DIVISION 01 - GENERAL REQUIREMENTS **(Rev 3/2024)**

Division Project No. **23E2SREBID**

INDEX

1. DEFINITIONS

In this document, the following terms are defined as:

(a) "Mechanical, electrical, or plumbing subcontractor" ("MEP Subcontractor") is a contractor that performs mechanical (Heating, Ventilating, and Air Conditioning), electrical, plumbing, or fire protection (fire suppression) work for the Project, and enters into a contract with the General Prime Contractor to perform their division of work.

(b) "Qualified bidder" means a contractor that the department certifies under Wis. Stat. s. 16.855(9m)(b)1.

(c) "Qualified responsible bidder" means a contractor who is a qualified bidder and who is a responsible bidder.

(d) "Responsible bidder" means a contractor that the department certifies under Wis. Stat. s. 16.855(9m)(b)2.

(e) "Single prime contracting" means bidding and contracting through a process in which only a general prime contractor has a contractual relationship with the state and all mechanical, electrical, or plumbing subcontractors are identified by the department and are subcontractors to the General Prime Contractor.

(f) "General Prime Contractor" is a contractor that enters into a contract with the state to perform all work as required by the Contract Documents and enters into contracts with subcontractors including MEP Subcontractors identified by DFD.

(g) "Non-MEP Subcontractor" is a subcontractor to a General Prime Contractor in divisions of work other than mechanical, electrical, plumbing, and fire protection. This includes suppliers and installers to the General Prime Contractor.

(h) "Subcontractor "is all subcontractors on a project. This includes MEP Subcontractors, subcontractors to the MEP Subcontractors, and Non-MEP Subcontractors.

(i) "Contractor" is all contractors working on a project regardless of contractual relationship. This includes the General Prime Contractor, MEP Subcontractors, Non-MEP Subcontractors, and all Subcontractors, regardless of tier of subcontract.

2. GENERAL

All articles in these General Requirements are applicable to all Divisions and Sections of the Work included herein. The Conditions of the Contract, General and Supplementary General Conditions, and these General Requirements shall apply with equal force and effect to the General Prime Contractor and all Subcontractors engaged in this work.

Contractor or the Contractor's authorized representative must be present to accept delivery of all equipment and material shipments. DFD's representatives will not knowingly accept, unload or store anything delivered to the site for the Contractor's use. Inadvertent acceptance of delivered items by any representative or employee of the State shall not constitute acceptance or responsibility for any of the materials or equipment. It is the Contractor's responsibility to assume liability for equipment or material delivered to the job site.

3. SPECIAL SITE CONDITIONS

Confine all operations, equipment, apparatus and storage of materials, to the immediate area of work to the greatest possible extent. Contractor shall ascertain, observe and comply with all rules and regulations in effect on the project site, including but not limited to parking and traffic regulations, use of walks, security restrictions and hours of allowable ingress and egress. Any special traffic control during construction involving lane closures shall be in accordance with the federal standard, Manual of Uniform Traffic Control Devices.

The Contractor shall take all measures necessary to become acquainted with the location of underground service, utilities, structures, etc., which may be encountered or be affected by the Contractor's work, and shall be responsible for damage caused by neglect to provide proper precautions or protection. As a minimum to become acquainted with such underground appurtenances, the Contractor shall: 1) Observe existing conditions visible at the site immediately prior to commencement of work; 2) Review available site plans incorporated in the contract documents and/or provided by the DFD Project Representative; 3) Final check with the DFD

Project Representative for additions to or changes from conditions indicated on site plans for the facility; and 4) Obtain input from the "one-call system", the organization composed of all suppliers of utilities/services to or from the site.

Information pertaining to existing conditions that are described in the specifications or appear on the drawings is based on available records. While such data has been collected with reasonable care, there is no expressed or implied guarantee that conditions so indicated are entirely representative of those actually existing. This information is provided to inform the Contractor of known, existing conditions so that due diligence is taken by the Contractor to avoid damage. Where site observation or documents indicate existing underground utilities/services in close proximity (within four feet horizontally and/or four feet vertically) to necessary new construction work, the Contractor shall be responsible to test, probe or otherwise determine exact locations so as to prevent damage to such utilities/services.

Existing pipes, electrical work, and all other utilities encountered, which may interfere with new work, shall be re-routed, capped, cut off, or replaced by the Trades having jurisdiction, in accordance with the Bidding and Contract Documents.

Foundations are designed for soil pressure indicated. Because of variation in bearing capacity of the ground, some foundations may have to be revised after excavation has been completed. DFD's Project Representative's approval to proceed with foundation work must be obtained before concrete is poured. Changes in the work due to revisions of foundations because of unsatisfactory soil conditions will be classed as additional work.

[Note to Architect/Engineer: In accordance with Wisconsin Statute 182.0175(2), the architectural, mechanical and electrical designers are responsible to determine the location and condition of existing systems and components and indicate how existing systems and components are to be re-routed, protected from, and/or connected to the proposed work. The designers must use this information to appropriately revise the Division 01-General Requirements master specifications provided by Division of Facilities Development stated herein.

This section must include specific information about occupancy and scheduling for systems shutdown and how they affect this work. Information must also be given disclosing the location and condition of anything required to make these connections possible. For example: are there isolation valves where they are needed and if so, do they work? Everything possible must be done to eliminate unknowns from the bidding documents.

These things are part of the discovery and planning process for design and must be covered adequately in the documents to facilitate intelligent bidding and to avoid arguments and delays during construction. The designer may need to utilize the "one-call system" or a private locator service to facilitate this discovery and planning process.]

4. INSPECTION OF SURFACES

Contractor shall obtain complete data at the site and inspect surfaces that are to receive the Work before proceeding with fabricating, assembling, fitting or erecting any work under this contract.

Contractor shall notify DFD's Project Representative in writing in case of discrepancies between existing work and drawings, and of any defects in such surfaces that are to receive the Contractor's work. DFD's Project Representative will evaluate the notice and direct what remedial action will be taken.

Starting of work implies acceptance of existing work or the work of others. Removal and replacement of work applied to defective surfaces, in order to correct defects, shall be done at the expense of the Contractor who applied work to defective surfaces.

5. HAZARDOUS SUBSTANCES - ASBESTOS, LEAD AND POLYCHLORINATED BIPHENYLS (PCB'S)

Airborne asbestos fibers, lead, and PCB compounds, if encountered, have been determined to be hazardous to one's health. Compliance with all possible applicable regulations is the Contractor's responsibility. Contractor shall not provide or install any product that contains any amount of asbestos or PCB. See General Requirements, CLEANING AND WASTE DISPOSAL for disposal of hazardous waste, if encountered.

<u>ASBESTOS</u>

Contractor's attention is directed to WAC NR 447, WAC DHS 159 and the Occupational Safety and Health Act (OSHA) in general, part 1926.1101--ASBESTOS in particular. Contractor is responsible for compliance with all

applicable regulations when the work includes fastening to or coring through Asbestos Containing Materials (ACM) and disturbance of asbestos containing caulking and adhesives. The Contractor is responsible for removal and disposal of Category I non-friable ACM that will be disturbed by the work.. Unless otherwise indicated, all caulking, sealants, glazing compounds, gaskets, asphalt roofing materials, damp proofing and miscellaneous adhesives are assumed to contain asbestos and are considered to be Category I non-friable ACM as defined in NR 447. Waste material containing Category I non-friable ACM, is regulated as Construction and Demolition (C&D) waste and may be disposed of at a Department of Natural Resources (DNR) approved C &D waste landfill. If Contractor's work methods cause non-friable ACM to become friable, the Contractor is responsible for the disposal of the friable asbestos waste at a landfill specifically approved by DNR to accept friable asbestos. A copy of the signed waste manifest for the disposal of all friable asbestos waste shall be provided to DFD prior to request for final payment.
The regulations referenced above require removal of friable ACM and Category II non-friable ACM prior to <u>demolition</u> of a building. Category I non-friable ACM does not need to be removed from a building prior to demolition if the waste generated from the demolition is taken to a DNR approved C & D waste landfill. If the contractor chooses to recycle building materials from a building to be demolished, the contractor is responsible for removal and disposal of all Category I non-friable ACM in accordance with applicable regulations prior to demolition. If the contractor's demolition methods will cause non-friable ACM to become friable, the contractor is responsible for removal and disposal of all Category I non-friable ACM in accordance with applicable regulations prior to demolition.

<u>The following building materials have been identified to be ACM.</u>

<u>The following building materials have been identified to be non-ACM.</u>

<u>Lead Based Paint</u>
Existing paint is assumed to contain lead. Existing glazed finishes on tile and masonry units are assumed to contain lead. The Contractor is responsible for compliance with Occupational Safety and Health Act (OSHA) in general and particularly to 29 CFR 1910 (LEAD STANDARD) and to CFR 1926 (LEAD EXPOSURE IN THE CONSTRUCTION INDUSTRY). Dispose of refuse containing lead based paint or contaminated with lead by the demolition process in conformance with State of Wisconsin Hazardous Waste Regulations set forth by the Department of Natural Resources and in conformance with OSHA and EPA recommended worker safety requirements.

