the Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility shall be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this Contract.
6. Records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the Contract. The original of these records in report form shall be furnished to the Government daily within 24 hours after the date covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every 7 calendar days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the Contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

#### 1.8 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Contractor will engage a qualified special inspector to conduct special tests and inspections required by authorities having jurisdiction. All inspections and tests to be paid for by Contractor.
- B. Special Tests and Inspections: Conducted by a qualified special inspector as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:
  1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
  2. Notifying COR and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
  3. Submitting a certified written report of each test, inspection, and similar quality-control service to COR with copy to Contractor and to authorities having jurisdiction.
  4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
  5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
  6. Retesting and reinspecting corrected work.
  7. Cost to correct deficiencies will be borne by the Contractor.
- C. For required special structural inspections, see individual Specification Sections and the Structural General Notes on the Drawings.

1.9 PROFESSIONAL OBSERVATION

- A. Professional observation, where required, shall be performed by a qualified professional engineer.
- B. Professional observation does not preclude or waive the responsibility for required special inspections or inspections and quality control requirements of the Contractor or authorities having jurisdiction.

1.10 NOTIFICATON OF NONCOMPLIANCE

- A. The COR will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the CO may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall make no part of the time lost due to such stop orders the subject of claim for extension of time or for excess costs or damages.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Prepare a record of tests and inspections. Include the following:
  - 1. Date test or inspection was conducted.
  - 2. Ensure "Indicated Numeric Values" are called out as minimum or maximum.
  - 3. Description of the Work tested or inspected.
  - 4. Date test or inspection results were transmitted to COR.
  - 5. Identification of testing agency or special inspector conducting test or inspection.
  - 6. Refer to Section 01 33 00, Submittals.
- B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for COR reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
  - 1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.

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2. Comply with the Contract Document requirements for Section 01 73 29, Cutting and Patching.
  - B. Protect construction exposed by or for quality-control service activities.
  - C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

SECTION 01 41 00 – PROJECT COORDINATION

PART 1 - GENERAL

1.1 STIPULATIONS

- A. General provisions of the Contract Documents, including General and Supplementary Conditions and Division 01 Specification Sections, apply to all work in this section.

1.2 SECTION INCLUDES

- A. Project coordination Contracting Officer.
- B. Construction mobilization.
- C. Schedules.
- D. Submittals.
- E. Coordination drawings.
- F. Closeout procedures.

1.3 RELATED SECTIONS

- A. Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- B. Section 01 31 00, Coordination and Meetings.
- C. Section 01 77 00, Project Closeout: Contract closeout procedures.

1.4 PROJECT COORDINATION ADMINISTRATION

- A. Project Coordination Administration: Contracting Officer.

1.5 CONSTRUCTION MOBILIZATION

- A. Cooperate with the Contracting Officer in allocation of mobilization areas of site; for field offices and sheds, for access, traffic, and parking facilities.
- B. During construction, coordinate use of site and facilities through the Contracting Officer.



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- C. Comply with Contracting Officer's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
- D. Comply with instructions of the Contracting Officer for use of temporary utilities and construction facilities.
- E. Coordinate filed engineering and layout work under instructions of the Contracting Officer.

### 1.6 SCHEDULES

- A. Submit Progress Schedule in accordance with Section 01 33 00, Submittals, and Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- B. After review, revise and resubmit schedule to incorporate agreed on changes.
- C. During progress of work, revise and resubmit as directed. The schedule should only be revised when the Contractor is off schedule (ahead or behind) and does not anticipate returning to the schedule.

### 1.7 SUBMITTALS

- A. Provide submittals according to the requirements of Section 01 33 00, Submittals, and Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- B. When Professional AE Construction Services are retained by the Contracting Officer, the submittals shall be sent directly to the Professional's Project Manager. When construction administration will be done by the Government, the submittals shall be sent directly to the Contracting Officer.
- C. Submit requests for interpretation of Contract Documents, and obtain instructions through Contracting Officer.
- D. Process requests for substitutions, and change orders, through Contracting Officer.
- E. Deliver closeout submittals for review and preliminary inspection reports, to Contracting Officer/Contracting Officer Technical Representative.
- F. Submit per Section 01 33 00, Submittals.

### 1.8 COORDINATION DRAWINGS

- A. Provide information required by Contracting Officer for preparation of coordination drawings.

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1.9 CLOSEOUT PROCEDURES

- A. Refer to Section 01 77 00, Project Closeout.
- B. Comply with Contracting Officer's instructions to correct items of work listed in the Pre-Final Inspection Punch List.
- C. Notify Contracting Officer when work is considered finally complete. Provide a completion report listing the Pre-Final Inspection Punch List Item and the corrective action taken. The completion report shall be submitted in electronic format.
- D. Comply with Contracting Officer's instructions for completion of items of work determined by the Final Inspection.

END OF SECTION 01 41 00

SECTION 01 42 00 – REFERENCE STANDARDS

PART 1 - GENERAL

1.1 STIPULATIONS

- A. General provisions of the Contract Documents, including General and Supplementary Conditions and Division 01 Specification Sections, apply to all work in this section.

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Contracting Officer's action on Contractor's submittals, applications, and requests, "approved" is limited to Contracting Officer's duties and responsibilities as stated in the Conditions of the Contract.
- C. "COTR": Contracting Officer Technical Representative.
- D. "Directed": A command or instruction by Contracting Officer. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- E. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- F. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- G. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- H. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- I. "Provide": Furnish and install, complete and ready for the intended use.
- J. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

### 1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
  - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

### 1.4 REQUIREMENTS INCLUDED

- A. This Section covers abbreviations and acronyms used in this Specification to identify reference standards.

### 1.5 QUALITY ASSURANCE

- A. Application: When a standard is specified by reference, Contractor shall comply with the requirements and recommendations stated in that standard, except when requirements are modified by this Specification or applicable codes establishing stricter standards.
- B. Publication Date: Wherever a code or standard is cited in this Specification, the revision or edition in effect at the time the bids are received by the Contracting Officer shall apply.
- C. Obtain copies of standards when required by the Contract Documents.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Contracting Officer before proceeding.
- F. The Contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

### 1.6 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's

"Encyclopedia of Associations" or in Columbia Books' "National Trade & Professional Associations of the United States."

- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

AA	Aluminum Association, Inc. (The) www.aluminum.org	(703) 358-2960
AAADM	American Association of Automatic Door Manufacturers www.aaadm.com	(216) 241-7333
AABC	Associated Air Balance Council www.aabchq.com	(202) 737-0202
AAMA	American Architectural Manufacturers Association www.aamanet.org	(847) 303-5664
AASHTO	American Association of State Highway and Transportation Officials www.transportation.org	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists www.aatcc.org	(919) 549-8141
ABAA	Air Barrier Association of America www.airbarrier.org	(866) 956-5888
ABMA	American Bearing Manufacturers Association www.abma-dc.org	(202) 367-1155
ACI	American Concrete Institute www.concrete.org	(248) 848-3700
ACPA	American Concrete Pipe Association www.concrete-pipe.org	(972) 506-7216
AEIC	Association of Edison Illuminating Companies, Inc. (The) www.aeic.org	(205) 257-2530
AF&PA	American Forest & Paper Association www.afandpa.org	(800) 878-8878 (202) 463-2700
AGA	American Gas Association www.aga.org	(202) 824-7000

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AGC	Associated General Contractors of America (The) www.agc.org	(703) 548-3118
AHAM	Association of Home Appliance Manufacturers www.aham.org	(202) 872-5955
AHRI	Air-Conditioning, Heating, and Refrigeration Institute www.ahrinet.org	(703) 524-8800
AI	Asphalt Institute www.asphaltinstitute.org	(859) 288-4960
AIA	American Institute of Architects (The) www.aia.org	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction www.aisc.org	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute www.steel.org	(202) 452-7100
AITC	American Institute of Timber Construction www.aitc-glulam.org	(303) 792-9559
ALSC	American Lumber Standard Committee, Incorporated www.alsc.org	(301) 972-1700
AMCA	Air Movement and Control Association International, Inc. www.amca.org	(847) 394-0150
ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
AOSA	Association of Official Seed Analysts, Inc. www.aosaseed.com	(405) 780-7372
APA	Architectural Precast Association www.archprecast.org	(239) 454-6989
APA	APA - The Engineered Wood Association www.apawood.org	(253) 565-6600
API	American Petroleum Institute www.api.org	(202) 682-8000
ARI	Air-Conditioning & Refrigeration Institute (Now AHRI)	

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ARMA	Asphalt Roofing Manufacturers Association www.asphaltroofing.org	(202) 207-0917
ASCE	American Society of Civil Engineers www.asce.org	(800) 548-2723 (703) 295-6300
ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute (See ASCE)	
ASHRAE	American Society of Heating, Refrigerating and Air- Conditioning Engineers www.ashrae.org	(800) 527-4723 (404) 636-8400
ASME	ASME International (American Society of Mechanical Engineers International) www.asme.org	(800) 843-2763 (973) 882-1170
ASSE	American Society of Safety Engineers www.asse.org	(847) 699-2929
ASSE	American Society of Sanitary Engineering www.asse-plumbing.org	(440) 835-3040
ASTM	ASTM International (American Society for Testing and Materials International) www.astm.org	(610) 832-9500
ATIS	Alliance for Telecommunications Industry Solutions www.atis.org	(202) 628-6380
AWCI	Association of the Wall and Ceiling Industry www.awci.org	(703) 534-8300
AWCMA	American Window Covering Manufacturers Association (Now WCMA)	
AWI	Architectural Woodwork Institute www.awinet.org	(571) 323-3636
AWPA	American Wood Protection Association (Formerly: American Wood Preservers' Association) www.awpa.com	(205) 733-4077
AWS	American Welding Society www.aws.org	(800) 443-9353 (305) 443-9353

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AWWA	American Water Works Association www.awwa.org	(800) 926-7337 (303) 794-7711
BHMA	Builders Hardware Manufacturers Association www.buildershardware.com	(212) 297-2122
BIA	Brick Industry Association (The) www.bia.org	(703) 620-0010
BICSI	BICSI, Inc. www.bicsi.org	(800) 242-7405 (813) 979-1991
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International) www.bifma.com	(616) 285-3963
BISSC	Baking Industry Sanitation Standards Committee www.bissc.org	(866) 342-4772
BWF	Badminton World Federation (Formerly: IBF - International Badminton Federation) www.internationalbadminton.org	6-03-9283 7155
CCC	Carpet Cushion Council www.carpetcushion.org	(610) 527-3880
CDA	Copper Development Association www.copper.org	(212) 251-7200
CEA	Canadian Electricity Association www.canelect.ca	(613) 230-9263
CEA	Consumer Electronics Association www.ce.org	(866) 858-1555 (703) 907-7600
CFFA	Chemical Fabrics & Film Association, Inc. www.chemicalfabricsandfilm.com	(216) 241-7333
CGA	Compressed Gas Association www.cganet.com	(703) 788-2700
CIMA	Cellulose Insulation Manufacturers Association www.cellulose.org	(888) 881-2462 (937) 222-2462
CISCA	Ceilings & Interior Systems Construction Association www.cisca.org	(630) 584-1919



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CISPI	Cast Iron Soil Pipe Institute www.cispi.org	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute www.chainlinkinfo.org	(301) 596-2583
CRRC	Cool Roof Rating Council www.coolroofs.org	(866) 465-2523 (510) 485-7175
CPA	Composite Panel Association www.pbmdf.com	(703) 724-1128
CPPA	Corrugated Polyethylene Pipe Association www.plasticpipe.org	(800) 510-2772 (202) 462-9607
CRI	Carpet and Rug Institute (The) www.carpet-rug.com	(706) 278-3176
CRSI	Concrete Reinforcing Steel Institute www.crsi.org	(847) 517-1200
CSA	Canadian Standards Association	(800) 463-6727 (416) 747-4000
CSA	CSA International (Formerly: IAS - International Approval Services) www.csa-international.org	(866) 797-4272 (416) 747-4000
CSI	Cast Stone Institute www.caststone.org	(717) 272-3744
CSI	Construction Specifications Institute (The) www.csinet.org	(800) 689-2900 (703) 684-0300
CSSB	Cedar Shake & Shingle Bureau www.cedarbureau.org	(604) 820-7700
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute) www.cti.org	(281) 583-4087
DHI	Door and Hardware Institute www.dhi.org	(703) 222-2010
ECA	Electronic Components Association www.ec-central.org	(703) 907-8024

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EIA	Electronic Industries Alliance www.eia.org	(703) 907-7500
EIMA	EIFS Industry Members Association www.eima.com	(800) 294-3462 (770) 968-7945
EJCDC	Engineers Joint Contract Documents Committee www.ejdc.org	(703) 295-5000
EJMA	Expansion Joint Manufacturers Association, Inc. www.ejma.org	(914) 332-0040
ESD	ESD Association (Electrostatic Discharge Association) www.esda.org	(315) 339-6937
ETL SEMCO	Intertek ETL SEMCO (Formerly: ITS - Intertek Testing Service NA) www.intertek-etlsemko.com	(800) 967-5352
FIBA	Federation Internationale de Basketball (The International Basketball Federation) www.fiba.com	41 22 545 00 00
FIVB	Federation Internationale de Volleyball (The International Volleyball Federation) www.fivb.org	41 21 345 35 35
FM Approvals	FM Approvals LLC www.fmglobal.com	(781) 762-4300
FM Global	FM Global (Formerly: FMG - FM Global) www.fmglobal.com	(401) 275-3000
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc. www.floridarooft.com	(407) 671-3772
FSA	Fluid Sealing Association www.fluidsealing.com	(610) 971-4850
FSC	Forest Stewardship Council www.fsc.org	49 228 367 66 0
GA	Gypsum Association www.gypsum.org	(202) 289-5440

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GANA	Glass Association of North America www.glasswebsite.com	(785) 271-0208
GRI	(Part of GSI)	
GS	Green Seal www.greenseal.org	(202) 872-6400
GSI	Geosynthetic Institute www.geosynthetic-institute.org	(610) 522-8440
HI	Hydraulic Institute www.pumps.org	(973) 267-9700
HI	Hydronics Institute www.gamanet.org	(908) 464-8200
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)	
HPVA	Hardwood Plywood & Veneer Association www.hpva.org	(703) 435-2900
HPW	H. P. White Laboratory, Inc. www.hpwhite.com	(410) 838-6550
IAS	International Approval Services (Now CSA International)	
IBF	International Badminton Federation (Now BWF)	
ICEA	Insulated Cable Engineers Association, Inc. www.icea.net	(770) 830-0369
ICRI	International Concrete Repair Institute, Inc. www.icri.org	(847) 827-0830
IEC	International Electrotechnical Commission www.iec.ch	41 22 919 02 11
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The) www.ieee.org	(212) 419-7900
IES	Illuminating Engineering Society www.ies.org	(212) 248-5000

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IESNA	Illuminating Engineering Society of North America (Now IES)	
IEST	Institute of Environmental Sciences and Technology <a href="http://www.iest.org">www.iest.org</a>	(847) 981-0100
IGCC	Insulating Glass Certification Council <a href="http://www.igcc.org">www.igcc.org</a>	(315) 646-2234
IGMA	Insulating Glass Manufacturers Alliance <a href="http://www.igmaonline.org">www.igmaonline.org</a>	(613) 233-1510
ILI	Indiana Limestone Institute of America, Inc. <a href="http://www.iliai.com">www.iliai.com</a>	(812) 275-4426
ISO	International Organization for Standardization <a href="http://www.iso.ch">www.iso.ch</a>	41 22 749 01 11
	Available from ANSI <a href="http://www.ansi.org">www.ansi.org</a>	(202) 293-8020
ISSFA	International Solid Surface Fabricators Association <a href="http://www.issfa.net">www.issfa.net</a>	(877) 464-7732 (702) 567-8150
ITS	Intertek Testing Service NA (Now ETL SEMCO)	
ITU	International Telecommunication Union <a href="http://www.itu.int/home">www.itu.int/home</a>	41 22 730 51 11
KCMA	Kitchen Cabinet Manufacturers Association <a href="http://www.kcma.org">www.kcma.org</a>	(703) 264-1690
LPI	Lightning Protection Institute <a href="http://www.lightning.org">www.lightning.org</a>	(800) 488-6864
MBMA	Metal Building Manufacturers Association <a href="http://www.mbma.com">www.mbma.com</a>	(216) 241-7333
MFMA	Maple Flooring Manufacturers Association, Inc. <a href="http://www.maplefloor.org">www.maplefloor.org</a>	(888) 480-9138
MFMA	Metal Framing Manufacturers Association, Inc. <a href="http://www.metalframingmfg.org">www.metalframingmfg.org</a>	(312) 644-6610
MH	Material Handling (Now MHIA)	

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MHIA	Material Handling Industry of America www.mhia.org	(800) 345-1815 (704) 676-1190
MIA	Marble Institute of America www.marble-institute.com	(440) 250-9222
MPI	Master Painters Institute www.paintinfo.com	(888) 674-8937 (604) 298-7578
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc. www.mss-hq.com	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufacturers www.naamm.org	(630) 942-6591
NACE	NACE International (National Association of Corrosion Engineers International) www.nace.org	(800) 797-6623 (281) 228-6200
NADCA	National Air Duct Cleaners Association www.nadca.com	(202) 737-2926
NAGWS	National Association for Girls and Women in Sport  www.aahperd.org/nagws/	(800) 213-7193, ext. 453 (703) 476-3400
NAIMA	North American Insulation Manufacturers Association www.naima.org	(703) 684-0084
NBGQA	National Building Granite Quarries Association, Inc. www.nbgqa.com	(800) 557-2848
NCAA	National Collegiate Athletic Association (The) www.ncaa.org	(317) 917-6222
NCMA	National Concrete Masonry Association www.ncma.org	(703) 713-1900
NCPI	National Clay Pipe Institute www.ncpi.org	(262) 248-9094
NCTA	National Cable & Telecommunications Association www.ncta.com	(202) 775-2300
NEBB	National Environmental Balancing Bureau www.nebb.org	(301) 977-3698

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NECA	National Electrical Contractors Association www.necanet.org	(301) 657-3110
NeLMA	Northeastern Lumber Manufacturers' Association www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association www.nema.org	(703) 841-3200
NETA	InterNational Electrical Testing Association www.netaworld.org	(888) 300-6382 (269) 488-6382
NFHS	National Federation of State High School Associations www.nfhs.org	(317) 972-6900
NFPA	NFPA (National Fire Protection Association) www.nfpa.org	(800) 344-3555 (617) 770-3000
NFRC	National Fenestration Rating Council www.nfrc.org	(301) 589-1776
NGA	National Glass Association www.glass.org	(866) 342-5642 (703) 442-4890
NHLA	National Hardwood Lumber Association www.natlhardwood.org	(800) 933-0318 (901) 377-1818
NLGA	National Lumber Grades Authority www.nlga.org	(604) 524-2393
NOFMA	NOFMA: The Wood Flooring Manufacturers Association (Formerly: National Oak Flooring Manufacturers Association) www.nofma.com	(901) 526-5016
NOMMA	National Ornamental & Miscellaneous Metals Association www.nomma.org	(888) 516-8585
NRCA	National Roofing Contractors Association www.nrca.net	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association www.nrmca.org	(888) 846-7622 (301) 587-1400
NSF	NSF International (National Sanitation Foundation International) www.nsf.org	(800) 673-6275 (734) 769-8010

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NSSGA	National Stone, Sand & Gravel Association www.nssga.org	(800) 342-1415 (703) 525-8788
NTMA	National Terrazzo & Mosaic Association, Inc. (The) www.ntma.com	(800) 323-9736 (540) 751-0930
NTRMA	National Tile Roofing Manufacturers Association (Now TRI)	
NWFA	National Wood Flooring Association www.woodfloors.org	(800) 422-4556 (636) 519-9663
NWWDA	National Wood Window and Door Association (Now WDMA)	
PCI	Precast/Prestressed Concrete Institute www.pci.org	(312) 786-0300
PDCA	Painting & Decorating Contractors of America www.pdca.com	(800) 332-7322 (314) 514-7322
PDI	Plumbing & Drainage Institute www.pdionline.org	(800) 589-8956 (978) 557-0720
PGI	PVC Geomembrane Institute <a href="http://pgi-tp.cee.uiuc.edu">http://pgi-tp.cee.uiuc.edu</a>	(217) 333-3929
PLANET	Professional Landcare Network www.landcarenetwork.org	(800) 395-2522 (703) 736-9666
PTI	Post-Tensioning Institute www.post-tensioning.org	(602) 870-7540
RCSC	Research Council on Structural Connections www.boltcouncil.org	
RFCI	Resilient Floor Covering Institute www.rfci.com	(301) 340-8580
RIS	Redwood Inspection Service www.redwoodinspection.com	(925) 935-1499
SAE	SAE International www.sae.org	(877) 606-7323 (724) 776-4841
SCTE	Society of Cable Telecommunications Engineers www.scte.org	(800) 542-5040 (610) 363-6888

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SDI	Steel Deck Institute www.sdi.org	(847) 458-4647
SDI	Steel Door Institute www.steeldoor.org	(440) 899-0010
SEFA	Scientific Equipment and Furniture Association www.sefalabs.com	(877) 294-5424 (516) 294-5424
SEI/ASCE	Structural Engineering Institute/American Society of Civil Engineers (See ASCE)	
SGCC	Safety Glazing Certification Council www.sgcc.org	(315) 646-2234
SIA	Security Industry Association www.siaonline.org	(866) 817-8888 (703) 683-2075
SJI	Steel Joist Institute www.steeljoist.org	(843) 626-1995
SMA	Screen Manufacturers Association www.smainfo.org	(561) 533-0991
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association www.smacna.org	(703) 803-2980
SMPTE	Society of Motion Picture and Television Engineers www.smpte.org	(914) 761-1100
SPFA	Spray Polyurethane Foam Alliance www.sprayfoam.org	(800) 523-6154
SPIB	Southern Pine Inspection Bureau www.spib.org	(850) 434-2611
SPRI	Single Ply Roofing Industry www.spri.org	(781) 647-7026
SSINA	Specialty Steel Industry of North America www.ssina.com	(800) 982-0355 (202) 342-8630
SSPC	SSPC: The Society for Protective Coatings www.sspc.org	(877) 281-7772 (412) 281-2331