<u>PCB'S</u>
Contractor's attention is directed to Wisconsin Administrative Code, Chapter NR 157 relative to PCB's. Refer to Division 26, Electrical within these specifications for work involving PCB's.

6. SOIL TEST BORINGS
Test borings have been made and boring data has been provided; however, these records do not form a part of the Contract Documents, but are provided for information only.

Neither the Architect/Engineer nor DFD guarantee continuity of conditions indicated at the boring locations.

Contractor must interpret the soil boring data and be satisfied as to the materials to be excavated and materials upon which fill or other materials may be placed.

7. MUTUAL RESPONSIBILITY
Contractor(s) shall coordinate the work with adjacent work and shall cooperate with all other trades to facilitate the general progress of the work. Each trade shall afford all other trades every reasonable opportunity for the installation of their work and for the storage of their material. In no case will the Contractor(s) be permitted to exclude from the premises or work, any other Contractor or employees thereof, or interfere with any other Contractor in the executing or installation of their work.
Contractor(s) shall arrange the work and dispose of materials so as not to interfere with the work or storage of materials of others and each shall join their work to that of others in accordance with the intent of the drawings and specifications.

All Contractors shall work in cooperation with the General Prime Contractor and with each other, and fit their work into the structure as job conditions may demand. All final decisions as to the right-of-way and run of pipe, ducts, etc., shall be made by DFD at prearranged meetings with responsible representatives of the Contractors involved.

8. PROJECT MEETINGS

Project meetings will be held at the time designated by DFD. Contractor, when requested, shall attend these meetings. If the principal of the firm does not attend meetings, a responsible representative of the Contractor who can bind the Contractor to a decision at the meetings shall attend.

The Architect/Engineer or a representative thereof will write a report covering all items discussed and decisions reached and copy of such report distributed to all parties involved.

9. SLEEVES AND OPENINGS

Each Contractor requiring sleeved openings shall furnish all sleeves required for their penetrations whether or not they responsible for providing the respective openings. Contractors furnishing sleeves to others for installation shall do this in a timely manner so as not to impede the project schedule.

Openings shown on the structural and/or architectural drawings shall be the responsibility of the General Prime Contractor. Sleeves furnished by other contractors for openings shown on the structural and/or architectural drawings shall be installed by the General Prime Contractor.

Openings that are required and are not shown on the structural and/or architectural drawings shall be the responsibility of the contractor requiring the openings. The contractor requiring the opening shall install sleeves for these openings or cut openings as needed (including floor openings within chases).

Individuals skilled in such work shall accomplish installation of sleeves and openings.

Each Contractor shall be responsible for coordinating locations of their sleeves with work of other trades.

Each Contractor who requires sleeves and/or openings shall submit through the General Prime Contractor, to DFD's Project Representative for review and approval, layout drawings of all such required sleeves and/or openings. Sleeve and opening layout drawings shall be received by DFD a minimum of two weeks prior to installation of the sleeves and openings. Sleeve and opening sizes and locations shall be dimensioned from column lines and floor elevations or from a point of reference approved by DFD.

10. CUTTING AND PATCHING

Provisions of Article 9. Sleeves and Openings herein, cover the work involved for providing and installing sleeves and openings.

Cutting and patching required to access work in existing walls, in chases, above inaccessible ceilings, below floors, etc., shall be by the Contractor who requires the access, unless shown in the bid documents otherwise or noted otherwise.

The Contractor shall do all cutting, or fitting of the work as required to make its several parts fit together, or to receive the work of others, as shown or reasonably implied by the drawings or specifications, or as may be directed by DFD. Holes cut in exterior walls and/or roofs shall be waterproofed.

The Contractor who cuts for required access to work shall also be responsible for patching. Where cutting and patching is required, Contractor shall hire individuals skilled in such work to do cutting and patching.

Except where specifically identified, the Contractor who removes or relocates building components which leave a remaining opening shall be responsible for patching the opening., Where building components are removed by the Asbestos abatement Contractor on behalf of a contractor, the Contractor on whose behalf the components are removed shall be responsible for patching the remaining opening.

Patching includes repairing openings to match adjacent construction and painting the surface to match existing. Painting means covering the entire wall where patching is to be done to nearest break point or corner unless indicated to be done by other trades.

Contractor shall not endanger any work by cutting, digging or otherwise and shall not cut or alter the work of others without their consent.

Do not pierce beams or columns without permission of DFD and then only as directed in writing. If any ductwork, piping, conduit, etc. is required through walls or floors where no sleeve has been provided, use a core drill or saw cut to prevent damage and structural weakening.

Wherever any material, finish, or equipment, is damaged, the skilled trade shall accomplish the repair or replacement, in that particular work and the cost shall be charged to the party responsible for the damage. DFD reserves the right to disallow any means and/or methods that, in the opinion of DFD, are harmful to and/or not in the best interest of preserving the improvements receiving the work.

11. MANUFACTURER'S DIRECTIONS

Contractors shall apply, install, connect, erect, use, clean and condition manufactured articles, materials, and equipment as recommended by the manufacturer, unless specified to the contrary. The manufacturer's latest recommendations at the time of bidding shall be used.

12. LAYOUT

The General Prime Contractor shall immediately upon entering the site for purpose of beginning work, locate general reference points and take such action as is necessary to prevent their destruction. Each Contractor shall lay out its work and be responsible for all lines, elevations and measurements of the building and other work executed under its Contract. Each Contractor must exercise proper precaution to verify dimensions on the drawings before laying out work and will be held responsible for any error resulting from failure to exercise such precaution.

Using datum furnished by the State, the lot lines and present levels have been established as shown on the drawings. Other grades, lines, levels and benchmarks, shall be established and maintained by each Contractor, who shall be responsible for them.

As work progresses, the General Prime Contractor shall lay out on forms and floor, the locations of all partitions, walls and fix column centerlines as a guide to all trades.

The General Prime Contractor shall make provision to preserve property line stakes, benchmarks, or datum point. If any are lost, displaced or disturbed through neglect of any Contractor, Contractor's agents or employees, the Contractor responsible shall pay the cost of restoration.

Each Contractor shall verify grades, lines, levels, locations and dimensions as shown on drawings and report any errors or inconsistencies to DFD’s Project Representative before commencing work. Starting of work by each Contractor shall imply acceptance of existing conditions.

13. SUPERVISION

The General Prime Contractor shall take complete charge of the work under this contract and coordinate the work of all Trades on the project.

14. FIELD OFFICES

The General Prime Contractor shall provide and maintain a temporary watertight office where directed for use by the Contractor and Trades. The office shall be equipped with a plan rack and suitable table for examination of plans.

The General Prime Contractor shall also provide and maintain a temporary office for the sole use of Architect/Engineer and DFD’s Project Representative. The office shall be at least 150 square feet in floor area, equipped with a plan rack, 3'-0" x 8'-0" smooth sloped top table, flat top desk, three chairs, and a four-drawer legal size metal filing cabinet equipped with a workable lock.

Exterior of offices shall be of neat appearance, and if deemed necessary by DFD, shall be painted to achieve such appearance; heat offices during cold weather; provide each office with at least one glazed movable window and one door with a cylinder lock and latch set.

Provide and maintain artificial light, minimum of 40 foot-candles, and two duplex outlets where directed. Provide screen door and window screens if requested. When directed, move the office into a suitable area in the building.

If other offices are provided, they will be located as agreed to by the Contractor and approved by DFD.

A mobile type office with equivalent space and equipment may be used if Architect/Engineer and DFD's Project Representative have a separate office and separate entrance.

15. STAIRS AND SCAFFOLDS

The General Prime Contractor shall:

Furnish and maintain equipment such as temporary stairs, fixed ladders, ramps, chutes, runways and the like as required for proper execution of work by all trades, and shall remove them on completion of the work. Erect permanent stair framing as soon as possible. Provide stairs with temporary treads, handrails, and shaft protection.

Contractors requiring scaffolds shall make arrangements with and compensate the General Prime Contractor for scaffolding, or shall provide their own and remove them upon completion of the work.

Each Contractor shall underlay its interior scaffolds with planking to prevent uprights from resting directly on the floor construction.

16. HOISTS, ELEVATORS OR CRANES

Each separate contractor shall provide and pay for its own hoist/crane or other apparatus necessary for unloading/setting or moving their equipment and materials. Installation and removal of equipment for this activity must be accounted for in the Project Schedule.

Equipment and operations for this activity shall comply with applicable Department of Safety and Professional Services and OSHA requirements. No material hoist may be used to transport personnel unless it meets Department of Safety and Professional Services and OSHA requirements for that purpose.

Contractors shall provide any protection required, temporary or long term, to prevent damage to work in place or in progress. When hoisting activity results in such damage, the responsible contractor shall pay for cleaning, repair or replacement of material or equipment as determined by DFD.

Equipment, that imposes loads of any kind on work in place, shall not be erected without agreement from DFD.

At their own discretion, two or more contractors may agree to use common hoisting facilities. Under such arrangements, the allocation of costs, access and scheduling and all other details of the agreement are the responsibility of the contractors involved.

Existing elevators may be used on a limited basis with DFD's permission and agreement. Costs of warranty extensions and additional service work required will be paid by the using contractor. Appropriate protection must be provided by the using contractor and that contractor shall be responsible for any structural, mechanical or finish damage to the elevator and its parts and to adjoining building finishes and components.

17. SIGNS

No project sign required.

No individual advertising signs, plaques or credits, temporary or permanent, will be permitted on the building or premises, except the name of the Contractor on Contractor's office or material shed.

18. FENCE

The General Prime Contractor shall provide a neat appearing protective fence where indicated on the drawing, constructed of standard studded T-Posts of sufficient length for line posts and spaced not to exceed 8'-0" apart. Corner posts and gate posts are to be galvanized steel pipe of not less than 2 1/2" o.d. and shall be properly braced. A 4-foot high wooden snow fence shall be securely fastened to the supports. Plastic fencing is not acceptable. The snow fence shall project 4" above the fence posts. Provide gates, properly constructed and braced, complete with hinges, hasps, and padlocks in number and location required for proper control, delivery and distribution of material and equipment. Gate posts shall be adequately back tied and anchored to insure a rigid installation. All protective fencing shall be maintained in an upright, orderly fashion throughout the construction schedule. In areas where existing trees are to be protected, the area inside the protective fencing shall not be used for any purpose related to construction activities, such as material storage, vehicle parking, portable toilets, or other disruptive activities that would result in damage of any kind to the site inside the fence.

19. ROADWAY

The General Prime Contractor may build a temporary roadway for delivery of materials at the Contractor's own expense and maintain it until completion of construction or until service drives are installed. Where possible, build temporary roadway within the confines of the new roadway and allow others to use it at no cost. Any gravel topping used for temporary roadway shall be at least 6" below finished elevation of permanent drives. If temporary roadway is not intended to be converted to a permanent road, all road materials shall be removed upon termination of access need, and the confines of the temporary roadway shall be repaired to match adjacent area.

20. TOILETS

The General Prime Contractor shall provide and maintain sanitary temporary toilets, located where directed by DFD's Project Representative, in sufficient number required for the force employed. The toilets shall comply with International Building Code Chapter 29 on Plumbing Systems. Toilets shall be self-contained chemical type.

As soon as conditions will allow, the Plumbing Trade shall provide temporary toilets within the building, where directed, and equip the room with at least two temporary water closets and one temporary lavatory, each with connections to cold water and sanitary sewer. The General Prime Contractor shall provide a temporary wood enclosure with doors; remove when directed.

After directed by DFD's Project Representative, the Plumber shall remove the temporary fixtures and replace them with permanent fixtures.

After temporary toilet accommodations are provided within the building, the General Prime Contractor shall remove the temporary outside toilets.

The General Prime Contractor shall maintain the temporary toilets in a sanitary condition at all times and shall supply toilet paper until completion of the job.

21. TELEPHONES

It is expected that each contractor have access to their own cell phone for their own use. No additional telephone service will be provided.

22. WATER SUPPLY

Contractor should arrange with state agency to use nearby existing water service. Toilets and slop sinks used by workmen shall be kept clean and sanitary at all times.

23. TEMPORARY ELECTRICAL WORK

The General Prime Contractor shall make all arrangements with the local utility company for metered electrical service, pay for the installation of all temporary service to utility point of termination shown on drawings, and upon completion of project, pay for removal of temporary service. The General Prime Contractor shall patch surfaces and structure after services have been removed. The service shall be 120/208 volt, 3 phase, 4 wire, **200** amps.

If a Contractor contemplates the use of equipment that requires a different voltage or greater capacity than that specified, then that Contractor must arrange with Utility for this additional service and pay for installation of the service and the necessary additional switches and wiring required.

The meter shall be taken out in the General Prime Contractor's name.

The General Prime Contractor shall pay for all electrical energy consumed for construction purposes for all trades including temporary offices, for operation of ventilating equipment, for heating of building, and for testing and operating of all equipment. The General Prime Contractor shall continue to pay for energy used until substantial completion even though equipment has been connected to the permanent wiring.

Any Trade that has a temporary office shall provide and pay for installation of temporary service for lighting of such temporary office.

The Electrical Trade shall provide meter base and wiring to point of utility termination, provide main fused service switch, and fused or breaker distribution panel(s). The Electrical Trade shall also provide, at no cost to others, all lamps, wiring, switches, sockets and similar equipment required for temporary system until substantial completion. Upon completion of the project, the Electrical Trade shall remove the temporary system.

The temporary lighting system shall be sufficient to enable all trades to safely complete their work and to enable DFD's Project Representative to check all work as it is being done. Illumination shall be 5 foot-candles minimum in all areas and, in addition, shall meet or exceed the requirements of 29 CFR 1926.56 Illumination (OSHA regulations).

Provide at least one duplex outlet for small power tools for each 400 square feet of floor space, 120 volt single phase. Circuits shall be 20 ampere, single pole.

In accordance with the latest issue of the National Electrical Code, all temporary electrical circuits for construction purposes shall be equipped with combination ground fault interrupter and circuit breakers meeting the requirements of UL for Class A, Group 1 devices. The ground fault interrupter portion shall be solid state type, insulated and isolated from the breaker mechanism. A test button shall be provided for checking the device. The breaker mechanism shall provide overload and short circuit protection and shall be operated by a toggle switch with overcenter switching mechanism so that contact cannot be held closed.

All Trades shall furnish their extension cords and lamps other than those furnished for general lighting.

All Trades and other separate Contractors shall be allowed to use the service provided for general lighting and fractional horsepower hand tools at no cost.

The General Prime Contractor shall be compensated by those requiring three phase and single-phase energy used for equipment other than fractional horsepower hand tools. Arrangements shall be made with the General Prime Contractor before construction equipment is used.

The General Prime Contractor shall post the cost rates at start of construction. Rates may be posted on an hourly use basis or energy may be submetered at the General Prime Contractor's option, but shall be based upon a fair and reasonable estimate of the cost of power used as billed by the Utility.

Those trades requiring lighting or other electrical service outside of building shall pay for the installation and removal of service, maintenance charges, and energy consumed.

Trades requiring voltage other than basic temporary system specified, three phase power, or a special single phase run, for operation of construction equipment or testing shall make their own arrangements with the General Prime Contractor for cost of energy used, and the Electrical Trade for the cost of installation, and removal when no longer required.

Heating and Ventilating Trade shall provide wiring, equipment and connections for portable or temporary heating units.

The Electrical Trade shall expedite the work under this contract in such a manner that the permanent power wiring system and panels will be installed and connected to permanent heating and ventilating equipment in time to operate and test this equipment when the building has been closed sufficiently to permit the use of portions of heating and ventilating system for temporary heating during construction. Permanent wiring and connections may be used at permanent equipment; however, the use of the permanent system during construction shall in no way waive any part of the guarantee period.

After Substantial Completion of the permanent electrical system and building wiring, permanent receptacles may be used during finishing work. Permanent wiring for lighting fixtures, switches and receptacles shall be installed only after all masonry and plastering has been completed, but this wiring shall not be used for motors larger than fractional HP or for welding equipment. Circuits for larger motors and welding equipment may be provided with special circuits to mains of electrical panels at the expense of those trades requiring them, provided that special permission is obtained from DFD's Project Representative and the installation is made by skilled electricians.

24. COLD WEATHER PROTECTION

All heating and protective covering, required to protect the work from injury due to freezing and moisture during the construction period and prior to enclosure of the building, shall be classed as COLD WEATHER PROTECTION. Such protection shall be provided and paid for by the General Prime Contractor.

Heat required to protect materials from injury due to freezing during the construction period and prior to enclosure, shall be provided by means of portable heating units intended for this purpose.

All heating units must be approved types. Proper ventilation must be provided. The use of temporary units whose product of combustion will damage fresh concrete, mortar or other building materials, will not be allowed. Use of coke or oil salamanders is prohibited.

If electrical power is required for oil or gas portable heating units, it may be taken from the available temporary power source and paid for by the General Prime Contractor.

Heating units and the area surrounding the units shall be kept in a clean and safe condition.

25. ENCLOSURE

Before the building, or portion thereof, can be considered enclosed, the General Prime Contractor shall have advanced the construction of the building to conform with the following requirements.

The exterior walls should be erected to full thickness and height shall extend to the top of the horizontal level which encloses the space intended to receive heat. If erection of full thick walls is not feasible, erection of back-up wall only will be accepted if approved weatherproofing of back-up materials is provided to avoid damage to back-up materials.

The horizontal slab, which will serve as the overhead enclosure of the spaces to receive heat (whether it be the roof slab or intermediate floor slab), shall have all openings covered with closures capable of sustaining any loads imposed thereon. The entire overhead enclosure shall be made weatherproof.

Provide approved translucent material for temporary enclosure of window openings if they have not been glazed. Plain or reinforced polyethylene film or other suitable translucent material will be acceptable, provided it is installed in or on a well fitting rigid wood frame and kept in good repair. This means of temporary enclosure shall be used for other minor openings in walls.