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STI	Steel Tank Institute www.steeltank.com	(847) 438-8265
SWI	Steel Window Institute www.steelwindows.com	(216) 241-7333
SWRI	Sealant, Waterproofing, & Restoration Institute www.swrionline.org	(816) 472-7974
TCNA	Tile Council of North America, Inc. www.tileusa.com	(864) 646-8453
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance www.tiaonline.org	(703) 907-7700
TMS	The Masonry Society www.masonrysociety.org	(303) 939-9700
TPI	Truss Plate Institute, Inc. www.tpinst.org	(703) 683-1010
TPI	Turfgrass Producers International www.turfgrassod.org	(800) 405-8873 (847) 649-5555
TRI	Tile Roofing Institute www.tilerroofing.org	(312) 670-4177
UL	Underwriters Laboratories Inc. www.ul.com	(877) 854-3577 (847) 272-8800
UNI	Uni-Bell PVC Pipe Association www.uni-bell.org	(972) 243-3902
USAV	USA Volleyball www.usavolleyball.org	(888) 786-5539 (719) 228-6800
USGBC	U.S. Green Building Council www.usgbc.org	(800) 795-1747
USITT	United States Institute for Theatre Technology, Inc. www.usitt.org	(800) 938-7488 (315) 463-6463
WASTEC	Waste Equipment Technology Association www.wastec.org	(800) 424-2869 (202) 244-4700
WCLIB	West Coast Lumber Inspection Bureau www.wclib.org	(800) 283-1486 (503) 639-0651

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WCMA	Window Covering Manufacturers Association www.wcmanet.org	(212) 297-2122
WCSC	Window Covering Safety Council www.windowcoverings.org	(800) 506-4636 (212) 297-2109
WDMA	Window & Door Manufacturers Association www.wdma.com	(800) 223-2301 (847) 299-5200
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California) www.wicnet.org	(916) 372-9943
WIC	Woodwork Institute of California (Now WI)	
WMMPA	Wood Moulding & Millwork Producers Association www.wmmpa.com	(800) 550-7889 (530) 661-9591
WSRCA	Western States Roofing Contractors Association www.wsrca.com	(800) 725-0333 (650) 570-5441
WWPA	Western Wood Products Association www.wwpa.org	(503) 224-3930

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

DIN	Deutsches Institut für Normung e.V. <a href="http://www.din.de">www.din.de</a>	49 30 2601-0
IAPMO	International Association of Plumbing and Mechanical Officials www.iapmo.org	(909) 472-4100
ICC	International Code Council www.iccsafe.org	(888) 422-7233
ICC-ES	ICC Evaluation Service, Inc. www.icc-es.org	(800) 423-6587 (562) 699-0543
UBC	Uniform Building Code (See ICC)	

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

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CE	Army Corps of Engineers www.usace.army.mil	(202) 761-0011
CPSC	Consumer Product Safety Commission www.cpsc.gov	(800) 638-2772 (301) 504-7923
DOC	Department of Commerce www.commerce.gov	(202) 482-2000
DOD	Department of Defense http://.dodssp.daps.dla.mil	(215) 697-6257
DOE	Department of Energy www.energy.gov	(202) 586-9220
EPA	Environmental Protection Agency www.epa.gov	(202) 272-0167
FAA	Federal Aviation Administration www.faa.gov	(866) 835-5322
FCC	Federal Communications Commission www.fcc.gov	(888) 225-5322
FDA	Food and Drug Administration www.fda.gov	(888) 463-6332
GSA	General Services Administration www.gsa.gov	(800) 488-3111
HUD	Department of Housing and Urban Development www.hud.gov	(202) 708-1112
LBL	Lawrence Berkeley National Laboratory www.lbl.gov	(510) 486-4000
NCHRP	National Cooperative Highway Research Program (See TRB)	
NIST	National Institute of Standards and Technology www.nist.gov	(301) 975-6478
OSHA	Occupational Safety & Health Administration www.osha.gov	(800) 321-6742 (202) 693-1999
PBS	Public Buildings Service (See GSA)	

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PHS	Office of Public Health and Science <a href="http://www.hhs.gov/ophs">www.hhs.gov/ophs</a>	(202) 690-7694
RUS	Rural Utilities Service (See USDA)	(202) 720-9540
SD	State Department <a href="http://www.state.gov">www.state.gov</a>	(202) 647-4000
TRB	Transportation Research Board <a href="http://gulliver.trb.org">http://gulliver.trb.org</a>	(202) 334-2934
USDA	Department of Agriculture <a href="http://www.usda.gov">www.usda.gov</a>	(202) 720-2791
USPS	Postal Service <a href="http://www.usps.com">www.usps.com</a>	(202) 268-2000

E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

ADAAG	Americans with Disabilities Act (ADA) Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities Available from U.S. Access Board <a href="http://www.access-board.gov">www.access-board.gov</a>	(800) 872-2253 (202) 272-0080
CFR	Code of Federal Regulations Available from Government Printing Office <a href="http://www.gpoaccess.gov/cfr/index.html">www.gpoaccess.gov/cfr/index.html</a>	(866) 512-1800 (202) 512-1800
DOD	Department of Defense Military Specifications and Standards Available from Department of Defense Single Stock Point <a href="http://dodssp.daps.dla.mil">http://dodssp.daps.dla.mil</a>	(215) 697-2664
DSCC	Defense Supply Center Columbus (See FS)	
FED-STD	Federal Standard (See FS)	
FS	Federal Specification Available from Department of Defense Single Stock Point <a href="http://dodssp.daps.dla.mil">http://dodssp.daps.dla.mil</a>  Available from Defense Standardization Program <a href="http://www.dps.dla.mil">www.dps.dla.mil</a>	(215) 697-2664

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	Available from General Services Administration <a href="http://www.gsa.gov">www.gsa.gov</a>	(202) 619-8925
	Available from National Institute of Building Sciences <a href="http://www.wbdg.org/ccb">www.wbdg.org/ccb</a>	(202) 289-7800
FTMS	Federal Test Method Standard (See FS)	
MIL	(See MILSPEC)	
MIL-STD	(See MILSPEC)	
MILSPEC	Military Specification and Standards Available from Department of Defense Single Stock Point <a href="http://dodssp.daps.dla.mil">http://dodssp.daps.dla.mil</a>	(215) 697-2664
UFAS	Uniform Federal Accessibility Standards Available from Access Board <a href="http://www.access-board.gov">www.access-board.gov</a>	(800) 872-2253 (202) 272-0080

F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CBHF	State of California, Department of Consumer Affairs Bureau of Home Furnishings and Thermal Insulation <a href="http://www.dca.ca.gov/bhfti">www.dca.ca.gov/bhfti</a>	(800) 952-5210 (916) 574-2041
CCR	California Code of Regulations <a href="http://www.calregs.com">www.calregs.com</a>	(916) 323-6815
CDHS	California Department of Health Services (See CDPH)	
CDPH	California Department of Public Health, Indoor Air Quality Section <a href="http://www.cal-iaq.org">www.cal-iaq.org</a>	(510) 620-2802
CPUC	California Public Utilities Commission <a href="http://www.cpuc.ca.gov">www.cpuc.ca.gov</a>	(415) 703-2782
TFS	Texas Forest Service Forest Resource Development <a href="http://txforestservation.tamu.edu">http://txforestservation.tamu.edu</a>	(979) 458-6650

END OF SECTION 01 42 00

SECTION 01 45 23 - TESTING SERVICES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Selection and payment.
- B. Agency responsibilities.
- C. Agency reports.
- D. Limits on testing authority.
- E. Contractor responsibilities.
- F. Schedule of tests.

1.2 RELATED SECTIONS

- A. Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- B. Section 01 40 00, Quality Requirements.
- C. Section 03 30 00, Cast-in-Place Concrete.
- D. Section 04 20 00, Unit Masonry.
- E. Section 05 12 00, Structural Steel Framing.
- F. Section 05 21 00, Steel Joist Framing.
- G. Section 05 31 00, Steel Decking.
- H. Section 05 40 00, Cold-Formed Metal Framing.
- I. Section 05 50 00, Metal Fabrications.
- J. Section 05 52 13, Pipe and Tube Railings.
- K. Section 31 20 00, Earth Work
- L. Section 32 12 16, Asphalt Paving.
- M. Section 32 13 13, Concrete Paving.
- N. Any other technical specification required testing services.

1.3 SELECTION AND PAYMENT

- A. The Contractor will employ and pay for services of an independent testing agency or laboratory to perform testing as specified in the individual sections listed in Article Related Sections above.
- B. Employment of testing agency or laboratory in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

1.4 QUALIFICATION OF TESTING AGENCY

- A. Testing Agency shall meet the basic requirements of ASTM E329, "Standards of Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous materials as used in construction."
- B. Laboratory and staff is certified and authorized to operate in State in which project is located. Contractor to provide certificates, and/or resumes and number of years experience for each of testing personnel upon the request of the Contracting Officer. Testing personnel shall have the appropriate level of certification for each class of work being inspected.
- C. Laboratory staff must have at least one registered engineer as a part of the laboratory staff involved in this project.

1.5 TESTING AGENCY RESPONSIBILITIES

- A. Test samples of mixes submitted by Contractor.
- B. Provide qualified personnel at site. Cooperate with Contracting Officer, COTR, A-E of Record, and Contractor in performance of services.
- C. Perform specified sampling and testing of materials and methods of construction in accordance with specified standards.
- D. Ascertain compliance of materials and mixes with requirements of Contract Documents.
- E. Promptly notify Contracting Officer and Contractor of observed irregularities, deficiencies, or non-conformance of work or materials.
- F. Perform additional tests required by Contracting Officer.
- G. Promptly provide the Contracting Officer written test report, and the Contractor with 1 copy of each test report. Each report shall include:
  - 1. Date issued.
  - 2. Project title and number.
  - 3. Testing Laboratory name, address and telephone number.
  - 4. Name and signature of laboratory inspector.
  - 5. Date and time of sampling or inspection.
  - 6. Record of temperature.

7. Date of test.
8. Identification of product and specification section.
9. Location of sample or test in the project. Provide field sketch.
10. Type of inspection or test.
11. Results of tests and compliance with Contract Documents.
12. Interpretation of test results, when requested by the Contracting Officer.
13. Batch times, revolutions of concrete mixer, time onsite, slump, air entrainment, admixtures added, design mix, water/cement ratio, etc. for concrete testing.

H. Upon completion of the project, the testing agency shall prepare a certificate, certified in the presence of a Notary Public, stating testing for this work was conducted in accordance with the provisions of these specifications and that all tests and reports that were provided for this job were reported as required.

#### 1.6 LIMITATIONS OF AUTHORITY OF THE TESTING AGENCY

- A. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
- B. Agency or laboratory may not approve or accept any portion of the Work.
- C. Agency or laboratory may not perform any duties of Contractor.
- D. Agency or laboratory has no authority to stop the Work. If Work is substandard and corrective action is required, testing agency shall immediately notify the Contracting Officer's Technical Representative and/or the Contracting Officer.

#### 1.7 CONTRACTOR'S RESPONSIBILITIES

- A. Secure and deliver to the testing agency or laboratory at designated location, adequate quantities of representative samples of materials proposed to be used which require testing.
- B. Provide the testing agency with the preliminary design mix proposed to be used for concrete and other products that require control by the testing laboratory.
- C. Provide copies of product test reports as required to the Contracting Officer.
- D. Cooperate with the Testing Agency laboratory personnel and provide access to the Work and to manufacturers' facilities.
- E. Provide incidental labor and facilities:
  1. To provide access to Work to be tested.
  2. To obtain and handle samples at the site or at the source of the Products to be tested.
  3. To facilitate inspections and tests.
  4. To provide storage and curing of test samples.
- F. Notify testing agency sufficiently in advance of operations to allow for agency assignment of personnel and scheduling of tests.



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- G. Notify Contracting Officer and laboratory 48 hours prior to expected time for operations requiring testing services.
- H. Employ and pay for the services of an independent qualified testing agency to perform additional sampling and testing required by Contractor beyond specified requirements:
  - 1. For the Contractor's convenience.
  - 2. When initial tests indicate work does not comply with Contract Documents.
  - 3. When, in the opinion of the Contracting Officer, additional tests or inspections are required because of the manner in which the Contractor executes his work. Examples of such tests and inspections are:
    - a. Tests of materials substituted for previously approved substituted or specified materials.
    - b. Re-tests made necessary by failure of materials to comply with the requirements of the specifications.
    - c. Load tests made necessary because of portions of the structure not fully meeting requirements of the specifications or Drawings.
- I. Ensure all test reports are submitted to the Contracting Officer within 10 days of the tests being accomplished.

1.8 SCHEDULE OF TESTS

- A. See Individual Specification Sections for tests required and standards for testing.

END OF SECTION 01 45 23

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SECTION 01 50 00 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities: Electricity, lighting, heat, ventilation, telephone service, water, and sanitary facilities.
- B. Temporary Controls: Barriers, protection of the Work, and water control.
- C. Construction Facilities: Access roads, parking, progress cleaning, project signage, and temporary buildings.

1.2 RELATED SECTIONS

- A. Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- B. Section 01 51 00, Temporary Utilities.
- C. Section 01 52 13, Field Offices and Sheds.
- D. Section 01 73 00, Cleaning: Progress cleaning.
- E. Section 01 77 00, Project Closeout: Final cleaning.

1.3 TEMPORARY ELECTRICITY

- A. Temporary Electricity: Specified requirements of Section 01 51 00, Temporary Utilities.

1.4 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Temporary Lighting for Construction Purposes: Specified requirements of Section 01 51 00, Temporary Utilities.

1.5 TEMPORARY HEATING

- A. Temporary Heat: Specified requirements of Section 01 51 00, Temporary Utilities.

1.6 TEMPORARY COOLING

- A. Temporary Cooling: Specified requirements of Section 01 51 00, Temporary Utilities.

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1.7 TEMPORARY VENTILATION

- A. Temporary Ventilation: Specified requirements of Section 01 51 00, Temporary Utilities.

1.8 TELEPHONE SERVICE

- A. Telephone Service: Specified requirements of Section 01 51 00, Temporary Utilities.

1.9 FACSIMILE SERVICE

- A. Facsimile Service: Specified requirements of Section 01 51 00, Temporary Utilities.

1.10 TEMPORARY WATER SERVICE

- A. Temporary Water Service: Specified requirements of Section 01 51 00, Temporary Utilities.

1.11 TEMPORARY SANITARY FACILITIES

- A. Temporary Sanitary Facilities: Specified requirements of Section 01 51 00, Temporary Utilities.

1.12 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas and to project adjacent properties from damage from construction operations.
- B. Provide protection for plants designated to remain. Replace damaged plants at no additional cost to the Government.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.13 WATER CONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

1.14 EXTERIOR ENCLOSURES

- A. Provide temporary weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections,

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and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

### 1.15 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to prevent damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- D. Protect finished floors, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces.
- F. Prohibit traffic from entering landscaped areas.

### 1.16 SECURITY

- A. Provide security and facilities to protect Work and SANG's operations from unauthorized entry, vandalism, or theft.
- B. Coordinate with requirements of the Installation's security program.

### 1.17 ACCESS ROADS

- A. Provide and maintain access to fire hydrants, free of obstructions.
- B. Designated existing onsite roads may be used for construction traffic.

### 1.18 PARKING

- A. Provide temporary parking areas to accommodate use of construction personnel.
- B. When offsite space is not adequate, provide additional onsite parking.
- C. Locate construction parking where approved by the Contracting Officer.

### 1.19 EXISTING PAVEMENTS AND PARKING AREAS

- A. Use of undesignated existing streets and driveways for construction traffic is not permitted.

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- B. Do not allow heavy vehicles or construction equipment in parking areas.
- C. Avoid traffic loading beyond paving design capacity.
- D. Tracked vehicles not allowed.

### 1.20 CONSTRUCTION PARKING CONTROL

- A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and Government operations.
- B. Monitor parking of construction personnel's vehicles in existing facilities. Maintain vehicular access to and through parking areas.
- C. Prevent parking on or adjacent to access roads or in non-designated areas.

### 1.21 MAINTENANCE

- A. Maintain traffic and parking areas in a sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
- B. Maintain existing 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.

### 1.22 HAUL ROUTES

- A. Drawings indicate haul routes for use of construction traffic.
- B. Confine construction traffic to designated haul routes.
- C. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with Base traffic.

### 1.23 REMOVAL, REPAIR

- A. Repair existing facilities damaged by use, to original condition.

### 1.24 MUD FROM SITE VEHICLES

- A. Provide means of removing mud from vehicle wheels before entering streets.

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1.25 PROGRESS CLEANING AND WASTE REMOVAL

- A. Progress Cleaning and Waste Removal: Specified Requirements of Section 01 73 00, Cleaning.

1.26 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Final Acceptance inspection.
- B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated on the Contract Drawings.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

END OF SECTION 01 50 00

SECTION 01 51 00 - TEMPORARY UTILITIES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities: Electricity, lighting, heat, ventilation, telephone service, water and sanitary facilities.

PART 2 - PRODUCTS

2.1 RELATED SECTIONS

- A. Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- B. Section 01 50 00, Construction Facilities and Temporary Controls.
- C. Section 01 52 13, Field Offices and Sheds.
- D. Section 01 77 00, Project Closeout: Final cleaning.

2.2 TEMPORARY ELECTRICITY

- A. The Contracting Officer has determined that Government-operated utilities are adequate and will be furnished to the contractor without charge where existing outlets are available. The contractor is responsible for installing temporary service outlets, as necessary, at its expense IAW the clause entitled "Availability and Use of Utility Services" (FAR Clause 52.236-14). The following utilities will be available: Water and Electricity
- B. If the Contractor deems temporary electric service is necessary, it shall be metered and will be charged to the contractor at prevailing rates.
- C. The temporary electric service shall originate from the nearest available power pole and coordinated with the Contracting Officer's Representative.
- D. The electrical contractor shall be responsible for furnishing and installing all fused cutouts, meter, transformers, primary and secondary conductors, disconnects, and miscellaneous hardware.

2.3 TEMPORARY HEATING

- A. General: The Contractor shall provide, install and maintain temporary heat in the construction areas throughout the construction period to facilitate the progress of work, protect work against cold, dampness, condensation, and to provide suitable ambient temperatures and humidity levels for proper installation and curing of materials.

- B. Requirements: The Contractor shall provide and maintain temporary heat meeting the following requirements:
  - 1. As required under each individual specification section for proper placement, setting, and curling of materials.
  - 2. Maintain a minimum temperature of 40 deg F (5 deg C) for 24 hours a day during placing, setting, and curing of cementitious materials.
  - 3. Maintain a minimum temperature of 50 deg F (28 deg C), or as required under each individual specification section, for 24 hours a day, 7 days prior to, and during installation of all finish materials, including but not limited to: resilient flooring and base, carpet, paint and wall covering, tile work, acoustic ceilings, and all finish woodwork.
  - 4. Maintain a minimum temperature of 65 deg F (28 deg C) For 24 hours a day from the time of placement until beneficial occupancy, for installation all finish materials, including but not limited to: resilient flooring and base, carpet, paint and wall covering, tile work, acoustic ceilings and all finish woodwork.
- C. The Contractor shall provide, maintain and pay for temporary heating equipment of adequate capacity to provide temporary heat meeting the requirements of this section.
- D. The Contractor shall pay for the fuel consumed by the temporary equipment.
- E. The Contractor may use the new permanent heating system for construction purposes during the finish work stage under the following conditions:
  - 1. Permanent HVAC System: If Government authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return air grille in system and remove at end of construction and clean HVAC system as required in Section 01 73 00, Cleaning.
  - 2. The Contractor shall verify the system is approved for operation, equipment is lubricated and proper filters are in place.
  - 3. The Contractor shall provide and pay for operation maintenance, and shall provide new filters and replace any damaged or worn parts immediately prior to when the equipment is accepted by SANG.
  - 4. The Contractor will not be charged for fuel or energy consumed by the permanent heating equipment. The Contractor shall maintain strict conservation measures to prevent the waste of fuel or energy.

#### 2.4 TEMPORARY COOLING

- A. Utilize the new permanent cooling system, extend and supplement with temporary cooling devices as needed to maintain specified conditions for construction during the installation of finish materials.
- B. The Contractor will not be charged for the amount of energy consumed by the new permanent cooling equipment. The Contractor shall maintain strict conservation measures to prevent waste of energy.
- C. Prior to operation of permanent equipment for temporary cooling purposes, the Contractor shall verify that installation of equipment is approved for operation, equipment is lubricated and



filters are in place. The Contractor shall provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.

- D. Maintain maximum ambient temperature of 80 deg F (26 deg C) in areas where construction is in progress, unless indicated otherwise in specifications.

## 2.5 TEMPORARY VENTILATION

- A. The Contractor shall provide adequate ventilation to:
  - 1. Aid in curing installed materials.
  - 2. Dissipate humidity.
  - 3. Ventilates temporary sanitary facilities.
  - 4. Prevent hazardous accumulations of dust, fumes, mists, vapors, or gases in areas occupied during construction.
- B. The Contractor shall employ the use of temporary ventilating equipment, adequately sized, to accomplish the required ventilation and maintain clean air for construction operations.
- C. Exhaust materials shall be disposed of in a manner that will not result in harmful exposure to persons.