Construct temporary walls as required to protect contents and to separate the interior enclosed sections from the interior open section of the building during construction. Temporary wall enclosure shall consist of plywood panels, at least 3/8" thick, fastened to wood framework, consisting of 2 x 4 studs spaced 24" o.c., securely spiked to wood plates, top and bottom. Provide intermediate girts between studs as required for fastening of plywood. Temporary walls must provide protection from dirt, dust, and drafts.

Provide exterior doors with hinges, self-closing device, and locks.

Make suitable provisions for passage of air to permit proper drying out of the building.

At end of day's work, securely close temporary enclosures. Padlock exterior doors. The General Prime Contractor shall supervise effectiveness of enclosures.

Where reference is made to a "portion of the building", it is intended to mean definable areas of the building such as a group of floor levels or an entire wing of the building. It is not intended to require a room-by-room or erratic piece-meal enclosure operation, but shall provide for an orderly expansion of large adjacent or related areas to be enclosed which are advantageous to the progress of the work and approved by DFD's Project Representative.

26. TEMPORARY HEAT

All heating required after enclosure of the building up to substantial completion shall be classified as TEMPORARY HEAT. Enclosure is defined in preceding Article.

It shall be the responsibility of the General Prime Contractor to see that every precaution is used to prevent unnecessary escape of heat.

For installations where central plant steam or central plant hot water will be used for permanent heating, the State will furnish all steam or hot water required for temporary heat at no cost to the Contractor. (Condensate shall be wasted until it is determined by DFD's Project Representative that condensate is of a quality suitable for return to the central plant. When such determination is made all condensate shall be returned to the State's system). It is the responsibility of the heating trade to connect to the existing steam or hot water source.

For installations that are not connected to central plant steam or central plant hot water, the General Prime Contractor shall pay the fuel costs for temporary heat for both permanent heating systems used for temporary heat and/or temporary heating systems used for temporary heat.

The General Prime Contractor shall pay for all electrical energy consumed for temporary heat.

The Heating Trade shall provide one of the following systems or a combination thereof, for furnishing temporary heat:

Permanent heating system may be used for temporary heating. If permanent system is used, the Heating Trade shall install in their permanent location heating coils or connectors as approved by DFD, with controls to maintain temperatures required. Temporary filters shall be used in the permanent system. Provide bases, shields, etc., around heating elements to prevent too rapid drying of adjacent concrete, masonry or plaster. Relocation of some of the permanent heating system equipment may be required during construction to prevent interference with new construction. Temporary units may be installed in such areas during the time permanent equipment is not operating due to relocation

The distribution piping of the permanent heating system may be utilized for supply and return to unit heaters on each floor in lieu of temporary piping, provided approved connections, controls and protection of such piping is maintained.

If the permanent air system is used during temporary heating period, temporary filters shall be provided in the system and they shall have efficiency equal to the permanent filters. The return air ductwork shall be protected from construction dirt by temporary filters placed over return openings.

If the Heating Trade does not have one of the above systems in operation by the time the building is enclosed, then the Heating Trade shall provide, maintain and supervise the operation of temporary portable units with necessary automatic controls to provide required temperatures. Current required may be taken from the temporary electrical service. See "Temporary electrical Installation". Cost of fuel to operate portable units shall be paid by the General Prime Contractor.

All electrical wiring required for temporary heating units shall be furnished and installed by Heating Trade, from temporary wiring service. Electrical wiring to permanent equipment used for temporary heating that has been mounted in its permanent location shall be wired by trades skilled in that work.

The use of open salamanders as portable heating units will not be approved. All portable temporary heating units shall be properly ventilated to prevent combustion gases from remaining in the heating area.

The Heating Trade must ascertain if heating equipment will operate on the temporary electrical service available. If service is insufficient to operate equipment, Heating Trade shall make other arrangements.

The Heating Trade shall be responsible for the proper adjustment and maintenance of the system, and shall supervise and be responsible for the operation of the system used for temporary heating until State occupies the building. Supervision shall include periodic checking of operation as required.

A minimum temperature of 45 degrees and a maximum temperature of 60 degrees for the building shall be maintained by the Heating Trade, except for a period of at least ten days prior to the placing of interior woodwork and throughout the placing of this and other finish, varnishing, painting, etc., and until substantial completion to provide sufficient heat to insure a temperature in the spaces involved of not less than 70 degrees nor more than 80 degrees.

The temporary heating system shall be removed by the Heating Trade after the permanent heating system has been installed and operating. Surfaces and structure shall be patched as required. Temporary heating equipment shall be relocated by the Heating Trade as required during construction to prevent interference with new construction.

At completion of construction work or when temporary heat is no longer required, Heating Trade must repair any damage done to permanent equipment during temporary heating period and also perform the necessary cleaning of all ducts and equipment. The Heating Trade shall provide permanent filters to the complete satisfaction of DFD.

27. FIRE PROTECTION

The General Prime Contractor shall provide and maintain in working order during the entire construction period, a minimum of three (3) fire extinguishers on each floor level, including basement of the building, and one (1) in temporary office. Extinguishers shall be nonfreeze type such as A-B-C rated dry chemical, of not less than 10-pound capacity each. In addition, any Subcontractor who maintains an enclosed shed on the site shall provide and maintain, in an accessible location, one or more similar nonfreezing type fire extinguisher in each enclosed shed.

Fire alarm systems and fire suppression systems shall be kept in service during construction. The General Prime Contractor shall impair system operability only as necessary to avoid false alarms, false activations or damage and where required to complete construction activities. The General Prime Contractor is responsible for the first responder cost of repeat false alarms.

Where systems are impaired, provide a fire protection impairment program in compliance with NFPA 25, NFPA 72, NFPA 101, IFC Chapter 9 and the Authority Having Jurisdiction (AHJ) including the following:

- Written notification to DFD's Construction Representative, the Agency Impairment Coordinator (to be assigned at the preconstruction meeting), first responders and the fire department of the dates, times and extent of system impairments and system restorations and description of contractor actions minimizing risk.
- Temporary bagging or removal of smoke detectors during the work day with restoration of smoke detectors at end of the work day.
- Confirmation that systems are fully operational at the end of the work day before leaving the job site.
- An approved fire watch or other approved procedures where systems are disabled beyond the work day or where required by the DFD Project Representative, the Agency Impairment Coordinator, first responders or the fire department.
- Tags indicating which system or system component has been impaired placed at each fire department connection, affected control valve and alarm panel. Remove tags after restoration.
- Tags listing temporary fire alarm notification procedures on all non-functional fire alarm devices including pull stations, automatic detectors and audio/visuals. Remove tags after restoration.
- Daily log of system impairments and restorations.

28. WATCHPERSONS

Watchpersons will not be furnished by the State. The Contractor shall provide such precautionary measures, to include the furnishing of watchpersons if deemed necessary, to protect persons and property from damage or loss where the Contractor's work is involved.

29. STORAGE OF MATERIALS
Contractor shall confine equipment, apparatus, storage of materials and operations to limits indicated on the drawings or by specific direction of DFD's Project Representative and shall not bring material onto the site until they are needed for the progress of the work.

The storage of materials on the grounds and within the building shall be in strict accordance with the instructions of DFD's Project Representative. Storage of materials within the building shall at no time exceed the design carrying capacity of the structural system.
Provide and maintain watertight storage sheds on the premises where directed, for storage of materials that might be damaged by weather. Sheds shall have wood floors raised at least 6" above the ground.
All materials affected by moisture shall be stored on platforms and protected from the weather.

All materials shall be stored in a manner that prevents release of hazardous material to the environment.

All hazardous materials, including motor fuels, shall be properly handled and contained to prevent spills or other releases. The General Prime Contractor shall develop and maintain a contingency plan to provide emergency response, containment, and cleanup of spills of hazardous materials resulting from contract activities. All spills and releases shall be reported to DFD as soon as possible.

During the construction of this building, materials, construction sheds, and earth stockpiles shall be located so as not to interfere with the installation of the utilities nor cause damage to existing lines.

The Contractor shall allot space to others for storage of their materials, and erection of their sheds.

Should it be necessary at any time to move material sheds or storage platforms, the Contractor shall move same at the Contractor's expense, when directed by DFD's Project Representative.

The State assumes no responsibility for materials stored in building or on the site. The Contractor assumes full responsibility for damage due to the storage of materials.

Repairing of areas used for placing of sheds, offices, and for storage of materials shall be done by the Contractor.

30. PROTECTION OF FINISHED CONSTRUCTION
Contractor shall assume the responsibility for the protection of all finished construction under the Contract and shall repair and restore any and all damage of finished work to its original state.

Wheeling of any loads over any type of floor, either with or without plank protection, will be permitted only in rubber tired wheelbarrows, buggies, trucks or dollies.

Where structural concrete is also the finished surface, care must be taken to avoid marking or damaging those surfaces.

31. PROTECTION IN GENERAL
All structures and equipment shall be constructed, installed and operated with guards, controls and other devices in place.

Temporary pumps required for pumping water from building excavation or from building proper shall be provided by the General Prime Contractor, including temporary connections. Plumbing Trade shall install permanent sump basins and piping where and when required. Permanent sump pumps shall not be installed until building is substantially complete and when approved by DFD's Project Representative. The General Prime Contractor shall remove temporary pumps and connections when approved by DFD's Project Representative.

The General Prime Contractor shall:

Provide, erect and maintain all required planking, barricades, guard rails, temporary walkways, etc., of sufficient size and strength necessary for protection of stored material and equipment; paved surfaces, walks, curbs, gutters and drives; streets adjacent to or within project area; adjoining property and all project work to prevent accidents to the public and the workmen at the job site.

Notify adjacent property owners if their property interferes with the work so that arrangements for proper protection can be made.

Provide and maintain proper shoring and bracing to prevent earth from caving or washing into the building excavation. Provide temporary protection around openings through floors and roofs, including elevator openings, stairwells, and edge of slabs.

Provide and maintain proper shoring and bracing for existing underground utilities, sewers, etc., encountered during excavation work, to protect them from collapse or other type of damage until such time as they are to be removed, incorporated into the new work, or can be properly backfilled upon completion of new work.

Provide protection against rain, snow, wind, ice, storms, or heat to maintain all work, materials, apparatus, and fixtures, incorporated in the work or stored on the site, free from injury or damage. At the end of the day's work, cover all new work likely to be damaged. Remove snow and ice as necessary for safety and proper execution of the work.

Protect the building and foundations from damage at all times from rain, ground water and back-up from drains or sewers. Provide all equipment and enclosures as necessary to provide this protection.

Damaged property shall be repaired or replaced in order to return it to its original condition. Damaged lawns shall be replaced with sod.

Protect materials, work and equipment, not normally covered by above protection, until construction proceeds to a point where the general building protection of the area where located, dispenses with the necessity therefore. Protect work outside of the building lines such as trenches and open excavations, as specified above.

Take all necessary precautions to protect the State's property as well as adjacent property, including trees, shrubs, buildings, sanitary and storm sewers, water piping, gas piping, electric conduit or cable, etc., from any and all damage which may result due to work on this project.

Repair work outside of property line in accordance with the requirements of the authority having jurisdiction.

Repair any work, damaged by failure to provide proper and adequate protection, to its original state to the satisfaction of DFD or remove and replace with new work at the Contractor's expense.

Protect trees indicated on the drawings to remain and trees in locations that would not interfere with new construction, from all damage. Do not injure trunks, branches, or roots of trees that are to remain. Do cutting and trimming only as approved and as directed by DFD's Project Representative.

The value of trees destroyed or damaged will be charged against the account of the Contractor responsible for the damage in an amount equal to the expense of replacing the trees with those of similar kind and size, but not to exceed $1000.00 for any one tree.

32. CLEANING AND WASTE DISPOSAL

Contractor shall be responsible for all cleaning required within the technical sections of the specifications governing work under the Contractor's jurisdiction as well as for keeping all work areas, passageways, ramps, stairs and all other areas of the premises free of accumulation of surplus materials, rubbish, debris and scrap which may be caused by the Contractor's operations or that of the Subcontractors.

Remove rubbish, debris and scrap promptly upon its accumulation and in no event later than the end of each week.

Combustible waste shall be removed immediately or stored in fire resistive containers until disposed of in an approved manner.

No burning of rubbish or debris will be allowed at the site. Rubbish, debris and scrap shall not be thrown through any window or other opening, or dropped from any great height; it shall be conducted to the ground, to waiting truck(s) or removable container(s) by means of approved chutes or other means of controlled conveyance.

Form and scrap lumber shall have all nails withdrawn or bent over; shall be neatly stacked, placed in trash bins, or removed from the premises.

Spillages of oil, grease or other liquids which could cause a slippery or otherwise hazardous situation or stain a finished surface shall be cleaned up immediately.

Waste materials removed from the site shall be managed by the contractor and disposed of in accordance with all applicable laws, regulations, codes, rules, and standards. Materials that meet the definition of a hazardous waste (Wis. Admin. Code NR 600) shall be disposed through the State's hazardous waste service contract (Posted on Vendornet https://vendornet.wi.gov/Contracts.aspx; search for "hazardous wastes service"), unless otherwise directed in writing by DFD. The Contractor shall prepare all hazardous wastes for transport and disposal. Arrangements for disposal shall be coordinated through DFD's Project Representative. Charges for transport and disposal of hazardous waste by the State's hazardous waste service contractor will be paid directly by the State. Other materials such as soil, debris, sludge, water, etc. generated by project activities which may contain constituents exceeding federal, state, or local environmental cleanup standards must not be removed from the site, or treated and disposed on site without prior written approval of DFD. DFD will provide a list of acceptable offsite disposal or treatment facilities for disposal by Contractor. Other unused or discarded materials may be treated as solid waste. Facilities for recycle, disposal or landfill of such items shall be approved by DFD prior to removal from the site.

Dust, dirt and other foreign matter shall be removed completely from all internal surfaces of all mechanical and electrical units, cabinets, ducts, pipes, etc.

Dirt, soil, fingerprints, stains and the like, shall be completely removed from all exposed finished surfaces.

General Prime Contractor shall wash all glass immediately prior to the occupancy of this project. Work shall include the removal of labels, paint splattering, glazing compound and sealant. Surfaces shall include mirrors and both sides of all glass in windows, borrowed lights, partitions, doors and side lights.

Broken, scratched or otherwise damaged glass shall be replaced by the General Prime Contractor.

In addition to the above, the General Prime Contractor shall be responsible for the general "broom" cleaning of the premises and for expediting all of the cleaning, washing, waxing and polishing required within the technical sections of the specifications governing work under this Contract. The General Prime Contractor shall also perform "final" cleaning of all exposed surfaces to remove all foreign matter, spots, soil, construction dust, etc., so as to put the project in a complete and finished condition ready for acceptance and use intended.

If rubbish and debris is not removed, or if surfaces are not cleaned as specified above, DFD reserves the right to have said work done by others and the related cost(s) will be deducted from monies due the Contractor.

33. OPERATING AND MAINTENANCE MANUALS AND INSTRUCTIONS

Contractor shall provide Agency Staff with two (2) sets of the O&M data for each device, piece of equipment and assembly furnished and/or installed under this contract. Format shall be paper, indexed and labeled and bound in three-ring binders. In addition to the hard copies provide electronic (PDF) copies of the O&M manuals to the AE. Also include, the electronic media (CD or flash drive) in 3 hole vinyl holders in binders.
The O&M manuals shall include the following:

- Table of Contents
- Contact information (including emergency contact number) for installing contractor, original vendor manufacturer and service provider
- Copy of approved submittals
- As-built control drawings and sequences of operations
- Catalog data or literature with correct model number checked
- Manufacturer's installation and operation instructions including start-up, break-in, shutdown, seasonal, emergency and special operation procedures

- Manufacturer's maintenance instructions including procedures and instructions for problem corrections, preventive maintenance, testing, alignment, adjustment and repair
- Complete parts list in an exploded view diagram of the equipment
- Construction Verification Checklists
- Inspection and testing reports
- Maintenance records indicating maintenance performed by contractor prior to substantial completion
- Equipment warranties including terms and conditions and date of inception (substantial completion) and date of expiration
- List of special tools or testing equipment required for the operation, testing or maintenance of the equipment
- For items assembled by the Contractor for special functions, write operating and maintenance instructions

Contractor shall submit to A/E for review, make revisions noted by A/E and provide final O&M data for A/E's review 30 business days prior to training. Any revisions or changes to the systems and/or equipment post delivery of the final O & M data submittal must be submitted to A/E as an addendum within 30 days of the revision or change.

34. TESTS AND ADJUSTMENTS

The complete installation consisting of the several parts and systems and all equipment installed according to the requirements of the Contract Documents, shall be ready in all respects for use by the User Agency and shall be subjected to a test at full operating conditions and pressures for normal conditions of use.

Contractor shall make all necessary adjustments and replacements affecting the work which is necessary to fulfill DFD's requirements and to comply with the directions and recommendations of the manufacturer of the several pieces of equipment, and to comply with all codes and regulations which may apply to the entire installation. Contractor shall also make all required adjustments to comply with all provisions of the drawings and specifications.

35. LOOSE AND DETACHABLE PARTS

Contractor shall retain all loose and small detachable parts of apparatus and equipment furnished under this Contract, until completion of the work and shall turn them over to DFD's Project Representative designated to receive them. Contractor shall obtain from DFD an itemized receipt thereof in triplicate. Contractor shall retain one copy of receipt for their files and attach the other two to request for final payment for the work.