## 2.6 TELEPHONE SERVICE

- A. The Contractor may at their discretion provide, maintain, and pay for telephone service to any temporary facilities at time of project mobilization.
- B. Overhead lines shall be acceptable.

## 2.7 FACSIMILE SERVICE

- A. The Contractor may at their discretion provide, maintain, and pay for facsimile service to any temporary facilities at time of project mobilization.

## 2.8 TEMPORARY WATER SERVICE

- A. Water shall be furnished from a temporary hose bibb provided, installed, and maintained by the General Contractor on the construction site. The water shall be metered.
- B. Temporary water service shall be provided at time of project mobilization.
- C. The Contractor will be responsible for cost of water. The Contractor shall maintain strict conservation measures to prevent waste of water.
- D. The Contractor shall be responsible for maintaining strict supervision of the use of existing services and shall:

1. Enforce compliance with applicable codes and standards.
2. Enforce sanitary practices.
3. Prevent abuse of services.
4. Prevent wasteful use of water.
5. Protect system from freezing.

2.9 TEMPORARY SANITARY FACILITIES

- A. The Contractor shall provide, maintain, and pay for required facilities and enclosures for use by construction personnel.
- B. Existing facilities may not be used during construction operation.
- C. Provide facilities at time of project mobilization.
- D. Provide regular maintenance service to maintain facilities in a clean and sanitary condition.

2.10 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
  1. Comply with work restrictions specified in Section 01 10 00, Summary of Work.
- B. Temporary Erosion and Sedimentation Control: Comply with requirements of 2003 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent and requirements specified in Section 31 10 00, Site Clearing, and Section 01 57 19, Environmental Protection.
- C. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings CE 100 and requirements of 2003 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
  1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant- protection zones.
  2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
  3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from the project site during the course of the project.
  4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

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END OF SECTION 01 51 00

SECTION 01 57 00 - EROSION AND SEDIMENT CONTROL

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. The work includes the provision of temporary erosion control measures to prevent the pollution of air, water, and land within the project limits and in areas outside the project limits where work is accomplished in conjunction with the project. Installation of temporary erosion control features shall be coordinated with the construction of permanent erosion control features to assure effective and continuous control of erosion and pollution. Provide and maintain erosion control measures in accordance with the applicable Erosion and Sediment Control Guidelines of the State of Michigan and Macomb County.

1.2 RELATED SECTIONS

- A. Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- B. Section 01 57 19, Environmental Protection.

1.3 REGULATORY REQUIREMENTS/REFERENCES

A. REGULATORY REQUIREMENTS

B.

1. Soil Erosion and Sedimentation Control – 1994 PA 451, Part 91, as amended, MCL 324.9101 et seq.). <http://www.legislature.mi.gov/documents/mcl/pdf/mcl-451-1994-II-2-SOIL-CONSERVATION-EROSION-AND-SEDIMENTATION-CONTROL-91.pdf>
2. MACOMB COUNTY SOIL EROSION AND SEDIMENTATION CONTROL ORDINANCE Adopted August 16, 2007 by Resolution of the Macomb County Board of Commissioners, as amended). [http://macombcountymi.gov/PublicWorks/pdfs/Soil\\_Erosion\\_Ordinance.pdf](http://macombcountymi.gov/PublicWorks/pdfs/Soil_Erosion_Ordinance.pdf)

C. REFERENCES

1. Michigan Nonpoint Source Best Management Practices Manual, as amended. [http://www.michigan.gov/deq/0,1607,7-135-3313\\_3682\\_3714-118554--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3313_3682_3714-118554--,00.html)
- 2.
3. Michigan Department of Environmental Quality Certified Storm Water Operator and Soil Erosion and Sedimentation Control Inspector /Comprehensive Training Manual. [http://www.michigan.gov/documents/deq/land-sesc-cswosesc-trainingmanual\\_272567\\_7.pdf](http://www.michigan.gov/documents/deq/land-sesc-cswosesc-trainingmanual_272567_7.pdf).

4. American Society for Testing and Materials (ASTM):
  - a. ASTM D 3786 - (Most Current Adopted Edition) Hydraulic Bursting Strength of Knitted Goods and Nonwoven Fabrics - Diaphragm Bursting Strength Tester Method.
  - b. ASTM D 4632 - (Most Current Adopted Edition) Grab Breaking Load and Elongation of Geotextiles.
  - c. ASTM D 4751 - (Most Current Adopted Edition) Determining Apparent Opening Size of a Geotextile.
  
- D. Commercial Item Descriptions (CID): CID A-A-1909 - (Basic; Notice 1) Fertilizer.
  
- E. Michigan Department of Transportation Construction and Material Specifications (Most Current Adopted Edition).

#### 1.4 SUBMITTALS FOR REVIEW

- A. Contracting Officer's approval is required for all submittals. The following shall be submitted in accordance with Section 01 33 00, Submittals:
  1. Mill Certificate or Affidavit.
  
- B. Section 01 33 00, Submittals: Procedures for submittals.
  
- C. Product Certificates.
  
- D. Contractor Furnished Draft Soil Erosion Plan
  
- E. Contractor Furnished Revised Draft Soil Erosion Plan.
  
- F. Contractor Furnished Final Soil Erosion Plan Stamp Approved by Macomb County.

Soil Erosion Inspection Logs  
1.5 CONTRACTOR FURNISHED SOIL EROSION PLAN (For Contracts that Require a Soil Erosion Plan/Permit where approved soil erosion plan is not on file with Macomb County)

- A. An erosion and sediment control plan is shown on the Drawings which indicates the minimum erosion control requirements that shall be site adapted and modified to suit the sequence of construction operations. The contractor shall submit for approval a revised soil erosion plan for the subject project in accordance with Macomb County Soil Erosion Plan Requirements, as specified within the MACOMB COUNTY SOIL EROSION AND SEDIMENTATION CONTROL ORDINANCE. The Contractor will submit draft soil plans for the project to the Contracting Officer for review allowing 14 days for comment. The contractor shall revise soil erosion plan accordingly based upon comments provided by the Contracting Officer, and submit a revised draft final plan to Macomb County for review along with a copy to the Contracting Officer. If the plan is not acceptable the Contractor shall revise plan as necessary until approved by Macomb County. Copies of the Macomb County stamp approved soil erosion plan shall be provided to the Contracting Officer upon Macomb County approval of the plan by the Contractor.
  
- B. Except as modified herein or as indicated, Submittal Requirements for Contractor furnished Soil Erosion Plans shall be provided in accordance with SECTION 01 33 00 - SUBMITTALS
  - a. All hard copy soil erosion plan submittals shall be full size, as required by Macomb County.
  - b. Electronic Copies submittals shall be PDF files and shall be set up to print legibly at 22-inch by 34-inch.

G.

H.

Submittal Frequency Concerning Contractor Furbished Soil Erosion Plan and Revisions		
Version Of Plan	Macomb County	Contracting Officer
Draft Soil Erosion Plan	Submittal Not Required	(2) Hard Copies
Draft Final Plan	As Required by Macomb County	(1) Hard Copy
Approved Soil Erosion Plan	As Required by Macomb County	(2) Hard Copies (1) Electronic Copy

1.5

1.6 Soil Erosion Permit

- A. Once a soil erosion plan is approved it will remain on file at Macomb County until a permit is required. If approved plans stay on file at Macomb County for an extended period of time (more than 1 year), plans may need to be reviewed again before the permit will be granted. This is due to possible law changes within part 91 of Act 451 of 1994. This will need to be accounted for in project planning by the Contractor, and revisions to the existing soil erosion plan will be the responsibility of the contractor. Macomb County must be contacted one week prior to requesting a permit in this case.
  
- B. Prior to Construction a Soil Erosion Permit must be obtained, the contractor will notify the Contracting Officer and an appointment to complete the permit application with 127 CES/CEV will scheduled. The contractor will sign the permit application as the on-site responsible party and the Government will sign as the property owner. The Contractor will take the signed permit application along with a contractor furnished check for payment of the permit fee to the Macomb County Soil Erosion Office and obtain the soil erosion permit. A copy of the Permit provided by Macomb County must be provided to the contracting officer, prior to the coordination of an AF Form 103.

1.7 CONTRACTOR CERTIFIED STORMWATER OPERATOR

- A. The contractor must provide a contractor employed State of Michigan Certified Storm Water Operator to keep logs of site inspections, for project disturbing more than 1 acre as identified on the soil erosion permit. Inspection of the soil erosion control measures must be conducted weekly and within 24 hours of a rain or snowmelt event.
  
- B. In addition to Macomb County inspections, government inspectors, and 127 CES/CEV will do spot checks on the site to make sure BMP's are being properly maintained for both permitted and non-permitted sites. The contractor will be notified of any deficiencies with respect to soil erosion controls at the site. The contractor will identify corrective actions to be taken to the contracting officer; along with a schedule to address any deficiencies noted that cannot be immediately corrected.

1.8 Soil Erosion and Sedimentation Control Measures

- A. The contractor shall comply with the following:
  - 1. All erosion and sedimentation control work shall conform to standards and specifications of the Macomb County Office of Public Works in accordance with Part 91, Soil Erosion and Sediment Control, of the Natural Resource and Environmental Protection Act, 1994 PA 451, as amended and the Macomb County Soil Erosion and Sedimentation Control Ordinance. Although requirements are identified on the soil erosion plan, it is the responsibility of the contractor to be completely familiar with the code requirements and to comply with all requirements therewith.

2. All BMPs shall be developed in accordance with the Guidebook of Best Management Practices (BMP) for Michigan Watersheds. All BMPs will be installed and maintained in accordance with this book and any manufacturer instructions. Erosion controls shown on the plans are basic controls only. The Contracting Officer and/or the Macomb County Soil Erosion Office may require additional measures.
3. All streams, and drains to include the main stream or trunk and all tributaries or branches of any creek or river, any watercourse or ditch, either open or closed, any covered drain or storm sewer or conduit and any structure or mechanical device that will introduce flow of water into said drain will be protected from soil infiltration.
4. All applicable soil erosion and sedimentation control measures will be installed prior to or in conjunction with the start of construction and will remain in effect until areas are stabilized.
5. All vehicle drivers will be instructed to clean soil/materials from tires when leaving the site. Daily inspections shall be made to determine the effectiveness of erosion and sediment control work, and any necessary repairs shall be made without delay.
6. Erosion and sedimentation from work on this site shall be contained on the site and not allowed to collect on any off site areas or in waterways. Waterways include both man-made open ditches, streams, storm drains, lakes and ponds.
7. The Contractor (On-Site Responsible Party) shall apply temporary erosion and sedimentation control measures as required and as directed on these plans. Any temporary measures will be removed by the contractor as soon as permanent stabilization of slopes, ditches, and other earth changes have been accomplished.
8. During dry periods, all disturbed areas shall be watered for dust control.
9. Permanent soil erosion control measures for all slopes, channels, ditches or any disturbed land area shall be completed within 5 calendar days after final grading. When it is not possible to permanently stabilize a disturbed area after an earth change has been completed or where significant earth change activity ceases, temporary soil erosion control measures shall be implemented immediately. All temporary soil erosion control measures shall be maintained until permanent soil erosion control measures are implemented.
10. Whenever the completion date falls during a dormant season, the site will be straw mulched. Within 5 days after the beginning of the next growing season, grass will be planted.
11. If any dewatering is needed, it shall be discharged through a filter bag over a well-vegetated area. The pump must discharge at a non-erosive velocity. If necessary, an approved energy dissipater may be used. **CONTAMINATED GROUNDWATER, SHALL BE MANAGED AS SPECIFIED IN SECTION 02 61 00 - REMOVAL AND DISPOSAL OF CONTAMINATED MEDIA**

C. Certificates:



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1. Provide certificates for materials.
2. Certify that materials comply with specification requirements.
3. Certified Storm Water Operator Certifications

### 1.6 QUALITY ASSURANCE

- A. Except as modified herein or as indicated, work and materials shall be performed in accordance with the State of Michigan Department of Transportation, Construction and Material Specifications. The provision therein for method of measurement and payment do not apply. Reference to "Engineer" and "State" shall be interpreted to mean "Contracting Officer" and "Federal Government," respectively.

## PART 2 - PRODUCTS

### 2.1 SILT FENCE

- A. Posts:
  1. 4-inch (100-mm) by 2-inch (50-mm) seasoned wood posts or 1.33-pound per linear foot (1.98 KG per linear meter) of steel posts in section in standard "T" or "U" section.
  2. Posts shall be minimum 6 feet (1.83 M) long.
- B. Filter Fabric: A woven or nonwoven polypropylene, nylon, or polyester containing stabilizers and/or inhibitors to make the fabric resistant to deterioration from ultraviolet, for a minimum of 12 months, and have the following properties:
  1. Minimum grab tensile strength (ASTM D 4632): 200 pounds (90.72 kg).
  2. Minimum grab elongation (ASTM D 4632): 50 pounds (22.68 kg).
  3. Minimum Mullen burst strength (ASTM D 3786): 230 psi (1597.9 kPa).
  4. E.O.S. (ASTM D 4751): 20-100.
  5. Minimum of 12 months of expected usable construction life at a temperature range: 0 to 120 deg F (minus 17.8 to 48.9 deg C).

### 2.2 TEMPORARY SEEDING

- A. Temporary Seeding and mulching shall consist of perennial ryegrass. Temporary Seeding shall conform to Section 208, "Soil Erosion and Sediment Control" of the State of Michigan Department of Transportation, Construction and Material.

### 2.3 DUST SUPPRESSORS

- A. Clean Water.

## 2.4 TREE PROTECTION

- A. Tree protection shall meet one of the following criteria:
1. Sand/Snow Fences: Standard 40-inch (1,000 mm) high snow fence shall be placed at the limits of clearing on standard steel posts set 6 feet (1.83 M) apart.
  2. Wood Fence: Wood fencing consisting of 4 inch (100 mm) square posts set securely in the ground and protruding at least 4 feet (1.22 M) above the ground shall be placed at the limits of clearing with a maximum of two horizontal boards between posts. If it is not practical to erect a fence at the drip line, construct a triangular fence nearer to the trunk. The limits of clearing will still be located at the drip line, since the root zone within the drip line will still require protection.
  3. Post and Wire Fence: Posts with a minimum size of 4 inches (100 mm) square set securely in the ground and protruding at least 4 feet (1.22 M) above the ground shall be placed at the limits of clearing with two rows of wire 1/4-inch (6.25 mm) or thicker at least 2 feet (0.61 M) apart running between posts with strips of colored surveyor's flagging tied securely to the string at intervals no greater than 3 feet (0.91 M).
  4. Plastic Safety Fence: 40-inch (1,000 mm) high "International Orange" plastic (polyethylene) web fencing secured to conventional metal "T" or "U" posts driven to a minimum depth of 18 inches (450 mm) on 6-foot (1.83 M) minimum centers shall be installed at the limits of clearing. The fence should have the following physical qualities:
    - a. Tensile yield (ASTM D 638) - Average 2,000 pounds (907.184 kg) per 4-foot (1.22 M) width.
    - b. Ultimate tensile yield (ASTM D 638) - Average 2,900 pounds (1315.4 kg) per 4-foot (1.22 M) width.
    - c. Elongation at break (ASTM D 638) - Greater than 1000 percent.
    - d. Chemical Resistance: Inert to most chemicals and acids.

## 2.5 RIP RAP

- A. In accordance with the Michigan Department of Transportation Construction and Material Specifications. Provide Type B or C dumped rock fill in accordance with paragraph 601.07.

## 2.6 EROSION CONTROL MAT

- A. Jute, excelsior, paper matting that has not been bleached or dyed. Provide matting in minimum 4 feet (1.22 M) widths. Straw matting shall not be allowed. Staples for anchoring the matting should be minimum 11-gauge wire, formed into a "U" shape with a minimum throat width of 1 inch (25.4 mm) and minimum length of 6 inches (150 mm) after forming.

## 2.7 BIOFILTER BAGS

- A. Porous, extruded, high-density polyethylene mesh bags filled with wood chips that range in size from 1-1/2 inch to 3/8 inch.

PART 3 - EXECUTION

3.1 EROSION AND SEDIMENT CONTROLS

- A. The controls and measures required by the Contractor are described below.
- B. Stabilization Practices: The stabilization practices to be implemented shall include temporary seeding, mulching, geotextiles, vegetative buffer strips, erosion control mats, biofilter bags, protection of trees, preservation of mature vegetation, etc. On his daily CQC Report, the Contractor shall record the dates when the major grading activities occur, (e.g., clearing and grubbing, stripping, excavation, and grading); when construction activities temporarily or permanently cease on a portion of the site; and when stabilization practices are initiated. Except as provided in subparagraphs Unsuitable Conditions and No Activity for Less Than 21 Days, stabilization practices shall be initiated as soon as practicable, but no more than 14 days, in any portion of the site where construction activities have temporarily or permanently ceased.
  - 1. Unsuitable Conditions: Where the initiation of stabilization measures by the 14th day after construction activity temporarily or permanently ceases is precluded by unsuitable conditions caused by the weather, stabilization practices shall be initiated as soon as practicable after conditions become suitable.
  - 2. No Activity for Less Than 21 Days: Where construction activity will resume on a portion of the site within 21 days from when activities ceased (e.g., the total time period that construction activity is temporarily ceased is less than 21 days), then stabilization practices do not have to be initiated on that portion of the site by the 14th day after construction activity temporarily ceased.
- C. Structural Practices:
  - 1. Structural practices shall be implemented to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Structural practices shall be implemented in a timely manner during the construction process to minimize erosion and sediment runoff.
  - 2. Silt Fences: The Contractor shall provide silt fences as a temporary structural practice to minimize erosion and sediment runoff. Silt fences shall be properly installed to effectively retain sediment immediately after completing each phase of work where erosion would occur in the form of sheet and rill erosion (e.g., clearing and grubbing, excavation, embankment, and grading). Silt fences shall be installed in the locations indicated on the drawings. Final removal of silt fence barriers shall be upon approval by the Contracting Officer's Representative.
  - 3. Biofilter Bags: The Contractor shall provide biofilter bags as a temporary structural practice to minimize erosion and sediment runoff. Bags shall be properly placed to effectively retain sediment immediately after completing each phase of work (e.g., clearing and grubbing, excavation, embankment, and grading) in each independent runoff area (e.g., after clearing and grubbing in a area between a ridge and drain, bags shall be placed as work progresses, bags shall be removed/replaced/relocated as needed for work to progress in the drainage area). Minimum areas where bags are to be used are shown on the drawings. Final removal of biofilter bags shall be upon approval by the Contracting Officer's Representative.

3.2 SILT FENCE

- A. Install posts at the spacing indicated, and at an angle between 2 degrees (0.035 radians) and 20 degrees (0.349 radians) towards the potential silt load area.
- B. Do not attach filter fabric to existing tree.
- C. Secure fabric to the post using staples.
- D. Embed the filter fabric into the ground as indicated in the Contract Documents.
- E. Splice filter fabric as indicated in the Contract Documents.

3.3 TEMPORARY SEEDING

- A. Temporary Seeding and mulching shall be applied in accordance with Section 816, "Turf Establishment" of the State of Michigan Department of Transportation, Construction and Material.

3.4 EROSION CONTROL MAT

- A. Place matting in the direction of the flow of water. The up channel matting end shall be toed in a narrow trench a minimum of 5 inches (125 mm) deep. Where one roll of matting ends and a second roll begins, the end of the upper roll shall be brought over the buried end of the second roll, to provide a 6 inch (150 mm) overlap. Where matting widths are laid side by side, the overlap between matting shall be 4 inches (100 mm). Provide check slots every 50 feet (15.24 M) longitudinally in the matting. Construct check slots by providing a narrow trench 5 inches (125 mm) deep and folding the matting down in to the trench, across the bottom of the trench, and then back up the trench to the existing ground backfill and compact the trench using the excavated material from the trench. Staple matting ends, junctions, and check slots at 10 inches (250 mm) on center. Staple matting outer edges and overlaps and the center of each matting strip at 3 feet (0.914 M) on center. Install excelsior matting with the woven fabric on top.

3.5 MAINTENANCE AND INSPECTION

Inspect erosion control devices after each rainfall and daily during prolonged rainfall and document inspection results in erosion and sediment control inspection logs. B. Logs of the storm water and erosion control inspections conducted by the Contractor shall be maintained onsite during the project. Logs of the inspections and corrective actions shall be current and maintained at the construction site being readily accessible to government and regulatory inspectors. Where demobilization has occurred or is anticipated a procedure for scheduled submittals will be coordinated through the Contracting Officer by the Contractor, so that current and up to date soil erosion inspection logs are readily accessible at the installation. Immediately following site stabilization and close out of the soil erosion permit, a complete copy of all soil erosion inspection logs will be provided to the Contracting Officer. Sites, which have waivers and do not require a permit, still need to be inspected by the contractor.

- A.
- B. Remove sediment deposits after each rainfall or when sediment reaches the limit specified in the General Erosion Control Notes on the Drawings.
- C. Immediately repair damaged erosion control devices and damaged areas around and underneath the devices.
- D. Maintain erosion control devices to assure continued performance of their intended function.
- E. The Contractor shall modify the erosion control plan as required to control problem areas noticed after each inspection. Any modifications to the soil erosion plan shall be coordinated by the Contractor with the Contracting Officer and the Macomb County Soil Erosion Office.
- F. Inspections:
  - 1. General: The Contractor shall inspect disturbed areas of the construction site, areas used for storage of materials that are exposed to precipitation that have not been finally stabilized, stabilization practices, structural practices, other controls, and area where vehicles exit the site at least once every 7 calendar days and within 24 hours of the end of any rain or snowmelt event that produces 0.1 inch in precipitation and/or results in visible storm water discharge at the site. Where sites have been finally stabilized, such inspection shall be conducted at least once every month until the sites are accepted by the Contracting Officer's Representative.
  - 2. Inspections Details: Disturbed areas and areas used for material storage that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the Erosion and Sediment Control Plan shall be observed to ensure that they are operating correctly. Discharge locations or points shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles exit the site shall be inspected for evidence of offsite sediment tracking.