36. EROSION CONTROL AND STORM WATER MANAGEMENT

In accordance with state law, where applicable, and what the Department of Administration believes to be good soil conservation practices and pollution prevention, the General Prime Contractor shall be governed by the following:

The General Prime Contractor hereby covenants to maintain all project grounds, public streets and associated areas, including fill areas in a manner consistent with state laws and the general policy to conserve soil and soil resources, and to control and prevent soil erosion and to control and prevent siltation into waters of the state. This clause is to be liberally construed to further the above stated objectives. The following shall include, but not limit areas in which control is to be executed:

Erosion Control Plan: Implement the erosion control plan developed for the project and maintain erosion control practices throughout the construction period. Modifications to the erosion control plan, addressing phases of construction shall be the responsibility of the General Prime Contractor. Erosion control practices that are compromised as the result of construction activity shall be returned to their functioning state by the end of the current work day. Where applicable, erosion control practices shall comply with Chapters NR 151 and 216, Wis. Adm. Code.

Minimum Stripping: Limit stripping of sod and vegetation and limit land disturbance to an area and a time period that will expose bare soil to least possibility of erosion that construction requirements will allow.

Stockpiling: Materials, including soil, shall be stored and protected in a manner that will prevent runoff of material from the stockpiles into streets, drainage facilities, storm sewer systems, or waters of the state in the event of rain.

Soil Erosion and Erodible Materials: Take positive measures to prevent soil erosion from the construction area and areas disturbed by construction activities by employing such means as seed and mulch, mulches, intercepting embankments and berms, sedimentation basins, ditch checks, riprap, erosion mats, silt fence, approved polyacrylamides, inlet protection, or other temporary erosion control devices or methods.

Record Keeping: Maintain a copy of the current erosion control plan on site. Maintain maintenance records and inspection logs on-site for erosion control and storm water management practices. Contractor shall provide project representative with a weekly maintenance and inspection report.

Street Maintenance: Control the tracking of soil onto street and paved surfaces to a minimum. Any such tracking shall be removed no less than on a daily basis.

Storm Water Management: Practices installed for post-construction storm water management shall be protected during construction activity, and in the event that their intended function becomes compromised during construction activity, shall be restored and/or repaired according to Chapters NR 151 and 216, Wis. Adm. Code, for post-construction storm water management.

Erosion control and storm water management practices shall be installed and maintained in accordance with the WDNR approved technical standards available at the following website:
https://dnr.wisconsin.gov/topic/Stormwater/standards

Responsibility and authority for inspections are vested in the Department of Administration through the Division of Facilities Development.

Responsibility and authority for maintaining records for NR 216 is the responsibility of the General Prime Contractor.

37. AIR QUALITY MANAGEMENT

In accordance with the Department of Administration's air quality management practice on Ozone Action Days, all contractors shall reduce or limit emissions and particulate matter that adversely affect air quality.

The General Prime Contractor shall establish the action plan, in cooperation with other contractor(s), concerning implementation of air quality management on Ozone Action Days. This plan shall include suspending work or modifying operations for all activities related to ozone, volatile organic compounds (VOC) and nitrogen oxide emissions. These work activities include but are not limited to the following:

Limit equipment and vehicle refueling to after 6 pm.

- Limit use of gasoline-powered vehicle and equipment.
- Limit excessive idling of diesel-powered vehicle and equipment.
- Limit large scale painting with VOC.
- Limit large scale asphalt roofing and paving.
- Limit and/or control all dust creating activities.

For information on air quality readings on Ozone Action Days refer to:

1-866-324-5924; or

https://dnr.wisconsin.gov/topic/AirQuality/Ozone.html

38. CONSTRUCTION WASTE MANAGEMENT

See Section 01 74 19 – Construction Waste Management.

39. GUARANTEE DOCUMENTS

Upon Substantial Completion of project, the Contractor shall submit such written guarantees and bonds to DFD for presentation to the User Agency. Furnish guarantees in triplicate unless otherwise indicated.

40. RECORD DOCUMENTS

On a suitable set of Contract Documents, the contractor is to maintain a daily record of changes and deviations from the contract. All buried or concealed piping, conduit, or similar items shall be located by dimensions and elevations on the record drawings.

The daily record of changes shall be the responsibility of Contractor's field superintendent. No arbitrary mark-ups will be permitted.

Once during the month the Contractor shall present, at the project, the job copy showing variations and changes to date to the Architect/Engineer and DFD Project Representative for their review.

At substantial completion of the project, the Contractor shall transmit the marked up as-built documents to the Architect/Engineer and copy the DFD Project Representative on the transmittal of the documents. The A/E will incorporate the contractor marked up as-built drawings into the record drawings.

In addition to providing marked up drawings to the AE, the contractor shall provide (when available) electronic drawing drawings for all contractor generated drawings to the AE. Drawing shall include but not be limited to:

- Contractor coordinated BIM models
- Fabrication, erection and installation drawings for:
    - Ductwork and piping
    - Steel
    - Concrete
    - Special process systems
    - Lighting controls
    - Audio Visual
    - Telecommunications
- DSPS approved submittals for:
    - Fire Protection
    - Fire Alarm
    - Structural
    - Elevator

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SECTION 01 33 00
ELECTRONIC SUBMITTAL PROCEDURES
BASED ON DFD MASTER SPECIFICATION DATED 06/25/2015

PART 1 - GENERAL

SCOPE

This section includes requirements for the submittal log and administrative and procedural requirements for electronically submitting Fabrication Drawings, Product Data, Samples and other submittals. Included are the following topics:

PART 1 – GENERAL
- Scope
- Reference
- Related Work
- Definitions
- Administrative Requirements

PART 2 – PRODUCTS
- Submittal Management System

PART 3 – EXECUTION
- Submittal Management System
- Contractor's Review
- Architect/Engineer's Action
- Closeout Documentation

REFERENCE

Applicable provisions of Division 01 govern work under this section.

RELATED WORK

SUBMITTALS NOT COVERED BY THIS SECTION INCLUDE:

General Conditions of the General Prime Contractor Contract articles:
"Equals and Substitutions" regarding substitution requests.
"Payment to General Prime Contractor" regarding Applications for Payment and the schedule of values.
"Scheduling and Coordination of Work" regarding schedules and reports, including Contractor's construction schedule.
"Final Completion and Final Payment" regarding project closeout and final pay submittals.
"Quality Control and Inspection" and "Reports, Records and Data" regarding scheduling and reporting of tests and inspections.

Division 01 General Requirements articles:
"Operation and Maintenance Manuals and Instructions" regarding operation and maintenance manuals.
"Record Documents" regarding record Drawings, record Specifications, and record Product Data.

Other:
"01 74 19 Construction Waste Management" regarding construction waste management submittal requirements.
"01 81 13 Sustainable Building Requirements" regarding sustainable building submittal requirements.
"WisBuild" regarding contractual submittal requirements.

DEFINITIONS

Submittals: All written and graphic information and physical samples demonstrating compliance with Contract Documents that require Architect/Engineer's review including but not limited to the following: design data, pre-engineered systems certification, product data, product schedule, samples, fabrication drawings, tests and certifications submittals. The terms "Submittals" and "Shop Drawings" may be used interchangeably.

ADMINISTRATIVE REQUIREMENTS

Coordination: Provide adequate submittal processing time to allow completion of the entire project within the time specified in the Contract Documents. Coordinate preparation and processing of submittals with Project Schedule, including:

1. Review by Architect/Engineer, revision by contractor, if returned by Architect/Engineer, and review of resubmittal.
2. Ordering, manufacturing, fabrication, delivery, installation, and related activities, including required construction sequencing per the construction schedule.

Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble each submittal into a single, separate, PDF file.
2. Include Request for Submittal Approval form DOA-4523 as first page of file. Identify features of the submittal which may not be in conformance with contract document requirements.
3. For large submittals, include bookmarks within file to navigate through file.
4. Name file with submittal number or other unique identifier, using Specification Section Number-Submittal Name-Submittal Sequence Number (e.g. 081100-Doors-6).
5. Resubmittals: Make resubmittals in same form and number of copies as initial submittal. Resubmittals shall include the letter "R" and a number inciting the resubmittal number (081100-Doors-6-R1).

PART 2 - PRODUCTS

SUBMITTAL MANAGEMENT SYSTEM

Vendors: Aconex, CMiC, Newforma, Primavera, Procore, Prolog, Submittal Exchange

Provide an electronic tracking and management system capable of storing and displaying a Submittal Log and all project Submittals. The Submittal Log and all Submittal information must be printable and continuously accessible via the Internet by the General Prime Contractor, Subcontractors, Suppliers, Architect/Engineer and DFD with password controlled accessibility and permissions. Provide uploading and editing capabilities for the General Prime Contractor, Subcontractors and Architect/Engineer and viewing capabilities for DFD.

Provide online training and live technical support for system users.

The Submittal Log must automatically enter the date submittals are uploaded or edited, the name of the person taking action and issue E-Mail notifications to the parties who must next act on the submittal. The Submittal Log must identify submittal due dates and those submittals that are on the critical path of the construction schedule and highlight any submittal that is beyond its schedule requirement.

SUBMITTAL LOG: The Submittal Log must include each anticipated submittal, sortable by initial submittal date and by division of work. It must also include the following information for each submittal, arranged in tabular form in the following sequence. (See attached sample Submittal Log pages SL-1 through SL-**X**)

1. Project name
2. DFD Project number
3. Contractor Name
4. Specification Section Number
5. Specification Section Title
6. Submittal Description
7. Responsible Contractor or Subcontractor
8. Date of Initial Submittal Required to Meet Project Schedule
9. Date of Final Release or Architect/Engineer Approval Required to Meet Project Schedule
10. Date Initial Submittal Received by Architect/Engineer
11. Date of Initial Response from Architect/Engineer
12. Architect/Engineer Action on Initial Submittal
13. Date Resubmittal Received by Architect/Engineer (if Applicable)
14. Date of Resubmittal Response from Architect/Engineer (if Applicable)
15. Architect/Engineer Action on Resubmittal (if Applicable)

16. Remarks

SUBMITTALS:
Provide Submittals for the following Submittal Types.

Product Data: Provide Product Data information in a single submittal for each element of construction and type of product or equipment. Include the following information, as applicable:

1. Manufacturer's catalog cuts.
2. Manufacturer's product specifications.
3. Standard color charts.
4. Dimensions.
5. Materials of construction.
6. Statement of compliance with specified referenced standards.
7. Testing by recognized testing agency.
8. Application of testing agency labels and seals.
9. Notation of coordination requirements.
10. Availability and delivery time information.
11. Wiring diagrams showing factory-installed wiring.
12. Capacities and operational characteristics.
13. Performance and operating criteria, ratings and curves.
14. Operational range diagrams.
15. Clearances required to other construction, if not indicated on accompanying Fabrication Drawings.

Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product, including a unique identifier for each product indicated in the Contract Documents, or as assigned by Contractor, if none is indicated.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.

Fabrication Drawings: Project-specific Fabrication Drawings, drawn accurately to scale. Do <u>not</u> base Drawings on reproductions of the Contract Documents or standard printed data. Fully illustrate requirements of the Contract Documents, including the following information, as applicable:

1. Identification of products.
2. Schedules.
3. Dimensions.
4. Materials of construction.
5. Compliance with specified standards.
6. Notation of coordination requirements.
7. Notation of dimensions established by field measurement.
8. Relationship and attachment to adjoining construction clearly indicated.
9. Seal and signature of design professional if specified.

Except for templates, patterns, and similar full-size drawings, submit Fabrication Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches .

Samples: Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color charts, color range sets; and components used for independent testing and inspection. The electronic Submittal Management System is not intended for transmitting samples.

Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, kind, textures, and patterns available for a check of these characteristics with other elements and for comparison to actual component as delivered and installed.

Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected.

Where variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations

Attach label on unexposed side of Samples that includes the following:

1. Generic description of Sample.
2. Product name and name of manufacturer.
3. Sample source.
4. Number and title of applicable Specification Section.
5. Specification paragraph number and generic name of each item.

Transmit Samples that contain multiple, related components such as accessories together in one submittal package. Provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.

Tests and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity; provide notarized statement on original paper copy certificates and certifications, where indicated.

Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

Pre-engineered Systems Certification: Submit electronic files of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

ELECTRONIC SUBMITTAL MANAGEMENT SYSTEM

Establish the electronic submittal management system upon contract award and maintain the system for the duration of the General Prime Contractor’s contract. Develop a list of project users and user permissions and update throughout the project when needed. Provide users with passwords, directions for accessing, uploading, editing and technical support resources.

SUBMITTAL LOG: Establish and maintain the project submittal log in the Submittals Management System.

Provide a printed submittal log at the Pre-Construction Meeting. List all known submittals: be particularly mindful of submittals required to maintain orderly progress of the Work and the Project Schedule over the first 60 calendar days of the project or that are need early submission and response due to long lead time for manufacture, fabrication or delivery.

Complete submittal entries in the submittal log within 60 calendar days of project Notice to Proceed, including listing submittals for all work activities through project completion.

Update the submittal log weekly to reflect changes in submittal status, submission & reply dates or other information. Provide a printed submittal log for review along with project schedule at construction progress meetings. Maintain electronic access to the submittal log at the construction site at all times.

SUBMITTALS: Reference Division 01, General Conditions of the General Prime Contractor Contract, Submittals, for submittal requirements in addition to the following.

Prepare and submit submittals required by individual Specification Sections and Part 2 above. Group submittals for related parts of the Work together so processing will not be delayed due to need for concurrent review for coordination. Architect/Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received

Enter and maintain submittals in the electronic Submittals Management System, except those not able to be digitally transmitted, such as samples or documents required to be original.

On an attached separate sheet prepared on Contractor's letterhead, record relevant information, requests for data, and revisions other than those requested by Architect/Engineer on previous submittals.

Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from the Architect/Engineer.

Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

The General Prime Contractor is responsible for review and approval of subcontractor and supplier submittals prior to forwarding to Architect/Engineer. Architect/Engineer will not review submittals received from sources other than the General Prime Contractor.

Maintain a current set of submittals and access to electronic access at the construction site at all times.

Product Data: Collect information into a single submittal for each element of construction and type of product or equipment. Submit before or concurrent with Samples. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Fabrication Drawings, not as Product Data.

Samples: Submit Samples per Part 2 above. Provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.

Maintain sets of approved Samples at Project Site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

Samples may be incorporated into the Work if so indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use. Samples not incorporated into the Work, are otherwise designated as Owner's property.

Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.

Performance Design: Where performance design services or certifications by a design professional are required, provide components, products, assemblies and systems complying with specific performance and design criteria indicated. Include design professional certifications, signature and seal; calculations, the list of codes and standards the design complies with and other factors used in performing these services.

Tests and Reports: Submit test and inspection reports where required with date of test or inspection, name of firm and individual performing the test or inspection.

RESUBMITTALS: Contractor shall contact Architect/Engineer directly to resolve issues prior to making a resubmittal.

CONTRACTOR'S REVIEW
Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Make corrections necessary for coordination and compliance prior to submitting.

Stamp each submittal with a dated and signed approval stamp before submitting to Architect/Engineer.

ARCHITECT/ENGINEER'S ACTION
Architect/Engineer will review each submittal, make marks and/or provide written comments to indicate corrections or revisions required, and return it. Architect/Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.

CLOSEOUT DOCUMENTATION
Prior to project closeout, submit a complete set of project submittals and the submittal log in PDF format on CD, DVD, USB flash drive or downloadable link to the DFD Project Representative.

END OF SECTION

SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT
BASED ON DFD MASTER SPECIFICATION DATED 07/23/2024

SCOPE

This Section addresses and specifies salvaging, reusing, recycling and disposing of all project Construction Waste.

Part 1 - General

- Related Work
- Definitions
- Diversion Goal
- Submittals
- Construction Waste Management Plan

Part 2 – Products Not Applicable

Part 3 - Execution

- Construction Waste Management Implementation

PART 1 - GENERAL

RELATED WORK

Other Applicable provisions of Division 01 shall govern all work under this Section.

General Requirements Article 5: *Hazardous Substances*
General Requirements Article 32: *Cleaning and Waste Disposal*

DEFINITIONS

Clean: Untreated and unpainted; not contaminated with oils, solvents, sealant (caulk), or the like.

Construction Waste: An umbrella term for construction, demolition and remodeling solid waste, typically including extra building materials, rubble & material that has reached the end of its useful life for its intended use, packaging, trash & debris incidental to the project construction. Construction Waste includes salvageable, returnable, recyclable, and reusable material.

Diversion Goal: Percentage of Construction Waste material (by weight or by volume) which is intended to be reused, recycled, returned or otherwise salvaged and thus diverted from landfill.

Hazardous Waste: Waste that is ignitable, corrosive, toxic and/or reactive and poses substantial or potential threats to public health or the environment. Hazardous Waste is not recyclable and not included when calculating Diversion Goal or percentage and shall be disposed of according to the General Requirements.

Landfill Tipping Fees: Monies paid for burying non-recyclable Waste in the landfills.

Recycle: To sort, clean, treat & reconstitute or remanufacture Construction Waste materials for reuse in the same form or some altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

Return: To give back reusable items or unused products to vendors for credit.

Reuse: To reuse a Construction Waste material on the project site.

Scrap Revenue: Monies received by the hauler for recyclable materials.

Trash: Non-hazardous products or materials unable to be reused, returned, recycled, or salvaged.

Data Logging Program: Online reporting tool for construction waste management, accessed through the eBuilder project website or directly at the program's website. WasteCap Resource Solutions manages the DFD's program on ReTRAC Connect. Contractors bear no cost for using ReTRAC. Information about the DFD's program on ReTRAC can be found by contacting WasteCap Resource Solutions.

DIVERSION GOAL

Divert [75] % by weight or volume of total waste generated through Substantial Completion.

SUBMITTALS

The General Prime Contractor shall develop and compile the following Construction Waste Management (CWM) project information in cooperation with all Contractors and subcontractors:

- **CWM Plan:** Required prior to commencing demolition, construction or waste removal activities and no later than 15 days after Notice to Proceed.
- **CWM Progress Reports:** Required monthly or with each Request for Payment. Progress Report shall include the quantity of each material recycled, reused, or salvaged, the receiving party, and the applicable diversion rates. Contractor shall maintain a record of related weight tickets, manifests, receipts, and invoices for review by DFD upon request.
- **CWM Final Report:** At Substantial Completion, the General Prime Contractor shall submit a Final Report summarizing total waste and trash quantities and rates for all Contractors over the course of the project.