### 3.6 CLEAN UP

- A. At the completion of the job, or when directed or approved by the Contracting Officer, erosion control devices shall be removed.
- B. Erosion control devices and areas immediately adjacent to the device shall be filled (where applicable), shaped to drain and to blend into the surrounding contours.
- C. Erosion control devices may remain in place when approved by the Contracting Officer.

END OF SECTION 01 57 00

SECTION 01 57 19 - ENVIRONMENTAL PROTECTION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. The work covered by this section consists of furnishing all labor, materials and equipment; and performing all work required for the prevention of environmental degrading during, and as a result of construction operations under this contract. These requirements are in addition to any environmental protection requirements elsewhere in these specifications.
- B. For the purpose of this specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents, not naturally occurring at the site, which adversely affect human health, human welfare; unfavorably alter ecological balances important to human life; affect other species of importance to humans; or degrade the utility of the environment for aesthetic and recreational purposes. The control of environmental pollution by the Contractor requires consideration of air, water, and land, and involves noise control, solid waste management and management of radiant energy and radioactive materials, as well as other pollutants. This section also requires the protection of cultural and historic resources.
- C. Contractor shall coordinate the work of this section with the work called for under the various sections of the Technical Specifications.
- D. Contractor shall coordinate the work of this section as indicated in Section 01 00 00, Requirements of Selfridge Air National Guard Base.

1.2 CONTRACTOR'S GENERAL ENVIRONMENTAL COMPLIANCE OBLIGATIONS

- A. Contractor (and any Subcontractor, agent or representative) shall comply with all applicable Federal, State, and local laws and regulations providing for environmental protection and pollution control and abatement. These include, but are not limited to, the Clean Air Act, Clean Water Act, Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation and Liability Act, Toxic Substances Control Act, Federal Insecticide Fungicide and Rodenticide Act, Coastal Zone Management Act, Endangered Species Act, National Historic Preservation Act, Safe Drinking Water Act, Emergency Planning and Community Right-to-Know Act, Oil Pollution Act, Archeological Resources Protection Act, Pollution Prevention Act and National Pollution Discharge Elimination System (NPDES). Contractor has the duty to determine for itself where such laws and regulations apply. Although Contractor may request assistance from the Contracting Officer in delineating applicable environmental laws and regulations, Contractor has an independent responsibility to make its own determination and to do so in a timely fashion.

1.3 FINES OR PENALTIES FOR ENVIRONMENTAL NON-COMPLIANCE

- A. The Contractor shall be responsible for paying any fines or penalties assessed against the Government or the Installation for environmental violations resulting from acts or omissions of

the Contractor or its employees, Subcontractors, or agents. This obligation is in addition to any fines or penalties that may be assessed against the Contractor for the same conduct. Contractor may either reimburse these fines or penalties through the Contracting Officer, or with the consent of the Installation environmental management office, conveyed through the Contracting Officer, the Contractor may pay such fines or penalties directly to the regulatory agency or agencies concerned.

#### 1.4 CONTRACTOR'S LIABILITY FOR ENVIRONMENTAL DAMAGES

- A. Contractor agrees to hold harmless and indemnify the Government and the Installation for any and all damages of any kind resulting from environmentally harmful activities by the Contractor, Contractor's employees or agents or Subcontractors. "Damages" includes, but is not limited to, personal injury, property damage (including diminution of value), or death, environmental restoration and response costs, natural resource damages, expert witness and attorney's fees, and reimbursement of any and all expenses incurred to obtain permits as a result of Contractor's failure to identify or obtain permits for itself or the Government or the Installation.

#### 1.5 CONTACTS WITH ENVIRONMENTAL REGULATORY OFFICIALS

- A. Contractor shall, through the Contracting Officer, immediately advise the Installation environmental management function of the content of all contacts with federal, state, or local environmental regulators, before, during, and after the performance of this contract concerning the performance of this contract.

#### 1.6 FEDERAL COMPLIANCE WITH RIGHT-TO-KNOW AND POLLUTION PREVENTION LAWS

- A. Contractor will, upon request, provide the Installation with information it may need to comply with Right-to-Know and Pollution Prevention laws and relevant Executive Orders. Such information shall include material safety data sheets and transient hazardous material use forms.
- B. No chemicals shall be allowed onsite without prior approval.
- C. Contractor to include a copy of hazmat report form (SANGB Form 23). Refer to Specification 01 00 00.

### PART 2 - PERMITS

#### 2.1 PERMITS FOR EQUIPMENT USED BY CONTRACTOR IN PERFORMING SANG CONTRACTS

- A. For equipment used in the performance of this contract, Contractor shall obtain in Contractor's name and at no additional expense to the Government, all permits, coordinations, certifications or other regulatory authorization necessary to perform and complete the work required by this contract under applicable environmental laws and regulations, as mentioned in Section 1.2.

2.2 PERMITS NEEDED FOR CONSTRUCTION, EXCAVATION, MODIFICATION, RENOVATION, DEMOLITION, INSTALLATION, OR OTHER ALTERATION OF BUILDINGS, STRUCTURES, EQUIPMENT, INSTALLATIONS, REAL PROPERTY OR SYSTEMS ON A GOVERNMENT INSTALLATION

- A. Contractor shall, after consultation with the appropriate Installation environmental management function, identify all Federal, State, County, or local permit requirements under all applicable environmental laws and regulations as defined in Section 1.2 above. Contractor shall then prepare and submit in draft all applicable permit applications and all supporting data to the Contracting Officer, who will submit same to the Installation environmental management office. Permits that must be submitted by the Installation will be submitted by the Installation, and applications for permits that must be submitted by the Contractor will be returned to the Contractor after review.

PART 3 - MATERIALS AND EXECUTION

3.1 RECYCLED MATERIALS

- A. Materials used in this contract shall be, to the greatest extent practicable and consistent with financial prudence, made of recycled materials or of materials that are recyclable. Where construction debris such as concrete or asphalt or wood can be recycled, this alternative will be discussed in the waste management plan and coordinated with the Installation. Recycled materials shall meet a minimum 50 percent diversion rate.

3.2 ASBESTOS

- A. Asbestos material will not be used in this project.
- B. The Contractor is advised that friable and/or nonfriable asbestos-containing material may be encountered in project areas. Friable asbestos-containing material is any material that contains more than 1 percent asbestos by weight, and that hand pressure can crumble, pulverize, or reduce to powder when dry. Nonfriable asbestos-containing materials are materials in which asbestos fibers are bound by a matrix material, saturation, impregnation, or coating. Nonfriable asbestos-containing materials do not normally release airborne asbestos fiber during routine handling and end-use. However, excessive fiber concentrations may be produced during uncontrolled abrading, sanding, drilling, cutting, machining, removal, demolition, or other similar activities. 29 CFR 1910.1001 shall be referenced in the event asbestos-containing materials are encountered.
- C. The Contractor is advised that any material suspected of being hazardous that is encountered during performance of a project shall immediately be brought to the attention of the Contracting Officer, at which time a determination will be made as to whether hazardous material testing shall be performed. If the Contracting Officer directs the Contractor to perform tests, and/or the material is found to be of a hazardous nature requiring additional protective measures, a contract modification may be required, subject to equitable adjustment under the terms of the Contract.



3.3 POLYCHLORINATED BIPHENYL'S (PCBs)

- A. PCBs will not be used or included in this project.
- B. Transformers onsite shall be tested for PCBs prior to removal and analytical results will be supplied to the Installation environmental management office. Transformers shall be removed and disposed of IAW applicable environmental regulations.

3.4 LEAD BASED PAINT

- A. Lead based paint will not be included in this project.

3.5 OZONE-DEPLETING SUBSTANCES

- A. "Class I Substance", as used in this clause, means any substance designated as Class I by the Environmental Protection Agency (EPA) (40 CFR Part 82), including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform.
- B. "Class II Substance", as used in this clause, means any substance designated as Class II by EPA (40 CFR Part 82), including, but not limited to, hydrochlorofluorocarbons.
- C. As required by 42 USC 767j(b),c and (d) and 40 CFR Part 82, Subpart E, the Contractor shall label products which contain Class I or Class II ozone-depleting substances or are manufactured with a process that uses Class I or Class II ozone-depleting substances, or containers of Class I or Class II ozone-depleting substances, as follows:
  - 1. "WARNING: Contains (or manufactured with, if applicable) \_\_\_\_\_ \* \_\_\_\_\_, (a) substance(s) which harm(s) public health and the environment by destroying ozone in the upper atmosphere."  
\*The Contractor shall insert the name of the substance(s).
- D. The Contractor shall comply with the applicable requirements of Section 608 and 609 of the Clean Air Act (42 USC 7571g, National Recycling and Emission Reduction Program and 7671h, Servicing of Motor Vehicle Air Conditioners) as each or both apply to the contract.

3.6 PESTICIDES

- A. Except as may be specified elsewhere in this contract, Contractor will not use or apply pesticides (such as herbicides or weed-killers, insecticides, or rodenticides) without the specific written approval of the Installation's 127WG/CEOP pest management office.

3.7 GENERAL WORK PRACTICE: SITE DISTURBANCE DURING CONSTRUCTION ACTIVITIES

- A. Contractor shall use industry-recognized best management practices to avoid creation of fugitive dust emissions and to avoid and control storm water runoff from the construction site and any temporary roads that may be used for access to it.

- B. Water sprinkling may be used to control dust.
- C. Contractor shall perform all work under this contract in such a manner that no soils or pollutants of any kind are released into ditches, storm drains, streams, lakes, or other surface waters of the site.

### 3.8 PROTECTION OF WATER RESOURCES

- A. General: The General Contractor shall not pollute storm drainage, streams, lakes, or reservoirs with fuels, oils, bitumens, calcium chloride, acids, construction wastes or other harmful materials or pollutants. It is the responsibility of the General Contractor to comply with all applicable federal, state, municipal, and Installation regulations.
- B. Spillage: The General Contractor shall take special measures to prevent chemicals, fuels, oils, greases, bituminous materials, waste washings, herbicides, cement, and surface drainage from entering public waters. In the event of a spill, the Installation Fire Department and Environmental Office shall be notified immediately, as well as the Contracting Officer's Representative.
- C. Washing and Curing Water: Water used in aggregate processing, concrete curing, foundation, and concrete lift clean-up and other waste water shall not be allowed to enter the storm drainage system.
- D. Tank Requirements: Any tank, drum or other container with a capacity of 55 or more gallons of fuels, oils or other petroleum-based products (excepting tanks integrated into the propulsion of a vehicle) must have secondary containment capable of holding 110% of the volume of the container. In addition, the container and associated secondary containment must be inspected monthly using the supplemental form (Attachment for the duration the container is on the construction site. These inspection forms must be available to environmental inspectors, and must be submitted to the Government at the end of the project.

### 3.9 PROTECTION OF LAND RESOURCES

- A. General: It is intended that the land resources within the project boundaries and outside the limits of permanent work performed under this contract be preserved in their present condition or be restored to a condition after completion of construction that will appear to the natural and not detract from the appearance of the project. The General Contractor shall limit his construction activities to areas defined by the Drawings or Specifications.
- B. Prevention of Landscape Defacement: Except in areas marked on the plans to be cleared, the General Contractor shall not deface, remove, cut, injure or destroy trees or shrubs without specific written authority. Trees designated to be saved shall be protected from either excavation or filling within the root zone. No ropes, cables, or guys shall be fastened or attached to any existing trees for anchorage unless specifically authorized by the Contracting Officer. The General Contractor shall in any event be responsible for any damage resulting from such use.
- C. Restoration of Landscape Damage: Any trees or other landscape features scarred or damaged by the General Contractor's equipment or operations shall be restored as nearly as possible to the

original condition at the General Contractor's expense. The Contracting Officer will decide what method of restoration shall be used, and whether damaged trees shall be treated and healed or removed and disposed of under requirements of Section 31 10 00, Site Clearing. All scars made on trees not designated on the plans to be removed by equipment construction operations, or by the removal of limbs larger than 1-inch in diameter shall be coated immediately with an approved tree wound dressing. All trimming or pruning shall be performed in an approved manner by experienced landscape personnel. Tree trimming with axes shall not be permitted. Trees that are to remain, either within or outside established clearing limits, that are subsequently damaged by the General Contractor and are beyond saving in the opinion of the Contracting Officer, shall be immediately removed and replaced with a nursery-grown tree of the same species.

3.10 POLLUTION PREVENTION

- A. The Contractor should use prior planning to find those materials that will minimize the creation of waste in general and hazardous waste in particular.

3.11 WASTE DISPOSAL FOR CONTRACTS TO BE PERFORMED ON SANG PROPERTY OR OTHER GOVERNMENT FACILITY

- A. All non-hazardous wastes generated on the facility as a result of this contract must be disposed of properly. Prior to creation of such wastes, the Contractor shall submit to the Installation environmental management function, through the Contracting Officer, a plan for disposal of wastes. Such plan shall include the types of waste to be created, how they shall be stored, managed and disposed. Contractor shall follow this plan once it has been approved by the Contracting Officer. Such wastes shall not be created until approved by the Contracting Officer. No landfill of construction debris or other solid waste is permitted onsite. Contractor shall track and report to the Contracting Officer volume of solid waste disposal and recycling and costs incurred or funds received by quarter, minimum 50 percent diversion required.

3.12 UNEXPECTED SITE CONDITIONS

- A. Contaminated Soil or Groundwater: Contractor or Subcontractor personnel may encounter soil or groundwater that is suspected to be contaminated, either because of odors, colors, free liquids, or other suspicious conditions. Should this occur, Contractor will immediately notify the base environmental office and the Contracting Officer's Representative, and take necessary initial measures to protect workers, the site, and other personnel. Refer to Section 02 61 00, Removal and Disposal of Contaminated Soil, for additional requirements for contaminated soil and groundwater.
- B. Unexploded Munitions: No munitions or munitions-related materials are known or expected to be present on site. However, should suspected munitions-type material be encountered, Contractor should immediately notify the Installation environmental office and the Contracting Officer's Representative and receive advice before disturbing the questionable material.
- C. Unexpected Artifacts or Relics:

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1. Should Contractor's employees in the course of site preparation or other work on this contract find unexpected historic or archeological remains, such as bones, arrow points, pottery remnants, foundations, or other evidence of previous uses of the site, Contractor will cease further site-disturbing activity and immediately notify the Installation environmental office and the Contracting Officer's Representative.
2. Site work shall not begin prior to archeological survey being accomplished and approved by State Historical Preservation Office.

3.13 SUPPLEMENTS

A. The supplement listed below, following "End of Section," are a part of this Specification:

1. Monthly Tank Inspection Form.

END OF SECTION 01 57 19

**FORM 6 — TANK, DRUM, TOTES - ANY CONTAINER 55 gallons or greater  
of Petroleum, Oils and Lubricants (POL)  
INSPECTION CHECKLIST**

Instructions: Complete routine external visual inspection of ASTs (i.e., typically consumptive-use tanks), diesel fueled electrical generators, pad-mounted electrical transformers, and used cooking oil containers. Notify the SPCC Plan Lead, 127 WG SANGB Environmental Manager, immediately if any significant deficiencies are identified.

Industry Standard Consideration: STI SP001-04 (for shop-fabricated ASTs) and IEEE 62 (for transformers)

Frequency: Other than pad-mounted transformers - monthly; pad-mounted transformers – annually

Site/Date: \_\_\_\_\_ Inspector: \_\_\_\_\_

	YES	NO	NA	CAR	Comments
<b>STRUCTURAL INTEGRITY</b>					
Surface free of leaks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Valves and gaskets free of leaks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Condition sound (no corrosion, pitting, distortions)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Bolts, rivets, welds, and seams intact/sound?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Supports and foundation intact/sound?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Level gauges and alarms working?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Vents unobstructed and clean?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Presence of water in primary tank?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Grounding system functional?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Cathodic protection system functional?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<b>ATTACHED PIPING</b>					
Surface free of leaks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Valves and fittings free of leaks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Piping adequately supported?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Pipes and supports free of corrosion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Buried pipes exposed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Out-of-service pipes capped?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Signs/barriers present near aboveground piping?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Localized cover/vegetation free of stain/distress?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<b>SECONDARY CONTAINMENT</b>					
Drainage valves closed and locked?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Drainage valves free of leaks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Containment area free of drainable water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Standing water free of product/sheen?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Debris absent?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Containment structure intact/sound?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Water able to drain away from tank?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Presence of water/fuel in interstice (DW AST?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Interstice leak detection operable (DW AST?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<b>SECURITY</b>					
Unit locked?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Gates/fences intact/sound?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Gates/fences locked?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Starter controls locked?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Lighting adequate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

**Notes:**

- AST aboveground storage tank
- CAR corrective action required
- DW double-walled
- IEEE Institute of Electrical and Electronics Engineers
- NA Not applicable
- STI Steel Tank Institute

SECTION 01 60 00 - MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Transportation and handling.
- C. Storage and protection.
- D. Product options.
- E. Substitutions.

1.2 RELATED SECTIONS

- A. Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- B. Section 01 40 00, Quality Requirements: Product quality monitoring.

1.3 PRODUCTS

- A. Do not use materials and equipment removed from existing Government premises, except as specifically permitted or directed by the Contract Documents.

1.4 TRANSPORTATION AND HANDLING

- A. Transport and handle Products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure 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.

1.5 STORAGE AND PROTECTION

- A. Store and protect Products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.

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- C. Store sensitive Products in weather tight, climate controlled, enclosures in an environment favorable to Product.
- D. For exterior storage of fabricated Products, place on sloped supports above ground.
- E. Provide bonded offsite storage and protection when site does not permit onsite storage or protection.
- F. Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of Products.
- G. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.
- J. Pipe and conduit stored on site shall be stored in racks or blocked to prevent rolling.

END OF SECTION 01 60 00

SECTION 01 62 35 – RECYCLED/RECOVERED/BIOBASED MATERIALS

PART 1 - GENERAL

1.1 REFERENCES

- A. The Resource Conservation and Recovery Act (RCRA), Section 6002 (42 U.S.C. 6962).
- B. Executive Order (EO) 13514, *Federal Leadership in Environmental, Energy and Economic Performance*.
- C. Title 40, Code of Federal Regulations (CFR), Part 247, Comprehensive Procurement Guideline for Products containing Recovered Material.
- D. Farm Security and Rural Investment Act of 2002 (FSRIA), Section 9002.
- E. Federal Acquisition Regulations (FAR).

1.2 OBJECTIVES

Government procurement policy is to acquire, in a cost effective manner, items containing the highest percentage of recycled, recovered and biobased materials practicable consistent with maintaining a satisfactory level of competition without adversely affecting performance requirements or exposing suppliers' employees to undue hazards from the recovered materials. The Environmental Protection Agency (EPA) and the United States Department of Agriculture (USDA) has designated certain items which must contain a specified percent range of recovered or recycled materials. EPA and USDA designated products specified in this contract comply with the stated policy and with the EPA and USDA guidelines. Make all reasonable efforts to use recycled, recovered and biobased materials in providing the EPA and USDA designated products and in otherwise utilizing recycled, recovered and biobased materials in the execution of the work.

1.3 SUBMITTALS

- A. The following shall be submitted in accordance with Section 01 33 00, Submittals:
  - 1. Product Certificates. The Contractor shall submit documentation certifying that products meet or exceed the specified requirements.
  - 2. Green Procurement Reporting Form. The Contractor shall submit the completed Green Procurement Reporting Form documenting the appropriate products used, their recycled or biobased content OR the exemption for not using recycled or biobased content products.



#### 1.4 U.S. EPA DESIGNATED ITEMS

The U.S. EPA-designated product divisions and items, as well as an interactive vendor guide, can be found at: <http://www.epa.gov/cpg/products.htm>. Not all of these materials may be required in the construction of this project. Please refer to the Drawings and Specifications. The attached Green Procurement Reporting Form shall be used to demonstrate compliance with the procurement requirements.

#### 1.5 BIOPREFERRED

Utilize products and material made from biobased materials to the maximum extent possible without jeopardizing the intended end use or detracting from the overall quality delivered to the end user. All supplies and materials shall be of a type and quality that conform to applicable specifications and standards.

Biobased products that are designated for preferred procurement under USDA's BioPreferred program must meet the required minimum biobased content. Refer to <http://www.biopreferred.gov/ProductCategories.aspx> for the product categories and <http://www.biopreferred.gov/bioPreferredCatalog/faces/jsp/catalogLanding.jsp> for the BioPreferred Catalog. Submit data for the biobased products to include biobased content and source of biobased material; indicating the name of the manufacturer, cost of each material, and the intended use of each of the materials that are to be used in carrying out the requirements of the contract.

#### 1.6 EXEMPTIONS

- A. The EPA/USDA recommended minimum recycled/biobased content levels are mandatory for procurements of those items listed in the Green Procurement Reporting Form, unless one of the following exemptions applies:
1. The product is not available from a sufficient number of sources to maintain a satisfactory level of competition (i.e., available from two or more sources).
  2. The product is not available within a reasonable period of time.
  3. The product does not meet the performance standards in applicable specifications or fails to meet reasonable performance standards of the procuring agency.
  4. The product is not available at a reasonable price. For Air Force purposes, "unreasonable price" is defined as follows:
    - a. If the price of the recycled-content/biobased product exceeds the cost of a similar non-recycled/non-biobased item, then the price is considered unreasonable.
- B. Contractor Responsibility: The Contractor is responsible for completion of the form with respect to the work and products being provided. The Prime Contractor is responsible for ensuring all Subcontractors comply with this order. Each Contractor shall provide written documentation to support his/her decision not to acquire items meeting the minimum content levels. This documentation shall be forwarded to the Contracting Officer for review and approval. In the event the documentation fails to support the Contractor's findings, the Contracting Officer's Representative shall return the documentation to the Contractor citing the reason(s) for disapproval. The Contractor shall resubmit and address the deficiencies. The

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Contractor is cautioned not to proceed with acquiring noncompliant materials until the Contracting Officer's approval is received.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 SUPPLEMENTS

A. The supplements listed below, following "End of Section," are a part of this Specification:

1. Green Procurement Reporting Form.

END OF SECTION 01 62 35

**GREEN PROCUREMENT REPORTING FORM**

PROJECT NUMBER \_\_\_\_\_  
 PROJECT MANAGER \_\_\_\_\_  
 PROJECT INSPECTOR \_\_\_\_\_  
 CONTRACTOR \_\_\_\_\_

This form is to be completed by the contractor and submitted to the Contracting Officer.

<b>RECYCLED OR RECOVERED PRODUCT</b>	<b>TOTAL RECOVERED MATERIALS CONTENT (RMC) (%)</b>	<b>ACTUAL RMC (%)</b>	<b>QUANTITY USED/UI</b>	<b>EXEMPTED 1,2,3,4</b>
Rock Wool Insulation	75			
Fiberglass Insulation	20-25			
Cellulose loose fill/Spray-on Insulation	75			
Perlite Composition Board Insulation	23			
Plastic Rigid Foam Insulation	9			
Plastic Foam In Place Insulation	5			
Plastic Foam, Glass Fiber Reinforced Insulation	6			
Phenolic Rigid Foam Insulation	5			
Structural Fiber Board	80-100			
Laminated Paper Board	100			
Cement/Concrete (FLYASH)	SEE SPEC			
High Fly Ash Flowable Fills	95			
Low Fly Ash Content Flowable Fill	6-14			
Carpet (PET)	25-100			
Bonded polyurethane Carpet Cushion	15-50			
Jute Carpet Cushion	40			
Synthetic fibers Carpet Cushion	100			
Rubber Carpet Cushion	60-90			
Rubber Plastic Patio Blocks	90-100			
Rubber or Plastic Floor Tile	90-100			
Steel Restroom Divider/Partition	16			
Plastic Restroom Divider/Partition	20-100			
Concrete Railroad Crossing	15-20			
Rubber Railroad Crossing	85-95			
Steel Railroad Crossing	25-30 BOF/100 EAF			
Traffic cones made from PVC, LDPE, crumb rubber	50-100			
Traffic Barricades (Type I and II only) made from HDPE, LDPE, PET, steel, fiberglass	100			
Channelizers, Plastic	25-95			
Channelizers, rubber base	100			
Delineators, plastic	25-90			
Delineators, rubber base	100			
Delineators, steel base	25-50			
Flexible plastic delineators	25-85			
Parking Stops, Plastic or Rubber	100			
Parking Stops, Concrete containing coal fly ash	20-40			
Parking Stops, Concrete containing Ground-Granulated Blast Furnace Slag	25-70			
Playground Surfaces, including rubber or plastic	90-100			
Plastic Fencing for use to control snow, drifting sand, or as a safety barrier	90-100			
Running Tracks. Including rubber or plastic	90-100			

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Plastic Park benches and Picnic Tables	100			
Plastic composite Park benches and Picnic Tables	100			
Aluminum Park benches and Picnic Tables	25			
Concrete Park benches and Picnic Tables	15-40			
Steel Park benches and Picnic Tables	25-30 BOF/100 EAF			
Plastics Playground Equipment	100			
Plastic Composites Playground Equipment	95-100			
Steel Playground Equipment	25-30 BOF/100 EAF			
Aluminum Playground Equipment	25			
Garden hose, rubber or plastic	60-65 post-consumer materials			
Soaker hose, rubber or plastic	60-70 post-consumer materials			
Lawn/garden edging, plastic or rubber	30-100			
Paper-based hydraulic mulch	100			
Wood-based hydraulic mulch	100			
Compost Purchase or use compost made from yard trimmings, leaves, grass clippings, and food waste	100			
HDPE lumber timbers and posts	75-100			
Mixed plastics/Sawdust lumber timbers and posts	100			
HDPE/Fiberglass lumber timbers and posts	95			
Other mixed resins lumber timbers and posts	95-100			
Latex Paint; white, off-white or pastel colors	20			
Latex Paint; gray, brown, earth-tones, other dark colors	50-99			
Consolidated Latex Paint (when color and performance don't matter).	100			
Plastic Non-road Signs	80-100			
Aluminum Signs	25			
Plastic Sign Posts and Supports	80-100			
Steel Sign Posts and Supports	25-30 BOF/100 EAF			
Awards and Plaques	Glass	75-100		
	Wood	100		
	Paper	40-100		
	Plastic and Plastic/Wood Composite	50-100		

Cement	ASTM C 595, "Standard Specification for Blended Hydraulic Cements" ASTM C 150, "Standard Specification for Portland Cement" AASHTO M 240, "Blended Hydraulic Cements"
Concrete	ASTM C 618, "Standard Specification for Fly-Ash and Raw or Calcined Natural Pozzolans For Use as a Mineral Admixture in Portland Cement Concrete" ASTM C 311, "Standard Methods of Sampling and Testing Fly-Ash and Natural Pozzolans for Use as a Mineral Admixture in Portland Concrete Cement" ASTM C 989, "Ground-Granulated Blast Furnace Slag for Use in Concrete Mortars" AASHTO M 302, "Ground-Granulated Blast Furnace Slag for Use in Concrete and Mortars" American Concrete Institute Standard Practice ACI 226.R1, "Ground-Granulated Blast Furnace Slag as a Cementitious Constituent in Concrete"

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<b>BIOBASED PRODUCT</b>	<b>MINIMUM BIOBASED CONTENT (MBC) (%)</b>	<b>ACTUAL MBC (%)</b>	<b>QUANTITY USED/UI</b>	<b>EXEMPTED 1,2,3,4</b>
Adhesive and Mastic Removers	58			
Asphalt and Tar Removers	80			
Asphalt Restorers	68			
Carpets	7			
Composite Panels – Acoustical	37			
Composite Panels – Countertops and Solid Surface Products	89			
Composite Panels – Interior Panels	55			
Composite Panels – Plastic Lumber	23			
Composite Panels – Structural Interior Panels	89			
Composite Panels – Structural Wall Panels	94			
Concrete and Asphalt Cleaners	70			
Concrete and Asphalt Release Fluids	87			
Erosion Control Materials	77			
Floor Coverings (Non-Carpet)	91			
Interior Paints and Coatings – Latex and Waterborne Alkyd	20			
Interior Paints and Coatings – Oil-based and Solventborne Alkyd	67			
Paint Removers	41			
Plastic Insulating Foam	7			
Roof Coatings	20			
Wastewater Systems Coatings	47			
Wood and Concrete Sealers – Membrane Concrete Sealers	11			
Wood and Concrete Sealers – Penetrating Liquids	79			
Wood and Concrete Stains	39			

The following exemptions may apply to the non-procurement of recycled/recovered content and/or bio-based materials, and should be entered if necessary in column 5:

- 1) The product does not meet appropriate performance standards
- 2) The product is not available within a reasonable time frame
- 3) The product is not available competitively (from two or more sources)
- 4) The product is only available at an unreasonable price (compared with a comparable non-recycled/non-bio-based content product.)

**CERTIFICATION**

I hereby certify the requisition/procurement of all materials listed on this form complies with EPA and USDA standards for recycled/recovered materials and/or bio-based content.

\_\_\_\_\_  
Contractor (Signature)

\_\_\_\_\_  
Date

SECTION 01 64 00 - SANG FURNISHED/CONTRACTOR INSTALLED EQUIPMENT

PART 1 - GENERAL

1.1 SANG FURNISHED/CONTRACTOR INSTALLED EQUIPMENT (GF/CI)

- A. SANG furnished/Contractor installed equipment shall be handled in accordance with the clause entitled "SANG Furnished Property."
- B. SANG Furnished Equipment: SANG will furnish the equipment indicated for installation by the Contractor, as follows:
- C. SANG Furnished (Relocated)/Contractor Installed Items: As indicated on the Drawings.
- D. Contractor's Duties:
  - 1. Designate required delivery date for each product in Progress Schedule.
  - 2. Notify the Contracting Officer in writing at least 72 business hours in advance of the date that SANG furnished equipment and furnishings will be needed.
  - 3. Shop Drawings indicating dimensional locations of all plumbing and electrical rough-ins will be furnished by SANG.
  - 4. The equipment will be received at the jobsite by a representative of SANG who will jointly, with the Contractor, verify condition and quantities. The representative will then effect receipted transfer of custody of the equipment to the Contractor.
  - 5. Unload, handle, store (onsite), protect, uncrate, assemble, install, set in final position, align, join, level, and make all utility connections to all items of equipment. Installation shall be performed in accordance with the specifications, equipment plans, and schedules shown on the Drawings and the rough-in Drawings provided by SANG.
  - 6. Construct all openings, furnish and install required sleeves and furnish and install all reinforcing, miscellaneous supports, angles, plates, anchors, and bolts necessary to secure SANG furnished equipment in place.
  - 7. Repair or replace items damaged as a result of Contractor's operations.
  - 8. Apply finish indicated, if any.
  - 9. The installation shall be complete in all respects, including mechanical and electrical hook ups, and put into good operating condition.
- E. SANG Duties:
  - 1. Deliver all SANG furnished items to the jobsite.
  - 2. Schedule delivery date with Supplier in accordance with Progress Chart.
  - 3. Provide Contractor with installation Drawings and instructions.
  - 4. Provide Contractor with Shop Drawings indicating dimensional locations of all plumbing and electrical rough-ins.

1.2 DELIVERY DATE CHANGES

- A. Requests by Contractor to change designated delivery dates shall be made in writing at least 72 business hours in advance of the designated delivery date. If the Contractor is not ready to accept delivery of SANG furnished equipment the Contractor shall be responsible for storage and delivery cost. Should SANG be unable to effect the change, or should the Contractor fail to submit his request within the time stated above, the Contractor's obligation under his contract and as stated herein shall not be relieved and further, the Contractor will have no basis upon which he can file a claim under these conditions.

END OF SECTION 01 64 00

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SECTION 01 73 00 - CLEANING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Progress Cleaning.
- B. Final Cleaning.

1.2 RELATED SECTIONS

- A. General Provisions of the Contract.
- B. Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- C. Section 01 10 00, Summary of Work.
- D. Section 01 52 13, Field Offices and Sheds.
- E. Section 01 73 29, Cutting and Patching.
- F. Individual Specification Sections - Cleaning Requirements.

1.3 SAFETY REQUIREMENTS

- A. Standards: Maintain project in accordance with the following safety and insurance standards:
  - 1. The Corps of Engineers Manual, EM 385-1-1, latest edition, entitled: "General Safety Requirements", as referred to in General Provisions, Paragraph: "Accident Prevention".
- B. OSHA. Standards: The Contractor shall be required to comply with OSHA Standards. The OSHA Standards are subject to change, and such changes may affect the Contractor in his performance under the contract. It is the Contractor's responsibility to know such changes, effective dates of changes, and comply with all requirements.
- C. Hazards Control:
  - 1. Store volatile wastes in covered metal containers and remove from premises daily.
  - 2. Prevent accumulation of wastes which create hazardous conditions.
  - 3. Provide adequate ventilation during the use of volatile or noxious substances.
- D. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
  - 1. Do not burn or bury rubbish and waste materials on the installation.
  - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.



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3. Do not dispose of wastes into streams or waterways.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Use only cleaning materials recommended by the manufacturer of the surface to be cleaned.
- B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

### PART 3 - EXECUTION

#### 3.1 PROGRESS CLEANING AND WASTE REMOVAL

- A. Execute cleaning to ensure that the building, grounds, and public properties are maintained free from accumulations of waste materials and rubbish.
- B. Maintain site in a clean and orderly condition.
- C. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- D. Collect and remove waste materials, debris, and rubbish from the site in a timely manner and legally dispose of at public or private dumping areas off of Government property.
- E. Broom and vacuum clean interior areas prior to start of surface finishing. Continue cleaning to eliminate dust.
- F. Handle materials in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights.
- G. Schedule cleaning operations so that dust and other contaminants resulting from the cleaning process will not fall on wet, newly painted surfaces.
- H. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.
- I. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

#### 3.2 FINAL CLEANING

- A. Employ professional cleaners for final cleaning.
- B. In preparation for occupancy, conduct final inspection of sight-exposed interior and exterior surfaces and of concealed spaces.

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- C. Remove grease, dust, dirt, stains, temporary labels, fingerprints, and other foreign substances from sight-exposed interior and exterior finished surfaces; polish surfaces so designated to shine; finish vacuum carpeted and soft surfaces.
- D. Repair, patch, and touch-up marred surfaces to specified finish, to match adjacent surfaces.
- E. Clean debris from roofs, gutters, downspouts, and drainage systems.
- F. Clean site; broom clean paved areas; rake clean landscaped surfaces.
- G. Clean all exterior and interior glass.
- H. Replace air conditioning filters if units were operated during construction.
- I. Clean ducts, blowers, and coils, if HVAC units were operated without filters during construction.
- J. Replace filters of equipment operated during construction.
- K. Remove waste and surplus materials, rubbish, construction facilities, tools, equipment, and machinery from the site.
- L. Maintain cleaning until project, or portion thereof, is occupied by SANG.

END OF SECTION 01 73 00

SECTION 01 73 29 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Requirements and limitations for cutting and patching of Work.

1.2 RELATED SECTIONS

- A. Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- B. Section 01 10 00, Summary of Work.
- C. Section 01 33 00, Submittals.
- D. Section 01 60 00, Material and Equipment.
- E. Individual Product Specification Sections:
  - 1. Cutting and patching incidental to work of the section.
  - 2. Advance notification to other sections of openings required in work of those sections.
  - 3. Limitations on cutting structural members.
- F. Division 21: Fire Suppression.
- G. Division 22: Plumbing.
- H. Division 23: Heating, Ventilating, and Air-Conditioning.
- I. Division 26: Electrical.

1.3 SUBMITTALS

- A. Submit written request to the Contracting Officer in advance of cutting or alteration which affects:
  - 1. Structural integrity of any element of Project.
  - 2. Integrity of weather exposed or moisture resistant element.
  - 3. Efficiency, maintenance, or safety of any operational element.
  - 4. Visual qualities of sight exposed elements.
  - 5. Work of SANG or separate Contractor.
- B. Include in request:
  - 1. Identification of Project.
  - 2. Location and description of affected Work.

3. Necessity for cutting or alteration.
4. Description of proposed Work and Products to be used.
  - a. Scope of cutting and patching.
  - b. Trades to execute work.
  - c. Products proposed to be used.
  - d. Extent of refinishing.
5. Alternatives to cutting and patching.
6. Effect on other work.
7. Effect on structural integrity of the project.
8. Effect on work of SANG or separate Contractor.
9. Written permission of affected separate Contractor.
10. Date and time work will be executed.

- C. Submit cost estimate for cutting and patching requested by the Contracting Officer that is beyond the contract requirements.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Primary Products: Those required for original installation.
- B. Product substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00, Material and Equipment.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.
- B. After uncovering existing Work, assess conditions affecting performance of work.
- C. Beginning of cutting or patching means acceptance of existing conditions.

### 3.2 PREPARATION

- A. Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.
- B. Provide protection from elements for areas which may be exposed by uncovering work.
- C. Maintain excavations free of water.

### 3.3 CUTTING

- A. Execute cutting and fitting including excavation and fill to complete the Work.
- B. Uncover work to install improperly sequenced work.
- C. Remove and replace defective or non-conforming work.
- D. Remove samples of installed work for testing when specified or requested in writing by the Contracting Officer.
- E. Provide openings in the Work for penetration of mechanical and electrical work.
- F. Remove work to provide for alteration of work.
- G. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- H. Cut rigid materials using masonry saw or core drill. Pneumatic tools are not allowed without prior approval.
- I. Do not endanger any work by cutting or altering work or any part of the work.
- J. Do not cut or alter work of another Contractor without written consent of the Contracting Officer.
- K. Upon receipt of written instructions from the Contracting Officer, uncover work to provide for Contracting Officer's observation of covered work. All costs associated with cutting/patching to uncover work shall be borne by the Contractor.

### 3.4 PATCHING

- A. Execute patching to complement adjacent Work.
- B. Fit products together to integrate with other Work.
- C. Work shall be executed by methods that avoid damage to other Work. Provide appropriate surfaces to receive patching and finishing.
- D. The original installer shall perform patching for weather exposed and moisture resistant elements, and sight-exposed surfaces.
- E. All patching shall be completed utilizing new products. Refer to appropriate specification sections for product requirements.
- F. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- G. Completely seal voids with fire rated materials to the full thickness of the penetrated element at all penetrations of fire rated walls, partitions, ceilings, and floors.

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- H. After cutting and/or patching, refinish surfaces to match adjacent finish. For continuous surfaces, refinish to the nearest intersection or natural break point. For an assembly, refinish the entire unit.

END OF SECTION 01 73 29

SECTION 01 74 00 - WARRANTIES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. This section includes administrative and procedural requirements for warranties required by the Contract Documents, including manufacturers standard warranties on products and special warranties.
  - 1. Refer to Section 01 00 00, Requirements of Selfridge Air National Guard Base, for warranty terms and conditions.
- B. Disclaimers and Limitations: manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve Suppliers, manufacturers, and Subcontractors required to countersign special warranties with the Contractor.

1.2 DEFINITIONS

- A. Standard product warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Contracting Officer.
- B. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Contracting Officer.

1.3 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.
- 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 with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Contracting Officer has benefited from use of the Work through a portion of its anticipated useful service life.

- D. Contracting Officer's Recourse; Expressed warranties made to the Contracting Officer are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Contracting Officer can enforce such other duties, obligations, rights, or remedies.
  - 1. Rejection of Warranties: The Contracting Officer reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
- E. Where the Contract Documents require a special warranty, or similar commitment on the Work or part of the Work, the Contracting Officer reserves the right to refuse to accept the Work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.

#### 1.4 SUBMITTALS

- A. When the Contract Documents require the Contractor, or the Contractor and a Subcontractor, Supplier or manufacturer to execute a special warranty, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Contracting Officer for approval prior to final execution.
- B. Form of Submittal: At Final Completion compile **in quadruplicate or as specified by the delivery order** of each required warranty properly executed by the Contractor, or by the Contractor, Subcontractor, Supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Maintenance Manual.

#### PART 2 - PRODUCTS (NOT USED)

#### PART 3 - EXECUTION

##### 3.1 LIST OF WARRANTIES

- 1. Provide a list of warranties on products and installations as specified **with associated milestone inspections and expiration dates.**

END OF SECTION 01 74 00



SECTION 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
  - 1. Salvaging nonhazardous construction waste.
  - 2. Recycling nonhazardous construction waste.
  - 3. Disposing of nonhazardous construction waste.
- B. Related Sections:
  - 1. Section 02 41 19, Selective Structure Demolition, for disposition of waste resulting from demolition of buildings, structures, and site improvements, and for disposition of hazardous waste.
  - 2. Section 04 20 00, Unit Masonry, for disposal requirements for masonry waste.
  - 3. Section 31 10 00, Site Clearing, for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.3 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 offsite 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.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. General: Achieve end-of-Project rates for salvage/recycling of 75 percent or greater by weight of total non-hazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials.

- 1. Construction Waste:

- a. Site-clearing waste.
- b. Masonry and CMU.
- c. Lumber.
- d. Wood sheet materials.
- e. Wood trim.
- f. Metals.
- g. Roofing.
- h. Insulation.
- i. Carpet and pad.
- j. Gypsum board.
- k. Piping.
- l. Electrical conduit.
- m. Packaging: Regardless of salvage/recycle goal indicated in paragraph above, salvage or recycle 100 percent of the following uncontaminated packaging materials:
  - 1) Paper.
  - 2) Cardboard.
  - 3) Boxes.
  - 4) Plastic sheet and film.
  - 5) Polystyrene packaging.
  - 6) Wood crates.
  - 7) Plastic pails.

#### 1.5 ACTION SUBMITTALS

- A. Waste Management Plan: Submit plan within 14 days of date established for the Notice to Proceed.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Use Form CWM-7 for construction waste and demolition waste. Include the following information:

1. Material category.
  2. Generation point of waste.
  3. Total quantity of waste in tons (tonnes).
  4. Quantity of waste salvaged, both estimated and actual in tons (tonnes).
  5. Quantity of waste recycled, both estimated and actual in tons (tonnes).
  6. Total quantity of waste recovered (salvaged plus recycled) in tons (tonnes).
  7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- C. 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.
- D. 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.
- E. LEED Submittal: LEED letter template for Credit MR 2.1 and 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.
- F. Qualification Data: For waste management coordinator.

#### 1.7 QUALITY ASSURANCE

- A. Waste Management Coordinator Qualifications: Experienced firm, with a record of successful waste management coordination of Projects with similar requirements. Waste management coordinator may also serve as LEED coordinator.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Waste Management Conference: Conduct conference at Project site to review methods and procedures related to waste management including, but not limited to, the following:
1. Review and discuss waste management plan including responsibilities of waste management coordinator.
  2. Review requirements for documenting quantities of each type of waste and its disposition.
  3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
  4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
  5. Review waste management requirements for each trade.

1.8 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to ASTM E 1609 and requirements of this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Distinguish between demolition and construction waste. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of site-clearing and construction waste generated by the Work. Use Form CWM-1 for construction waste. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Use Form CWM-3 for construction waste. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
  - 1. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
  - 2. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
  - 3. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.
- D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Use Form CWM-5 for construction waste. Include the following:
  - 1. Total quantity of waste.
  - 2. Estimated cost of disposal (cost per unit). Include hauling and tipping fees and cost of collection containers for each type of waste.
  - 3. Total cost of disposal (with no waste management).
  - 4. Revenue from salvaged materials.
  - 5. Revenue from recycled materials.
  - 6. Savings in hauling and tipping fees by donating materials.
  - 7. Savings in hauling and tipping fees that are avoided.
  - 8. Handling and transportation costs. Include cost of collection containers for each type of waste.
  - 9. Net additional cost or net savings from waste management plan.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
  - 1. Comply with Section 01 50 00, Construction Facilities and Temporary Controls, for operation, termination, and removal requirements.
  - 2. Maintain photographic record showing the condition of storage and sorting containers.
    - a. Sufficient quantities of photos shall be taken monthly to demonstrate compliance with Waste Reduction Plan.
    - b. Photos shall include signage and debris control measures.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
  - 1. Distribute waste management plan to everyone concerned within 3 days of submittal return.
  - 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  - 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
  - 2. Comply with Section 01 50 00, Construction Facilities and Temporary Controls, for controlling dust and dirt, environmental protection, and noise control.

### 3.2 RECYCLING CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.
- C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
  - a. Inspect containers and bins for contamination and remove contaminated materials if found.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste offsite and transport to recycling receiver or processor.

### 3.3 RECYCLING CONSTRUCTION WASTE

#### A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

#### B. Site-Clearing Wastes: Chip brush, branches, and trees on-site.

1. Comply with requirements in Section 32 92 00, Turf and Grasses, for use of chipped organic waste as organic mulch.

#### C. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.

#### D. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.

### 3.4 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.

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2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Disposal: Transport waste materials offsite and legally dispose of them.

3.5 SUPPLEMENTS

A. The supplements listed below, following “End of Section,” are a part of this Specification:

1. Form CWM-1: Construction Waste Identification.
2. Form CWM-3: Construction Waste Reduction Work Plan.
3. Form CWM-5: Cost/Revenue Analysis of Construction Waste Reduction Work Plan.
4. Form CWM-7: Construction Waste Reduction Progress Report.

END OF SECTION 01 74 19

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<b>FORM CWM-1: CONSTRUCTION WASTE IDENTIFICATION</b>						
<b>MATERIAL CATEGORY</b>	<b>GENERATION POINT</b>	<b>EST. QUANTITY OF MATERIALS RECEIVED* (A)</b>	<b>EST. WASTE - % (B)</b>	<b>TOTAL EST. QUANTITY OF WASTE* (C = A x B)</b>	<b>EST. QUANTITY OF RECYCLING* (D = A-C)</b>	<b>REMARKS AND ASSUMPTIONS</b>
Packaging: Cardboard						
Packaging: Boxes						
Packaging: Plastic Sheet or Film						
Packaging: Polystyrene						
Packaging: Pallets or Skids						
Packaging: Crates						
Packaging: Paint Cans						
Packaging: Plastic Pails						
Site-Clearing Waste						
Masonry or CMU						
Lumber: Cut-Offs						
Lumber: Warped Pieces						
Plywood or OSB (scraps)						
Wood Forms						
Wood Waste Chutes						
Wood Trim (cut-offs)						
Metals						
Insulation						
Roofing						
Joint Sealant Tubes						
Gypsum Board (scraps)						
Carpet and Pad (scraps)						
Piping						
Electrical Conduit						
Other:						

\* Units of measure - Tons.



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<b>FORM CWM-3: CONSTRUCTION WASTE REDUCTION WORK PLAN</b>						
<b>MATERIAL CATEGORY</b>	<b>GENERATION POINT</b>	<b>TOTAL EST. QUANTITY OF WASTE TONS (TONNES)</b>	<b>DISPOSAL METHOD AND QUANTITY</b>			<b>HANDLING AND TRANSPORTION PROCEDURES</b>
			<b>EST. AMOUNT SALVAGED TONS (TONNES)</b>	<b>EST. AMOUNT RECYCLED TONS (TONNES)</b>	<b>EST. AMOUNT DISPOSED TO LANDFILL TONS (TONNES)</b>	
Packaging: Cardboard						
Packaging: Boxes						
Packaging: Plastic Sheet or Film						
Packaging: Polystyrene						
Packaging: Pallets or Skids						
Packaging: Crates						
Packaging: Paint Cans						
Packaging: Plastic Pails						
Site-Clearing Waste						
Masonry or CMU						
Lumber: Cut-Offs						
Lumber: Warped Pieces						
Plywood or OSB (scraps)						
Wood Forms						
Wood Waste Chutes						
Wood Trim (cut-offs)						
Metals						
Insulation						
Roofing						
Joint Sealant Tubes						
Gypsum Board (scraps)						
Carpet and Pad (scraps)						
Piping						
Electrical Conduit						
Other:						

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<b>FORM CWM-5: COST/REVENUE ANALYSIS OF CONSTRUCTION WASTE REDUCTION WORK PLAN</b>								
<b>MATERIALS</b>	<b>TOTAL QUANTITY OF MATERIALS (VOL. OR WEIGHT) (A)</b>	<b>EST. COST OF DISPOSAL (B)</b>	<b>TOTAL EST. COST OF DISPOSAL (C = A x B)</b>	<b>REVENUE FROM SALVAGED MATERIALS (D)</b>	<b>REVENUE FROM RECYCLED MATERIALS (E)</b>	<b>LANDFILL TIPPING FEES AVOIDED (F)</b>	<b>HANDLING AND TRANSPORTATION COSTS AVOIDED (G)</b>	<b>NET COST SAVINGS OF WORK PLAN (H = D+E+F+G)</b>
Packaging: Cardboard								
Packaging: Boxes								
Packaging: Plastic Sheet or Film								
Packaging: Polystyrene								
Packaging: Pallets or Skids								
Packaging: Crates								
Packaging: Paint Cans								
Packaging: Plastic Pails								
Site-Clearing Waste								
Masonry or CMU								
Lumber: Cut-Offs								
Lumber: Warped Pieces								
Plywood or OSB (scraps)								
Wood Forms								
Wood Waste Chutes								
Wood Trim (cut-offs)								
Metals								
Insulation								
Roofing								
Joint Sealant Tubes								
Gypsum Board (scraps)								
Carpet and Pad (scraps)								
Piping								
Electrical Conduit								
Other:								

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<b>FORM CWM-7: CONSTRUCTION WASTE REDUCTION PROGRESS REPORT</b>								
<b>MATERIAL CATEGORY</b>	<b>GENERATION POINT</b>	<b>TOTAL QUANTITY OF WASTE TONS (TONNES) (A)</b>	<b>QUANTITY OF WASTE SALVAGED</b>		<b>QUANTITY OF WASTE RECYCLED</b>		<b>TOTAL QUANTITY OF WASTE RECOVERED TONS (TONNES) (D = B + C)</b>	<b>TOTAL QUANTITY OF WASTE RECOVERED % (D / A x 100)</b>
			<b>ESTIMATED TONS (TONNES)</b>	<b>ACTUAL TONS (TONNES) (B)</b>	<b>ESTIMATED TONS (TONNES)</b>	<b>ACTUAL TONS (TONNES) (C)</b>		
Packaging: Cardboard								
Packaging: Boxes								
Packaging: Plastic Sheet or Film								
Packaging: Polystyrene								
Packaging: Pallets or Skids								
Packaging: Crates								
Packaging: Paint Cans								
Packaging: Plastic Pails								
Site-Clearing Waste								
Masonry or CMU								
Lumber: Cut-Offs								
Lumber: Warped Pieces								
Plywood or OSB (scraps)								
Wood Forms								
Wood Waste Chutes								
Wood Trim (cut-offs)								
Metals								
Insulation								
Roofing								
Joint Sealant Tubes								
Gypsum Board (scraps)								
Carpet and Pad (scraps)								
Piping								
Electrical Conduit								
Other:								

SECTION 01 75 00 - STARTING OF SYSTEMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Starting Systems.
- B. Demonstration and instructions.
- C. Testing, adjusting and balancing.

1.2 RELATED SECTIONS

- A. Section 01 40 00, Quality Requirements: Manufacturers field reports.
- B. Section 01 77 00, Project Closeout: System operation and maintenance data and extra materials.

1.3 STARTING SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Contracting Officer's Representative 72 business hours 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, and for conditions which may cause damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable manufacturer's representative and/or Contractors' personnel in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require manufacturer to provide 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 01 33 00, Submittals, that equipment or system has been properly installed and is functioning correctly.

1.4 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of products to SANG and the Installation's personnel 2 weeks prior to date of final inspection.
  - 1. Attendance rosters shall be completed at each demonstration and training session.
- B. Demonstrate project equipment 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 months.
- D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with SANG and the Installation's personnel 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 time at designated location.
- F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- G. The amount of time required for instruction on each item of equipment and system is that specified in individual sections.

1.5 TESTING, ADJUSTING AND BALANCING

- A. The Contractor will appoint, employ, and pay for services of an independent firm to perform testing, adjusting, and balancing.
- B. Reports will be submitted by the independent firm to the Contracting Officer indicating observations and results of tests and indicating compliance or non-compliance with the requirements of the Contract Documents.

END OF SECTION 01 75 00

SECTION 01 77 00 – PROJECT CLOSEOUT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Final Inspections.
- B. Closeout Submittals.

1.2 RELATED SECTIONS

- A. General Provisions of the Contract - “Final Acceptance and Payment.”
- B. Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- C. Section 01 33 00, Submittals.
- D. Section 01 73 00, Cleaning: Final Cleaning.
- E. Section 01 75 00, Starting of Systems: System Start-up.
- F. Section 01 78 23, Operation and Maintenance Data.
- G. Section 01 78 39, Project Record Documents.

1.3 FINAL INSPECTION

- A. Prior to final inspection, the Contractor shall submit written certification that:
  - 1. Contract documents have been reviewed.
  - 2. Project has been inspected for compliance with Contract Documents.
  - 3. Work has been completed in accordance with Contract Documents.
  - 4. Equipment and systems have been tested in the presence of SANG and the Installation’s Representatives and are operational.
  - 5. Project is completed and ready for final inspection.
- B. Contracting Officer will make final inspection after receipt of certification.
- C. Should the Contracting Officer consider that work is finally complete in accordance with requirements of Contract Documents, the Contracting Officer shall request that the Contractor complete the project closeout submittals.
- D. Should the Contracting Officer consider that work is not finally complete:
  - 1. The Contracting Officer shall notify the Contractor, in writing, stating the reasons.

2. The Contractor shall take immediate steps to remedy the stated deficiencies, and send second written notice to the Contracting Officer certifying that work is complete.
3. The Contracting Officer will reinspect the work after receipt of certification.

1.4 PROJECT RECORD DOCUMENTS

- A. Project Record Documents: Specified requirements of Section 01 78 39, Project Record Documents.

1.5 OPERATION AND MAINTENANCE DATA

- A. Operation and Maintenance Data: Specified requirements of Section 01 78 23, Operation and Maintenance Data.

1.6 OPERATION AND MAINTENANCE INSTRUCTION

- A. Operation and Maintenance instruction of SANG and the Installation's designated personnel: Specified requirements of Section 01 78 23, Operation and Maintenance Data.

1.7 PREPARATION OF DD FORM 1354 "TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY"

- A. At the conclusion of the project the Contractor shall compile and furnish to the Contracting Officer certain costs and quantity data of materials and systems furnished and installed.
- B. A list of items for which the costs and quantity data are required will be furnished to the Contractor by the Contracting Officer.
- C. A Completed DD Form 1354 shall be returned to the Contracting Officer within 10 days from the receipt of the list of items.
- D. Refer to Section 01 00 00, Requirements of Selfridge Air National Guard Base, for additional information.

1.8 WARRANTY AND EXTENDED WARRANTIES

- A. Upon completion of project, prior to final payment, guarantees required by technical divisions of Specifications shall be properly executed in quadruplicate **or as specified by the delivery order** by subcontractors and submitted to Contracting Officer. Delivery of guarantees shall not relieve Contractor from any obligation assumed under contract.
- B. Submit guarantee covering entire project for 1 year. In addition, where separate guarantees, for certain portions of work, are for longer periods, the General Contractor's guarantee shall be extended to cover such longer periods.

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- C. Guarantees shall become valid and operative upon issuance of Certificate of Inspection and Acceptance by SANG. Guarantees shall not apply to work where damage is a result of abuse or neglect by SANG, or their successor(s) in interest.

END OF SECTION 01 77 00



SECTION 01 78 23 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Format and content of manuals.
- B. Instruction of SANG and the Installation's personnel.
- C. Schedule of submittals.

1.2 RELATED SECTIONS

- A. Section 01 00 00, Requirements of Selfridge Air National Guard Base.
- B. Section 01 33 00, Submittals: Submittals procedures. Shop Drawings, product data, and samples.
- C. Section 01 40 00, Quality Requirements: Manufacturers' instructions.
- D. Section 01 45 23, Testing Services: Test and balance reports.
- E. Section 01 60 00, Material and Equipment: Systems demonstration.
- F. Section 01 74 00, Warranties.
- G. Section 01 77 00, Project Closeout.
- H. Individual Specifications Sections: Specific requirements for operation and maintenance data.

1.3 QUALITY ASSURANCE

- A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.4 FORMAT

- A. Prepare data in the form of **one hard copy instructional manual and two electronic copies.**
- B. Binders: Commercial quality, 8-1/2 by 11-inch (216 by 280-mm) three D side ring binders with durable plastic covers; 2-inch (50-mm) maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- C. Cover: Identify each binder with typed title OPERATION AND MAINTENANCE MANUAL; identify title of Project; identify subject matter of contents.

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- D. Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.
- E. Text: Manufacturer's printed data, or typewritten data on 20-pound paper.
- F. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger Drawings to size of text pages.
- G. Contents: Prepare a Table of Contents for each volume, with each Product or system description identified, in three parts as follows:
  - 1. Part 1: Directory, listing names, roles, addresses, and telephone numbers of Contracting Officer, Contractor, Subcontractors, and major equipment suppliers.
  - 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and Suppliers. Identify the following:
    - a. Significant design criteria.
    - b. List of equipment.
    - c. Parts list for each component.
    - d. Operating instructions.
    - e. Valve chart.
    - f. Maintenance instructions for equipment and systems.
    - g. Maintenance instructions for finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
  - 3. Part 3: Project documents and certificates, including the following:
    - a. Shop Drawings and product data.
    - b. Air and water balance reports.
    - c. Certificates.
    - d. Photocopies of warranties.
    - e. Attendance rosters for training sessions.
    - f. DVD of training sessions (as directed by the delivery order).

### 1.5 CONTENTS, EACH VOLUME

- A. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Contracting Officer, Subconsultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.
- B. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and Suppliers, including local source of supplies and replacement parts.
- C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.

- E. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 40 00, Quality Requirements.
- F. Warranties: Bind in copy of each.

#### 1.6 MANUAL FOR MATERIALS AND FINISHES

- A. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. Provide information for re-ordering custom manufactured Products.
- B. 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.
- C. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional Requirements: As specified in individual Product specification sections.
- E. Provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

#### 1.7 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. 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.
- B. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- C. Include color coded wiring diagrams as installed.
- D. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- E. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- F. Provide servicing and lubrication schedule, and list of lubricants required.
- G. Include manufacturer's printed operation and maintenance instructions.

- H. Include sequence of operation by controls manufacturer.
- I. Provide original manufacturer's parts list, illustrations, assembly Drawings, and diagrams required for maintenance.
- J. Provide control diagrams by controls manufacturer as installed.
- K. Provide Contractor's coordination Drawings, with color coded piping diagrams as installed.
- L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- N. Include test and balancing reports as specified in Section 01 45 23, Testing Services.
- O. Additional Requirements: As specified in individual Product specification sections.
- P. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.

#### 1.8 INSTRUCTION OF SANG AND THE INSTALLATION'S PERSONNEL

- A. After all systems are functioning properly and before final inspection, the Contractor shall provide at his expense, manufacturer's representatives to instruct SANG and the Installation's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems, at agreed upon times.
- B. Training sessions shall be limited to 4 continuous hours where practical. Schedule additional 4-hour sessions as required.
- C. For equipment requiring seasonal operation, perform instructions for other seasons **prior to 1 year warranty expiration**.
- D. Use operation and maintenance manuals as basis for instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- E. Prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

#### 1.9 SUBMITTALS

- A. For equipment, or component parts of equipment put into service during construction and operated by SANG, submit documents within ten days after acceptance.
- B. Submit **one hard copy instructional manual and two electronic copies** within 10 days after final inspection.

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END OF SECTION 01 78 23

SECTION 01 78 39 – PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Project Record Document procedure.
- B. Project Record Document Submittal procedure.

1.2 RELATED SECTIONS

- A. Section 01 33 00, Submittals.
- B. Section 01 77 00, Project Closeout.

1.3 MAINTENANCE OF DOCUMENTS

- A. Maintain onsite one set of the following record documents; record actual revisions to the work:
  - 1. Contract Drawings.
  - 2. Specifications.
  - 3. Addenda.
  - 4. Change Orders and other modifications to the Contract.
  - 5. Reviewed Shop Drawings, Product Data and Samples.
  - 6. Manufacturer's Instruction for assembly, installation, and adjusting.
  - 7. Field Test Records.
- B. File documents in accordance with Project Filing Format of Uniform Construction Index.
- C. Maintain documents in clean, dry, legible condition.
- D. Do not store or use record documents for construction purposes.
- E. Make documents available at all times for inspection by Contracting Officer.

1.4 MARKING DEVICES

- A. As indicated in Section 01 00 00, Requirements of Selfridge Air National Guard Base.

1.5 RECORDING

- A. Label each document "PROJECT RECORD" in 2-inch high printed letters.
- B. Record information concurrent with construction progress.

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- C. Ensure entries are complete and accurate, enabling future reference by SANG.
- D. Do not permanently conceal any work until required information has been recorded.
- E. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction, including:
  - 1. Measured depths of foundation in relation to finish floor datum.
  - 2. Measured Horizontal and vertical locations of underground utilities and appurtenances referenced to permanent surface improvements.
  - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure.
  - 4. Field changes of dimension and detail.
  - 5. Changes made by change order or field order.
  - 6. Details not on original contract drawings.
- F. Specifications: Legibly mark and record at each Product Section description of actual products installed, including the following:
  - 1. Manufacturer's name and product model and number.
  - 2. Product substitutions or alternates utilized.
  - 3. Changes made by Addenda, Change Order, Field Orders, and other modifications.

1.6 SUBMITTAL

- A. At completion of project, deliver record documents to the Contracting Officer.
- B. Accompany submittal with transmittal letter, in duplicate, containing:
  - 1. Date.
  - 2. Project title and number.
  - 3. Contractor's name and address.
  - 4. Title and number of each record document.
  - 5. Certification that each document as submitted is complete and accurate.
  - 6. Signature of Contractor, or his authorized representative.
- C. Provide one hard copy set and two CDs with CAD and PDF files for review and approval.

END OF SECTION 01 78 39

SECTION 01 79 00 – DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for instructing Government personnel, including the following:

- 1. Training in operation and maintenance of systems, subsystems and equipment.
- 2. Demonstration and training video DVD.

- B. Related Sections include the following:

- 1. Section 01 41 00, Project Coordination, for requirements for preinstruction conferences.
- 2. Section 01 81 13, Sustainable Design Requirements.
- 3. Divisions 2 through 49 Sections for specific requirements for demonstration and training for products and systems specified in those Sections.
- 4. Section 01 91 13, General Commissioning Requirements.

- C. Price for Instruction Time: **Instruction time shall be included in contract cost. Hours spent performing demonstration and training shall be accomplished at the project location. No additional payment will be made for time spent assembling educational materials, setting up, or cleaning up.**

1.3 SUBMITTALS

- A. Instruction Program: Submit five copies of outline of instructional program for demonstration and training, including a schedule of proposed dates, times, length of instruction time and instructors' names for each training module. Include learning objective and outline for each training module.

- 1. At completion of training, submit one hard copy and one electronic copy of the training manuals for Government's use.

- B. Qualification Data and Credentials: For facilitator, instructor and photographer.

- C. Attendance Record: For each training module, submit list of participants and length of instruction time.



- D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.
- E. Demonstration and Training Video DVD: Submit two copies within 7 days of end of each training module.
  - 1. Identification: On each copy, provide an applied label with the following information:
    - a. Name of Project.
    - b. Name and address of photographer.
    - c. Name of Contracting Officer and Contracting Officer's Technical Representative.
    - d. Name of Contractor.
    - e. Date video DVD was recorded.
    - f. Description of vantage point, indicating location, direction (by compass point) and elevation or story of construction.
  - 2. Transcript: Prepared on 8-1/2-by-11-inch paper, punched and bound in heavy-duty, three-ring, vinyl-covered binders. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding videotape. Include name of Project and date of videotape on each page. Prepare an electronic copy in Microsoft Word and Adobe PDF format and burn to CD. Provide 2 copies of this CD.

#### 1.4 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 01 40 00, Quality Requirements, experienced in operation and maintenance procedures and training.
- C. Photographer Qualifications: A professional photographer who is experienced photographing construction projects and preparing video media of instruction and training sessions.
- D. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Section 01 41 00, Project Coordination. Review methods and procedures related to demonstration and training including, but not limited to, the following:
  - 1. Inspect and discuss locations and other facilities required for instruction.
  - 2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment and facilities needed to avoid delays.
  - 3. Review required content of instruction.
  - 4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.5 COORDINATION

- A. Coordinate instruction schedule with Government operations. Adjust schedule as required to minimize disrupting Government operations.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time and course content.
- C. Coordinate content of training modules with content of approved emergency, operation and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by the Contracting Officer or designated representative.

PART 2 - PRODUCTS

2.1 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections and as follows:
  - 1. Motorized doors, including overhead coiling doors, overhead coiling grilles and automatic entrance doors.
  - 2. Equipment, including projection screens and residential appliances.
  - 3. Fire-protection systems, including fire alarm, fire pumps and fire-extinguishing systems.
  - 4. Intrusion detection systems.
  - 5. Heat generation, including boilers, feedwater equipment, pumps, steam distribution piping and water distribution piping.
  - 6. Refrigeration systems, including chillers, cooling towers, condensers, pumps and distribution piping.
  - 7. HVAC systems, including air-handling equipment, air distribution systems and terminal equipment and devices.
  - 8. HVAC instrumentation and controls.
  - 9. Electrical service and distribution, including transformers, switchboards, panelboards, uninterruptible power supplies and motor controls.
  - 10. Packaged engine generators, including transfer switches.
  - 11. Lighting equipment and controls.
  - 12. Communication systems, including intercommunication, surveillance, clocks and programming, voice and data and television equipment.
  - 13. Overhead cranes and hoists.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:
  - 1. Basis of System Design, Operational Requirements and Criteria: Include the following:
    - a. System, subsystem and equipment descriptions.
    - b. Performance and design criteria if Contractor is delegated design responsibility.
    - c. Operating standards.

- d. Regulatory requirements.
  - e. Equipment function.
  - f. Operating characteristics.
  - g. Limiting conditions.
  - h. Performance curves.
2. Documentation: Review the following items in detail:
- a. Emergency manuals.
  - b. Operations manuals.
  - c. Maintenance manuals.
  - d. Project Record Documents.
  - e. Identification systems.
  - f. Warranties and bonds.
  - g. Maintenance service agreements and similar continuing commitments.
3. Emergencies: Include the following, as applicable:
- a. Instructions on meaning of warnings, trouble indications and error messages.
  - b. Instructions on stopping.
  - c. Shutdown instructions for each type of emergency.
  - d. Operating instructions for conditions outside of normal operating limits.
  - e. Sequences for electric or electronic systems.
  - f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
- a. Startup procedures.
  - b. Equipment or system break-in procedures.
  - c. Routine and normal operating instructions.
  - d. Regulation and control procedures.
  - e. Control sequences.
  - f. Safety procedures.
  - g. Instructions on stopping.
  - h. Normal shutdown instructions.
  - i. Operating procedures for emergencies.
  - j. Operating procedures for system, subsystem, or equipment failure.
  - k. Seasonal and weekend operating instructions.
  - l. Required sequences for electric or electronic systems.
  - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
- a. Alignments.
  - b. Checking adjustments.
  - c. Noise and vibration adjustments.
  - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
- a. Diagnostic instructions.

- b. Test and inspection procedures.
- 7. Maintenance: Include the following:
  - a. Inspection procedures.
  - b. Types of cleaning agents to be used and methods of cleaning.
  - c. List of cleaning agents and methods of cleaning detrimental to product.
  - d. Procedures for routine cleaning
  - e. Procedures for preventive maintenance.
  - f. Procedures for routine maintenance.
  - g. Instruction on use of special tools.
- 8. Repairs: Include the following:
  - a. Diagnosis instructions.
  - b. Repair instructions.
  - c. Disassembly; component removal, repair and replacement; and reassembly instructions.
  - d. Instructions for identifying parts and components.
  - e. Review of spare parts needed for operation and maintenance.

### PART 3 - EXECUTION

#### 3.1 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a combined training manual.
- B. Set up instructional equipment at instruction location. Coordinate with the Contracting Officer's Technical Representative and establish a mutually acceptable location for demonstration and training activities.

#### 3.2 INSTRUCTION

- A. Facilitator: Provide a qualified facilitator to prepare instruction program and training modules, to coordinate instructors and to coordinate between Contractor and Government for number of participants, instruction times and location.
- B. Provide qualified instructors to instruct Government personnel to adjust, operate and maintain systems, subsystems and equipment not part of a system.
  - 1. Designer or Record will furnish an instructor to describe basis of system design, operational requirements, criteria and regulatory requirements.
  - 2. Government will furnish an instructor to describe Government's operational philosophy.
  - 3. Government will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.

1. Schedule training with Contracting Officer's Technical Representative with at least 14 days advance notice.
- D. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of a demonstration performance-based test.
- E. Cleanup: Collect used and leftover educational materials and give to Contracting Officer's Technical Representative. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

### 3.3 DEMONSTRATION AND TRAINING VIDEO

- A. General: Engage a qualified commercial photographer to record demonstration and training video. Record each training module separately. Include classroom instructions and demonstrations, board diagrams and other visual aids, but not student practice.
  1. At beginning of each training module, record each chart containing learning objective and lesson outline.
- B. Video Format: Provide high-quality color DVD.
- C. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to show area of demonstration and training. Display continuous running time.
- D. Narration: Describe scenes on video by audio narration by microphone while and dubbing audio narration offsite after video is recorded. Include description of items being viewed. Describe vantage point, indicating location, direction (by compass point) and elevation or story of construction.
- E. Transcript: Provide a typewritten transcript of the narration. Display images and running time captured from videotape opposite the corresponding narration segment.

END OF SECTION 01 79 00

SECTION 01 81 13 - SUSTAINABLE DESIGN REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section required when called for in the Delivery Order Requirements.
- B. Section includes general requirements and procedures for compliance with certain USGBC LEED prerequisites and credits needed for Project to obtain LEED Silver certification based on LEED-NC, Version 2.2.
  - 1. Some LEED prerequisites and credits needed to obtain LEED certification depend on material selections. These materials may not be specifically identified as LEED requirements. Compliance with requirements needed to obtain LEED prerequisites and credits may be used as one criterion to evaluate substitution requests and comparable product requests.
  - 2. Additional LEED prerequisites and credits needed to obtain the indicated LEED certification depend on A/E's design and other aspects of Project that are not part of the Work of the Contract.
  - 3. A copy of the LEED Project checklist is attached at the end of this Section for information only.
- C. Related Sections: Divisions 01 through 33 Sections for LEED requirements specific to the work of each of these Sections. Requirements may or may not include reference to LEED.

1.3 DEFINITIONS

- A. Albedo (a.k.a. solar reflectance): The ratio of the reflected electromagnetic energy to the incoming electromagnetic energy.
- B. Chain-of-Custody Certificates: Certificates signed by manufacturers certifying that wood used to make products was obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship." Certificates shall include evidence that manufacturer is certified for chain of custody by an FSC-accredited certification body.
- C. Emissivity (a.k.a. infrared emittance): A parameter between 0 and 1 that indicates the ability of a material to shed infrared radiation.

- D. Hydrochlorofluorocarbons (HCFCs): Refrigerants used in building equipment that deplete the stratospheric ozone layer.
- E. LEED™: Leadership in Energy and Environmental Design. Green Building Rating System representing. A US Green Building Council's effort to provide a national standard for what constitutes a "green building". Requires quantitative and technical document to demonstrate compliance with goal described in the US Green Building Council's Green Building Rating System, Version 2.2.
- F. Hydrofluorocarbons (HFCs): Refrigerants used in building equipment that do not deplete the stratospheric ozone layer.
- G. Locally Manufactured (for LEED™ Materials Credit 5): Refers to the final assembly of components into the building product that is furnished and installed by the tradespeople. For example, if the hardware comes from Seoul, South Korea, the lumber from Vancouver, British Columbia, and the joist is assembled in Kent Washington, then the location of the final assembly is Kent, Washington.
- H. Post-Consumer Recycled Content: The percentage of waste material by weight available from consumer use incorporated into a building material.
- I. Preconsumer (aka Post-Industrial Recycled) Content: The percentage of waste material by weight available from industrial use incorporated into a building material. Post-industrial recyclable materials are different from industrial scrap, a by-product of industrial processes that can easily be reused as a feedstock.
- J. Potable Water: Water that is suitable for drinking and is supplied from wells or municipal water systems.
- K. Recycling: The collection, reprocessing, marketing and use of materials that were recovered or diverted from the solid waste stream.
- L. Recycled Content: The percentage by weight of constituents that have been recovered or otherwise diverted from the solid waste stream, either during the manufacturing process (preconsumer), or after consumer use (post-consumer). The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value.
  - 1. "Post-consumer" material is defined as waste material generated by households or by commercial, industrial, and institutional facilities in their role as end users of the product, which can no longer be used for its intended purpose.
  - 2. "Preconsumer" material is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it.
- M. Regional Materials: Materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles (800 km) of Project site. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

- N. Regionally Manufactured Materials: Materials that are manufactured within a radius of 500 miles (800 km) from Project site. Manufacturing refers to the final assembly of components into the building product that is installed at Project site.
- O. Regionally Extracted and Manufactured Materials: Regionally manufactured materials made from raw materials that are extracted, harvested, or recovered within a radius of 500 miles (800 km) from Project site.
- P. Solar Reflectance: See “Albedo.”
- Q. Sustainable Forestry: The practice of managing forest resources to meet the long-term product needs of humans while maintaining the biodiversity of forested landscapes. The primary goal is to restore, enhance, and sustain a full range of forest values, both economic and ecological.
- R. Type A Finishes: Material and finishes with potential for short-term levels of off gassing from chemicals inherent in their manufacturing process, or which are applied in form requiring vehicles or carriers for spreading which release high level of particulate matter in process of installation and/or curing. Including, but not limited to:
  - 1. Composite wood products, specifically including particleboard from which millwork, wood paneling, doors, or furniture may be fabricated.
  - 2. Adhesives, sealants, and glazing compounds, specifically those with petrochemical vehicles or carriers.
  - 3. Wood preservatives, finishes, and paint.
  - 4. Control and/or expansion joint fillers.
  - 5. Hard finishes requiring adhesive installation.
  - 6. Gypsum board and associated finish processes.
- S. Type B Finishes: Fuzzy material and finishes which are woven, fibrous, or porous in nature and tend to adsorb chemicals off-gassed by Type A finishes or may be adversely affected by particulates. These materials become “sink” for deleterious substances which may be released much later, or collectors of contaminants that may promote subsequent bacterial growth. Including, but not limited to:
  - 1. Carpeting and padding.
  - 2. Fabric wallcovering.
  - 3. Insulation exposed to air stream.
  - 4. Acoustic ceiling materials.
  - 5. Fabric covered acoustic wall panels.
  - 6. Upholstered furnishings.
  - 7. Materials that can be categorized as both Type A and Type B.
- T. Ventilation: The process of supplying and removing air to and from interior spaces by natural or mechanical means.
- U. Volatile organic compounds (VOCs): Chemical compounds based on carbon and hydrogen structures that are vaporized at room temperatures. VOCs are one type of indoor air contaminant.
- V. Waste Materials: Large and small pieces of materials indicated which are excess to contract requirements and generally include materials salvaged from existing construction and items of



trimmings, cuttings, and damaged goods resulting from new installations which cannot be effectively used in Work.

#### 1.4 SUBMITTALS

- A. General: Submit additional LEED submittals required by other Specification Sections.
- B. LEED Submittals: Submit LEED related information under a separate Tab within each product submittal. The LEED submittal shall include:
  - 1. Summary Sheet: A summary, on General Contractors letterhead, of all LEED information requested in specifications shall include:
    - a. Project name.
    - b. LEED Submittal List: A list of all materials being submitted. For products composed of multiple materials the submittal shall include a list of all materials composing the product.
    - c. For Products in Divisions 03 - 10, 31 (Foundations), 32 (Paving), 32 (Site Improvements) and 32 (Plantings) include the following information:
      - 1) Material costs, for each material on the LEED submittal list, excluding labor costs, delivery cost, cost of installation, as well as profit and overhead.
      - 2) The preconsumer and post-consumer recycled content of each material on the LEED submittal list.
      - 3) List of all material manufacturing locations.
        - a) Provide distance between manufacturing and construction site.
    - d. All other LEED information required in specification.
  - 2. Manufacturer's literature with information highlighted that confirm the figures used in the summary report.
    - a. If a range is used in the manufacturer's literature, the summary report shall use the lowest number in the range.
    - b. For VOC Submissions: Submit MSDS sheets or manufacturer's literature with VOC figure highlighted.
- C. Project Material Costs Data: Provide a statement, on Contractor's letterhead, documenting the total material for the project. Include a spreadsheet tallying the material cost for all materials specified in Divisions 03 - 10, 31 (Foundations), 32 (Paving), 32 (Site Improvements) and 32 (Plantings). The total in the material cost data will be used in the **LEED Online** template to be completed by the Contractor as the actual material cost of the project.
- D. LEED Action Plan: Provide preliminary submittal within 30 days of Notice to Proceed that contains:
  - 1. Example spreadsheets for each construction credit identified in this section.
  - 2. Contact information for Contractor's LEED coordinators.
  - 3. Brief description of how the following requirements will be met.

- a. Credit SS Prerequisite 1: Construction Activities Pollution Prevention complying with Section 01 57 00, Erosion and Sediment Control.
  - b. Credit MR c2.1 and Credit MR 2.2: Waste Management complying with Section 01 74 19, Construction Waste Management and Disposal.
    - 1) Include a sample spreadsheet showing how the tipping information is going to be recorded to comply with LEED requirements.
  - c. Credit MR c4.1 and 4.2: Recycled content information including methods of collection and recording.
  - d. Credit MR c5.1 and 5.2: Manufacturing location information including methods of collection and recording.
  - e. Credit MR c7: Certified wood product incorporated into the construction of the facility and a description of how certified wood information, including the chain-of-custody letters are going to be collected and recorded.
  - f. Credit EQ 3.1: Construction indoor-air-quality management plan during construction.
  - g. Credit EQ 3.2: Construction indoor-air-quality management plan before occupancy.
  - h. EQ c4.1 – 4.4: VOC information including methods of collection and recording required LEED information.
4. After COR approval of the Preliminary Action Plan the Contractor shall update the plan monthly with LEED information collected to date and be submitted as part of a monthly progress report.
- E. LEED Progress Reports: Concurrent with each Application for Payment, submit reports comparing the actual construction and purchasing activities with LEED requirements for the following:
1. Credit SS Prerequisite 1: Construction Activities Pollution Prevention, including approved SWPPP, inspection reports and photos demonstrating compliance with SWPPP.
  2. Credit MR c2.1 and Credit MR 2.2: Construction Waste Management, including waste reduction progress report and photos demonstrating compliance with Waste Reduction Plan.
  3. Credit MR c4.1 and 4.2: Recycled content for materials specified in Divisions 03 - 10, 31 (Foundations), 32 (Paving), 32 (Site Improvements), and 32 (Plantings).
  4. Credit MR c5.1 Regional Materials: Distance to manufacturing for materials specified in Divisions 03 - 10, 31 (Foundations), 32 (Paving), 32 (Site Improvements), and 32 (Plantings).
  5. Credit MR c7: Certified wood products including the chain-of-custody letters identifying the forest of origin.
  6. Credit EQ c3.1: Photographs demonstrating compliance with indoor-air-quality management plan during construction.
  7. EQ c4.1 – 4.4: VOC information.

- F. **LEED Online** Submittal: The Contractor shall be responsible for completing the following LEED submissions using the LEED online tool for credit submission to USGBC. The COR's LEED Project Administrator will determine if the information prepared by the Contractor is satisfactory for USGBC submission.
1. Credit MR 2.1 and Credit MR 2.2: Comply with Section 01 74 19, Construction Waste Management and Disposal.
  2. Credit MR 4.1 and Credit MR 4.2: Product data and certification letter indicating percentages by weight of post-consumer and preconsumer recycled content for products having recycled content. Include statement indicating costs for each product having recycled content.
  3. Credit MR 5.1 and Credit MR 5.2: Product data for regional materials indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.
  4. Credit MR 7: Product data and chain-of-custody certificates for products containing certified wood. Include statement indicating cost for each certified wood product.
  5. Credit EQ 3.1: Construction IAQ Plan: During construction.
    - a. Construction indoor-air-quality management plan.
    - b. Product data for temporary filtration media.
    - c. Product data for filtration media used during occupancy.
    - d. Construction Documentation: Six photographs at three different times during the construction period, along with a brief description of the SMACNA approach employed, documenting implementation of the indoor-air-quality management measures, such as protection of ducts and on-site stored or installed absorptive materials.
  6. Credit EQ 3.2: Construction IAQ Plan: Before occupancy.
    - a. Product data for filtration media used during flush-out and during occupancy.
    - b. Report from testing and inspecting agency indicating results of indoor-air-quality testing and documentation showing compliance with indoor-air-quality testing procedures and requirements.
  7. Credit EQ 4.1: Product data for adhesives and sealants used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D (EPA Method 24).
  8. Credit EQ 4.2: Product data for paints and coatings used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D (EPA Method 24).
  9. Credit EQ 4.3: Product data for carpets used in the facility indicating the VOC content in g/L calculated for each carpet and backing product use in construction.
  10. Credit EQ 4.4: Product data for products containing composite wood or agrifiber products or wood glues indicating that they do not contain urea-formaldehyde resin.

## 1.5 QUALITY ASSURANCE

- A. LEED Coordinator: Engage a coordinator experienced with LEED requirements. LEED coordinator may also serve as waste management coordinator.

## PART 2 - PRODUCTS

### 2.1 RECYCLED CONTENT OF MATERIALS

- A. Credit MR 4.1 and Credit MR 4.2: Provide building materials with recycled content such that post-consumer recycled content plus one-half of preconsumer recycled content constitutes a minimum of 20 percent of cost of materials used for Project.
1. Cost of post-consumer recycled content of an item shall be determined by dividing weight of post-consumer recycled content in the item by total weight of the item and multiplying by cost of the item.
  2. Cost of post-consumer recycled content plus one-half of preconsumer recycled content of an item shall be determined by dividing weight of post-consumer recycled content plus one-half of preconsumer recycled content in the item by total weight of the item and multiplying by cost of the item.
  3. Do not include mechanical and electrical components in the calculation.

### 2.2 REGIONAL MATERIALS

- A. Credit MR 5.1 and Credit MR 5.2: Provide a minimum 20 percent of building materials (by cost) that are regional materials.

### 2.3 CERTIFIED WOOD

- A. Credit MR 7: Provide a minimum of 50 percent (by cost) of wood-based materials that are produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."
1. Wood-based materials include, but are not limited to, the following materials when made from wood, engineered wood products, or wood-based panel products:
    - a. Rough carpentry.
    - b. Miscellaneous carpentry.
    - c. Architectural woodwork.

### 2.4 LOW-EMITTING MATERIALS

- A. Credit EQ 4.1: For field applications that are inside the weatherproofing system, use adhesives and sealants that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
1. Wood Glues: 30 g/L.
  2. Metal to Metal Adhesives: 30 g/L.
  3. Adhesives for Porous Materials (Except Wood): 50 g/L.
  4. Subfloor Adhesives: 50 g/L.
  5. Plastic Foam Adhesives: 50 g/L.
  6. Carpet Adhesives: 50 g/L.

7. Carpet Pad Adhesives: 50 g/L.
8. VCT and Asphalt Tile Adhesives: 50 g/L.
9. Cove Base Adhesives: 50 g/L.
10. Gypsum Board and Panel Adhesives: 50 g/L.
11. Rubber Floor Adhesives: 60 g/L.
12. Ceramic Tile Adhesives: 65 g/L.
13. Multipurpose Construction Adhesives: 70 g/L.
14. Fiberglass Adhesives: 80 g/L.
15. Contact Adhesive: 80 g/L.
16. Structural Glazing Adhesives: 100 g/L.
17. Wood Flooring Adhesive: 100 g/L.
18. Structural Wood Member Adhesive: 140 g/L.
19. Special Purpose Contact Adhesive (contact adhesive that is used to bond melamine covered board, metal, unsupported vinyl, Teflon, ultra-high molecular weight polyethylene, rubber or wood veneer 1/16 inch or less in thickness to any surface): 250 g/L.
20. Top and Trim Adhesive: 250 g/L.
21. Plastic Cement Welding Compounds: 350 g/L.
22. ABS Welding Compounds: 400 g/L.
23. CPVC Welding Compounds: 490 g/L.
24. PVC Welding Compounds: 510 g/L.
25. Adhesive Primer for Plastic: 650 g/L.
26. Sheet Applied Rubber Lining Adhesive: 850 g/L.
27. Aerosol Adhesive, General Purpose Mist Spray: 65 percent by weight.
28. Aerosol Adhesive, General Purpose Web Spray: 55 percent by weight.
29. Special Purpose Aerosol Adhesive (All Types): 70 percent by weight.
30. Other Adhesives: 250 g/L.
31. Architectural Sealants: 250 g/L.
32. Nonmembrane Roof Sealants: 300 g/L.
33. Single-Ply Roof Membrane Sealants: 450 g/L.
34. Other Sealants: 420 g/L.
35. Sealant Primers for Nonporous Substrates: 250 g/L.
36. Sealant Primers for Porous Substrates: 775 g/L.
37. Modified Bituminous Sealant Primers: 500 g/L.
38. Other Sealant Primers: 750 g/L.

B. Credit EQ 4.2: For field applications that are inside the weatherproofing system, use paints and coatings that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

1. Flat Paints, Coatings, and Primers: VOC not more than 50 g/L.
2. Nonflat Paints, Coatings, and Primers: VOC not more than 150 g/L.
3. Anticorrosive and Antirust Paints Applied to Ferrous Metals: VOC not more than 250 g/L.
4. Clear Wood Finishes, Varnishes: VOC not more than 350 g/L.
5. Clear Wood Finishes, Lacquers: VOC not more than 550 g/L.
6. Floor Coatings: VOC not more than 100 g/L.
7. Shellacs, Clear: VOC not more than 730 g/L.
8. Shellacs, Pigmented: VOC not more than 550 g/L.
9. Stains: VOC not more than 250 g/L.

- C. Credit EQ 4.4: Do not use composite wood or agrifiber products or adhesives that contain urea-formaldehyde resin.

### PART 3 - EXECUTION

#### 3.1 CONSTRUCTION ACTIVITIES POLLUTION PREVENTION

##### A. Prerequisite SS1 Construction Activities Pollution Prevention:

1. Follow LEED instructions in LEED NCv2.2 Reference Guide and complying with Section 01 57 00, Erosion and Sediment Control.
2. Contractor is responsible for completing the LEED online credit application. And attaching the following information to the application:
  - a. Provide record of compliance with Erosion and Sediment Control Plan:
    - 1) Monthly photographs of barriers and containment.
    - 2) Monthly photographs of dust control measures
    - 3) Records of inspections by agency in charge of overseeing compliance.
3. The COTR's LEED Project Administrator will determine if the information prepared by the Contractor is satisfactory for USGBC submission.

#### 3.2 MEASUREMENT AND VERIFICATION

- A. Credit EA 5: Implement measurement and verification plan consistent with Option D: Calibrated Simulation, Savings Estimation Method 2 in the EVO's "International Performance Measurement and Verification Protocol (IPMVP) Volume III: Concepts and Options for Determining Energy Savings in New Construction."
- B. Evaluate energy performance and efficiency by comparing actual to predicted performance.
- C. Measurement and verification period shall cover at least 1 year of post-construction occupancy.

#### 3.3 CONSTRUCTION WASTE MANAGEMENT

##### A. Credit MR 2.1 and Credit MR 2.2: Construction Waste Management:

1. Follow LEED guidelines and complying with Section 01 74 19, Construction Waste Management and Disposal.
2. Contractor is responsible for completing the LEED online credit application. Attached documentation in support of the credit shall include:
  - a. Spreadsheet containing the following information:
    - 1) Diverted materials description.
    - 2) Diverted materials/waste hauler name.

- 3) Date of each haul.
  - 4) Quantity of material in each haul.
- b. Copies of recycling vender and waste hauler tipping receipts.
3. The COR's LEED Project Administrator will determine if the information prepared by the Contractor is satisfactory for USGBC submission.

### 3.4 RECYCLED CONTENT OF BUILDING MATERIALS

#### A. Credit MR 4.1 and Credit MR 4.2: Recycled Content:

1. Follow LEED instructions in LEED NCv2.2 Reference Guide.
2. Provide record showing the preconsumer and post-consumer recycled content of all materials specified in Divisions 03 -10, 31 (Foundations), 32 (Paving), 32 (Site Improvements), and 32 (Plantings).
3. Contractor is responsible for completing the LEED online credit application and attaching the following information to the application:
  - a. Spreadsheet containing the following information:
    - 1) The description of each materials in each product specified in Divisions 03 - 10, 31 (Foundations), 32 (Paving), 32 (Site Improvements), and 32 (Plantings).
    - 2) Material manufacturer's name.
    - 3) Material cost.
    - 4) Percent preconsumer recycled content of each material.
    - 5) Percent post-consumer recycled content of each material.
    - 6) Recycled content information source.
  - b. Copies of vendors literatures or a statement from vendors on vendor's letterhead confirming the figures used in the spreadsheet.
4. The COTR's LEED Project Administrator will determine if the information prepared by the Contractor is satisfactory for USGBC submission.

### 3.5 REGIONAL MATERIAL SELECTION

#### A. A Credit MR 5.1 and Credit MR 5.2: Regional Materials:

1. Follow LEED instructions in LEED NCv2.2 Reference Guide.
2. Provide record showing the manufacturing location for all materials specified in Divisions 03 - 10, 31 (Foundations), 32 (Paving), 32 (Site Improvements), and 32 (Plantings).
3. Contractor is responsible for completing the LEED online credit application and attaching the following information to the application:
  - a. Copies of vendors literatures or a statement from vendors on vendor's letterhead confirming the figures used in the spreadsheet.

4. The COTR's LEED Project Administrator will determine if the information prepared by the Contractor is satisfactory for USGBC submission.

### 3.6 CERTIFIED WOOD

#### A. Credit MR 7 Certified Wood:

1. Follow LEED instructions in LEED NCv2.2 Reference Guide to comply with Credit MR c7 requirements for certified wood installed in construction.
2. Contractor is responsible for completing the LEED online credit application. And attaching the following information to the application:
  - a. Copies of vendors literatures or a statement from vendors on vendor's letterhead confirming the figures used in the LEED Online Certified Wood Materials Calculator spreadsheet.
  - b. Copies of the chain-of-custody documentation received from vendors on vendors.
3. The COR's LEED Project Administrator will determine if the information prepared by the Contractor is satisfactory for USGBC submission.

### 3.7 CONSTRUCTION INDOOR-AIR-QUALITY MANAGEMENT

#### A. Credit EQ 3.1:

1. Indoor Air Quality Management Plan – During Construction: Comply with SMACNA's "SMACNA IAQ Guideline for Occupied Buildings under Construction."
  - a. If Contracting Officer authorizes use of permanent heating, cooling, and ventilating systems during construction period as specified in Section 01 50 00, Construction Facilities and Temporary Controls, install filter media having a MERV 8 according to ASHRAE 52.2 at each return-air inlet for the air-handling system used during construction.
  - b. Replace all air filters immediately prior to occupancy.
  - c. Provide record of compliance with Indoor Air Quality Management Plan:
    - 1) Monthly photographs of equipment and ductwork protection demonstrating compliance with IAQ plan and LEED requirements for IAQ during construction.
    - 2) Photographs demonstrating proper storage of materials onsite.
    - 3) Contractor's report documenting that Merv 8 filters were used to protect equipment during construction and Merv 13 filters were installed prior to occupancy.



B. Credit EQ 3.2: Indoor Air Quality Management Plan – Before Occupancy:

1. After construction ends, prior to occupancy and with all interior finishes installed, perform a building flush-out by supplying a total volume of 14000 cu. ft. (4 300 000 L) of outdoor air per sq. ft. (sq. m) of floor area while maintaining an internal temperature of at least 60 deg F (16 deg C) and a relative humidity no higher than 60 percent.
2. If occupancy is desired prior to flush-out completion, the space may be occupied following delivery of a minimum of 3500 cu. ft. (1 070 000 L) of outdoor air per sq. ft. (sq. m) of floor area to the space. Once a space is occupied, it shall be ventilated at a minimum rate of 0.30 cfm per sq. ft. (1.52 L/s per sq. m) of outside air or the design minimum outside air rate determined in EQ Prerequisite 1, whichever is greater. During each day of the flush-out period, ventilation shall begin a minimum of 3 hours prior to occupancy and continue during occupancy. These conditions shall be maintained until a total of 14000 cu. ft./sq. ft. (4 300 000 L/sq. m) of outside air has been delivered to the space.
3. Air-Quality Testing: If Contractor chooses to test for compliance with LEED Credit EQc3.2 the following is required:
  - a. Conduct baseline indoor-air-quality testing, after construction ends and prior to occupancy, using testing protocols consistent with the EPA's "Compendium of Methods for the Determination of Air Pollutants in Indoor Air," and as additionally detailed in the USGBC's "LEED-NC: Reference Guide."
  - b. Demonstrate that the contaminant maximum concentrations listed below are not exceeded:
    - 1) Formaldehyde: 50 ppb.
    - 2) Particulates (PM10): 50 micrograms/cu. m.
    - 3) Total Volatile Organic Compounds (TVOC): 500 micrograms/cu. m.
    - 4) 4-Phenylcyclohexene (4-PH): 6.5 micrograms/cu. m.
    - 5) Carbon Monoxide: 9 ppm and no greater than 2 ppm above outdoor levels.
  - c. For each sampling point where the maximum concentration limits are exceeded, conduct additional flush-out with outside air and retest the specific parameter(s) exceeded to indicate the requirements are achieved. Repeat procedure until all requirements have been met. When retesting noncomplying building areas, take samples from same locations as in the first test.
  - d. Air-sample testing shall be conducted as follows:
    - 1) All measurements shall be conducted prior to occupancy but during normal occupied hours, and with building ventilation system starting at the normal daily start time and operated at the minimum outside air flow rate for the occupied mode throughout the duration of the air testing.
    - 2) Building shall have all interior finishes installed including, but not limited to, millwork, doors, paint, carpet, and acoustic tiles. Nonfixed furnishings such as workstations and partitions are encouraged, but not required, to be in place for the testing.
    - 3) Number of sampling locations will vary depending on the size of building and number of ventilation systems. For each portion of building served by a separate ventilation system, the number of sampling points shall not be less than one per 25,000 sq. ft. (2300 sq. m) or for each contiguous floor area,

whichever is larger, and shall include areas with the least ventilation and greatest presumed source strength.

- 4) Air samples shall be collected between 3 and 6 feet (0.9 and 1.8 m) from the floor to represent the breathing zone of occupants, and over a minimum 4-hour period.

### 3.8 LOW EMITTING MATERIALS

#### A. Credit EQ 4.1 through Credit MR 4.4: Low Emitting Materials:

1. Follow LEED instructions in LEED NCv2.2 Reference Guide.
2. Contractor is responsible for completing the LEED online credit application. And attaching the following information to the application:
  - a. Copies of vendors literatures or MSDS sheets confirming the figures used in the spreadsheet.
3. The COTR's LEED Project Administrator will determine if the information prepared by the Contractor is satisfactory for USGBC submission.

### 3.9 SUPPLEMENT

#### A. The supplement listed below, following "End of Section," is a part of this Specification:

1. LEED for New Construction v2.2 Registered Project Checklist.

END OF SECTION 01 81 13



# LEED for New Construction v2.2 Registered Project Checklist

Project Name: Selfridge ANGB ADAL Squadron Operations Building - VGLZ059023  
Project Address: Selfridge ANGB, Michigan

Yes ? No

## 4 3 7 Sustainable Sites 14 Points

Y	Prereq 1	<b>Construction Activity Pollution Prevention</b>	Required
1	Credit 1	<b>Site Selection</b>	1
	1	Credit 2	<b>Development Density &amp; Community Connectivity</b>
	1	Credit 3	<b>Brownfield Redevelopment</b>
	1	Credit 4.1	<b>Alternative Transportation, Public Transportation Access</b>
1	Credit 4.2	<b>Alternative Transportation, Bicycle Storage &amp; Changing Rooms</b>	1
	1	Credit 4.3	<b>Alternative Transportation, Low-Emitting &amp; Fuel-Efficient Vehicles</b>
1	Credit 4.4	<b>Alternative Transportation, Parking Capacity</b>	1
	1	Credit 5.1	<b>Site Development, Protect or Restore Habitat</b>
	1	Credit 5.2	<b>Site Development, Maximize Open Space</b>
	1	Credit 6.1	<b>Stormwater Design, Quantity Control</b>
	1	Credit 6.2	<b>Stormwater Design, Quality Control</b>
	1	Credit 7.1	<b>Heat Island Effect, Non-Roof</b>
1	Credit 7.2	<b>Heat Island Effect, Roof</b>	1
	Credit 8	<b>Light Pollution Reduction</b>	1

Yes ? No

## 4 1 Water Efficiency 5 Points

1	Credit 1.1	<b>Water Efficient Landscaping, Reduce by 50%</b>	1
1	Credit 1.2	<b>Water Efficient Landscaping, No Potable Use or No Irrigation</b>	1
	1	Credit 2	<b>Innovative Wastewater Technologies</b>
1	Credit 3.1	<b>Water Use Reduction, 20% Reduction</b>	1
1	Credit 3.2	<b>Water Use Reduction, 30% Reduction</b>	1

## 6 5 6 Energy & Atmosphere 17 Points

Y	Prereq 1	<b>Fundamental Commissioning of the Building Energy Systems</b>	Required
Y	Prereq 2	<b>Minimum Energy Performance</b>	Required
Y	Prereq 3	<b>Fundamental Refrigerant Management</b>	Required

\*Note for EAc1: All LEED for New Construction projects registered after June 26<sup>th</sup>, 2007 are required to achieve at least two (2) points under EAc1.

3	4	3	Credit 1	<b>Optimize Energy Performance</b>	1 to 10
				10.5% New Buildings or 3.5% Existing Building Renovations	1
				14% New Buildings or 7% Existing Building Renovations	2
		3		17.5% New Buildings or 10.5% Existing Building Renovations	3
				21% New Buildings or 14% Existing Building Renovations	4
				24.5% New Buildings or 17.5% Existing Building Renovations	5
				28% New Buildings or 21% Existing Building Renovations	6
				31.5% New Buildings or 24.5% Existing Building Renovations	7
				35% New Buildings or 28% Existing Building Renovations	8
				38.5% New Buildings or 31.5% Existing Building Renovations	9
				42% New Buildings or 35% Existing Building Renovations	10
		3	Credit 2	<b>On-Site Renewable Energy</b>	1 to 3
				2.5% Renewable Energy	1
				7.5% Renewable Energy	2
				12.5% Renewable Energy	3
1			Credit 3	<b>Enhanced Commissioning</b>	1
1			Credit 4	<b>Enhanced Refrigerant Management</b>	1
1			Credit 5	<b>Measurement &amp; Verification</b>	1
	1		Credit 6	<b>Green Power</b>	1

continued...

Yes ? No

**8** **5** **Materials & Resources** **13 Points**

Y								
				Prereq 1	<b>Storage &amp; Collection of Recyclables</b>	Required		
1				Credit 1.1	<b>Building Reuse</b> , Maintain 75% of Existing Walls, Floors & Roof			1
			1	Credit 1.2	<b>Building Reuse</b> , Maintain 100% of Existing Walls, Floors & Roof			1
			1	Credit 1.3	<b>Building Reuse</b> , Maintain 50% of Interior Non-Structural Elements			1
1				Credit 2.1	<b>Construction Waste Management</b> , Divert 50% from Disposal			1
1				Credit 2.2	<b>Construction Waste Management</b> , Divert 75% from Disposal			1
			1	Credit 3.1	<b>Materials Reuse</b> , 5%			1
			1	Credit 3.2	<b>Materials Reuse</b> , 10%			1
1				Credit 4.1	<b>Recycled Content</b> , 10% (post-consumer + ½ pre-consumer)			1
1				Credit 4.2	<b>Recycled Content</b> , 20% (post-consumer + ½ pre-consumer)			1
1				Credit 5.1	<b>Regional Materials</b> , 10% Extracted, Processed & Manufactured Region			1
1				Credit 5.2	<b>Regional Materials</b> , 20% Extracted, Processed & Manufactured Region			1
			1	Credit 6	<b>Rapidly Renewable Materials</b>			1
1				Credit 7	<b>Certified Wood</b>			1

Yes ? No

**12** **3** **Indoor Environmental Quality** **15 Points**

Y								
				Prereq 1	<b>Minimum IAQ Performance</b>	Required		
Y				Prereq 2	<b>Environmental Tobacco Smoke (ETS) Control</b>	Required		
1				Credit 1	<b>Outdoor Air Delivery Monitoring</b>			1
			1	Credit 2	<b>Increased Ventilation</b>			1
1				Credit 3.1	<b>Construction IAQ Management Plan</b> , During Construction			1
1				Credit 3.2	<b>Construction IAQ Management Plan</b> , Before Occupancy			1
1				Credit 4.1	<b>Low-Emitting Materials</b> , Adhesives & Sealants			1
1				Credit 4.2	<b>Low-Emitting Materials</b> , Paints & Coatings			1
1				Credit 4.3	<b>Low-Emitting Materials</b> , Carpet Systems			1
1				Credit 4.4	<b>Low-Emitting Materials</b> , Composite Wood & Agrifiber Products			1
1				Credit 5	<b>Indoor Chemical &amp; Pollutant Source Control</b>			1
1				Credit 6.1	<b>Controllability of Systems</b> , Lighting			1
1				Credit 6.2	<b>Controllability of Systems</b> , Thermal Comfort			1
1				Credit 7.1	<b>Thermal Comfort</b> , Design			1
1				Credit 7.2	<b>Thermal Comfort</b> , Verification			1
			1	Credit 8.1	<b>Daylight &amp; Views</b> , Daylight 75% of Spaces			1
			1	Credit 8.2	<b>Daylight &amp; Views</b> , Views for 90% of Spaces			1

Yes ? No

**2** **3** **Innovation & Design Process** **5 Points**

	1			Credit 1.1	<b>Innovation in Design</b> : Exemplary Credit Heat Island Effect: Roof			1
	1			Credit 1.2	<b>Innovation in Design</b> : Green Cleaning			1
1				Credit 1.3	<b>Innovation in Design</b> : Exemplary Credit Water Reduction			1
	1			Credit 1.4	<b>Innovation in Design</b> : Exemplary Credit Recycled Content			1
1				Credit 2	<b>LEED® Accredited Professional</b>			1

Yes ? No

**36** **11** **22** **Project Totals (pre-certification estimates)** **69 Points**

**Certified:** 26-32 points, **Silver:** 33-38 points, **Gold:** 39-51 points, **Platinum:** 52-69 points

SECTION 01 88 18 - WEATHER

PART 1 - GENERAL

1.1 CONTRACT TIME LIMITS

- A. The contract time limits include estimated normal weather conditions at Selfridge ANG Base, MI.

1.2 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

- A. This provision specifies the procedure for the determination of time extensions for unusually severe weather affecting exterior work in accordance with the Contract.
- B. Each month throughout the contract actual adverse weather days will be recorded on a calendar basis (including weekends and holidays) by the contractor.
  - 1. The term "actual adverse weather days" shall include days impacted by actual adverse weather.
  - 2. The number of actual adverse weather days affecting exterior work shall be calculated chronologically from the first to the last day in each month.
  - 3. Adverse weather days must prevent work for 50 percent or more of the Contractor's work day and delay work critical to the timely completion of the project.
- C. If the number of actual adverse weather days exceeds the normal number of days anticipated, then the Contracting Officer will determine the time extension for the Contractor.
  - 1. The Contracting Officer will convert any qualifying delays to calendar days and issue a modification in accordance with the contract.

END OF SECTION 01 88 18

SECTION 019113 - GENERAL COMMISSIONING REQUIREMENTS

PART 1 – GENERAL

1.1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. OPR and BoD documentation are included by reference for information only.

1.2 SUMMARY

- A. Section includes general requirements that apply to implementation of commissioning without regard to specific systems, assemblies, or components.

1.3 DEFINITIONS

- A. BoD: Basis of Design. A document that records concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.
- B. Commissioning Plan: A document that outlines the organization, schedule, allocation of resources, and documentation requirements of the commissioning process.
- C. CxA: Commissioning Authority.
- D. OPR: Government's Project Requirements. A document that details the functional requirements of a project and the expectations of how it will be used and operated. These include Project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.
- E. Systems, Subsystems, Equipment, and Components: Where these terms are used together or separately, they shall mean "as-built" systems, subsystems, equipment, and components.

1.4 COMMISSIONING TEAM

- A. Members Appointed by Contractor(s): Individuals, each having the authority to act on behalf of the entity he or she represents, explicitly organized to implement the commissioning process through coordinated action. The commissioning team shall

consist of, but not be limited to, representatives of Contractor, including Project superintendent and subcontractors, installers, suppliers, and. specialists deemed appropriate by the CxA.

B. Members Appointed by Government:

1. CxA: The designated person, company, or entity that plans, schedules, and coordinates the commissioning team to implement the commissioning process. Government will engage the CxA under a separate contract.
2. Representatives of the facility user and operation and maintenance personnel.
3. Architect and engineering design professionals.

1.5 GOVERNMENT'S RESPONSIBILITIES

- A. Provide the OPR documentation to the CxA and Contractor for information and use.
- B. Assign operation and maintenance personnel and schedule them to participate in commissioning team activities.
- C. Provide the BoD documentation, prepared by Architect and approved by Government, to the CxA and Contractor for use in developing the commissioning plan, systems manual, and operation and maintenance training plan.

1.5.1 CONTRACTOR'S RESPONSIBILITIES

- A. Contractor shall assign representatives with expertise and authority to act on its behalf and shall schedule them to participate in and perform commissioning process activities including, but not limited to, the following:
  1. Evaluate performance deficiencies identified in test reports and, in collaboration with entity responsible for system and equipment installation, recommend corrective action.
  2. Cooperate with the CxA for resolution of issues recorded in the Issues Log.
  3. Attend commissioning team meetings held on a monthly basis.
  4. Integrate and coordinate commissioning process activities with construction schedule.
  5. Review and accept construction checklists provided by the CxA.
  6. Complete electronic construction checklists as Work is completed and provide to the Commissioning Authority on a weekly basis.
  7. Review and accept commissioning process test procedures provided by the

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Commissioning Authority.

8. Complete commissioning process test procedures.

1.7 CxA'S RESPONSIBILITIES

- A. Organize and lead the commissioning team.
- B. Provide commissioning plan.
- C. Convene commissioning team meetings.
- D. Provide Project-specific construction checklists and commissioning process test procedures.
- E. Verify the execution of commissioning process activities using random sampling. The sampling . rate may vary from 1 to 100 percent. Verification will include, but is not limited to, equipment submittals, construction checklists, training, operating and maintenance data, tests, and test reports to verify compliance with the OPR. When a random sample does not meet the requirement, the CxA will report the failure in the Issues Log.
- F. Prepare and maintain the Issues Log.
- G. Prepare and maintain completed construction checklist log.
- H. Witness systems, assemblies, equipment, and component startup.
- I. Compile test data, inspection reports, and certificates; include them in the systems manual and commissioning process report.

PART 2- PRODUCTS (Not Used)

PART 3- EXECUTION (Not Used)

END OF SECTION 01 91 13