CWM Plan and Report information above shall be available from the General Prime Contractor upon request.

CONSTRUCTION WASTE MANAGEMENT (CWM) PLAN

The CWM Plan shall include, but is not limited, to the following:

- **Schedule -** Include milestones and key reporting dates of construction waste management.
- **Trash Materials List** - Include estimated quantities and types of materials expected to be discarded as trash.
- **Diverted Materials List** - Include estimated quantities and types of Construction Waste materials anticipated to be salvaged, reused, returned or recycled. Identify applicable markets for reuse and/or recycling. At a minimum, include scrap metal and all other materials required by statute or regulation to be recycled (e.g., cardboard, cans, bottles, office paper, fluorescent tubes, refrigerants, mercury, etc.). Other recyclable materials may include, but are not limited to:

  Aluminum Cans, Straps, and Sheet: Recycle as metal.

  Asphalt: Break up and transport to asphalt-to-asphalt recycling facility, or recycle on site.

  Corrugated Cardboard and Paper: Separate for recycling into new paper products. Painted, waxed or muddy cardboard or paper is unsuitable for recycling and should be discarded.

  Dimensional Lumber, Oriented Strand Board, Plywood, Crates, and Pallets: Large pieces can be reused. Wood unsuitable for reuse may be used to manufacture particleboard and other composite wood products, chipped or shredded for use as animal bedding, landscape use, groundcover, mulch, compost, pulp, or process fuel. Painted or treated wood may not be recycled. Some recyclers have equipment to remove nails.

  Land Clearing Brush and Logs: Can be chipped or shredded for use as ground cover, mulch, compost, pulp, or process fuel. Larger branches or logs may be used as raw material for various products or other purposes.

Metals, Ferrous and Nonferrous: Separate for recycling: banding, castings, ceiling grid, copper and other metal pipe, conduit and accessories, ductwork, extruded metals, rebar and metal stud cut-offs, roofing and sheet metals, miscellaneous steel shapes, miscellaneous metal parts, structural steel.

Piping: If separated for reuse, reduce piping to straight lengths and store with joints, accessories and other components by type and size.

- **Separation and Materials Handling Services and Equipment:** Description of how Construction Waste materials will be separated, cleaned (if necessary), protected from contamination and diverted, and the entity who will perform those services.

- **Documentation Procedures: Description of the method of collecting data and document materials reused on site, leaving the project site as trash, or diverted for recycling. All diversion and waste by all contractors and subcontractors on the project must be incorporated into the CWM Progress Reports.**

- **Educational and Motivational Procedures:** Means and methods the General Prime Contractor will employ to ensure full participation of all project construction personnel in CWM Plan activities. These might include periodic meetings, demonstrations, incentive/reward programs, etc.

- **Construction Waste Auditing Procedures:** Methods of monitoring and enforcing adherence to CWM Plan.

PART 2 – PRODUCTS (Not Applicable)

PART 3 – EXECUTION

CONSTRUCTION WASTE MANAGEMENT IMPLEMENTATION

The General Prime Contractor is responsible for implementing the Construction Waste management requirements specified herein and shall designate a Waste Manager to coordinate and monitor the waste management activities of all Contractors and subcontractors, including coordination of separation, handling, recycling, salvage, reuse, and return methods used by all project construction personnel.

Contractors and subcontractors who do their own recycling shall report all applicable Construction Waste recycling and Trash amounts to the General Prime Contractor as needed to support the development of the CWM Plan and Progress and Final Reports.

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SECTION 01 91 01
COMMISSIONING PROCESS
BASED ON DFD MASTER SPECIFICATION DATED 03/01/14

P A R T 1 - G E N E R A L

SCOPE

This section includes specifications for the implementation, tracking and verification of the commissioning process. Included are the following topics:

PART 1 - GENERAL
- Scope
- Commissioned Systems
- Reference
- Definitions
- Submittals

PART 2 - PRODUCTS
- Equipment

PART 3 - EXECUTION
- Meetings
- Scheduling
- Issues List
- CxP Site Visits
- Construction Verification
- Functional Performance Testing
- Operation and Maintenance Data
- Agency Training

COMMISSIONED SYSTEMS

Division 03 - Concrete
Division 08 - Exterior Building Envelope
Division 23 - HVAC
Division 26 - Electrical
Division 27 -Communications
Division 33 - Utilities

REFERENCE

Applicable provisions of Division 01 govern work under this section. Note in particular:
- General Conditions, Article 15 – Quality Control & Inspection
- General Requirements, Article 33 – Operating and Maintenance Manuals and Instructions

DEFINITIONS

Commissioning (Cx): The process of ensuring that systems are designed, installed, functionally tested and performing in conformity with the Owner's Project Requirements and that the building operator has received complete equipment and systems documentation and training.

Commissioning Provider (CxP): The entity identified by the DFD Project Manager to lead, monitor, coordinate and report on project commissioning activities. The commissioning provider may be the project A/E (most common), an independent third party or DFD.

Construction Verification: A quality control verification process performed by the installer as building assemblies, components, equipment and systems are being installed which documents that the materials, installation procedures, interfaces with other trades, start-up, testing and operation are correct, complete, in compliance with contract documents and manufacturer's recommendations and are ready for functional performance testing.

Functional Performance Tests (FPT): Contractor testing of installed building assemblies, components, equipment, systems and interfaces which confirms correct performance through all operating modes and compliance with contract documents and manufacturer's recommendations.

SUBMITTALS

Reference the General Conditions of the Contract for submittal requirements.

PART 2 – PRODUCTS

EQUIPMENT

Provide equipment required to perform startup, checkout and testing. Equipment to be calibrated within the past year and in accordance with the manufacturer's recommendations.

PART 3 – EXECUTION

MEETINGS

Each contractor is required to attend meetings related to commissioning (pre-construction, construction progress, etc.) and have personnel requested by CxP in attendance to facilitate quality control and coordinate commissioning efforts.

The CxP will present an overview of the project's commissioning process at the pre-construction meeting. The commissioning team members will be identified and their responsibilities reviewed.

At subsequent meetings, contractors are to provide a review of project progress, a report on the status of issues, commissioning tasks and scheduling for future commissioning tasks.

SCHEDULING

Reference General Conditions Article 13 for Contractor responsibilities for scheduling. Each contractor shall provide the Contractor a detailed schedule and regular updates of commissioning tasks for incorporation into the project schedule.

ISSUES LIST

Each contractor is responsible for completing action items in a timely manner that are noted in the Issues List as their responsibility. Timely response and successful completion are a requirement to avoid withholding of payment.

CxP SITE VISITS

Commissioning is a team effort requiring the cooperation of all parties. Contractors are to proactively carry out their commissioning responsibilities and are to assist the CxP during site visits in performing commissioning tasks. This includes providing access to and demonstrating the installation, operation, and testing of commissioned systems; responding to CxP requests for information; carrying out proactive and corrective actions; and accurate reporting on system status and conditions.

CONSTRUCTION VERIFICATION

The construction verification checklists are a formalized means to provide individual workers the criteria for a successful installation, adherence to the construction documents and to easily track construction progress.

Each assembly, component, equipment, system and interface to be commissioned shall be verified by the installer at the site while work is underway and documented on the construction verification checklists. The contractor is responsible for successfully completing installations, documenting this on the construction verification checklist forms and correcting all deficiencies.

Contractor shall periodically review the construction verification schedule with the CxP allowing advance notice of activities of 5 business days so that the CxP may witness as deemed necessary. If CxP identifies more than a 10% discrepancy rate during confirmation of construction verification, the contractor shall correct all deficiencies and revalidate all items covered by that checklist and resubmit new checklists. The cost of reconfirmation of construction verification due to equipment or construction deficiencies is the responsibility of the contractor and subject to deductive change order at DFD's discretion. Correction of deficiencies and revalidation are the responsibility of the contractor and are not subject to time extensions or delay claims.

Complete the construction verification checklists in each Division's Commissioning Section for this project and submit to the CxP for review and comment. Contractor should make multiple copies of the blank test forms as needed for duplicate items. The "Checklist Tracking ID" on the form is only applicable where a checklist tracking ID system is being used by the CxP.

FUNCTIONAL PERFORMANCE TESTING

Complete the functional performance test procedures included on the functional performance test forms in each Division's Commissioning Section on this project. Coordinate with DFD, A/E and CxP so they may witness and document test results. If the forms include a "SAMPLE" water mark then the AE will edit the forms prior to the start of testing. If forms do not include a "SAMPLE" water mark, then they are the forms that will be used for the testing.

Contractors are responsible for completion and coordination of their work with all trades prior to testing, preplanning testing procedures, performing preliminary functional performance testing using test forms, insuring necessary staff and resources are on hand and expediting testing. This includes completion of testing and balancing by the HVAC contractor required for successful functional performance testing. Failure to complete or coordinate work, preplan or have staff and resources available to carry out testing will result in retesting. Submit completed preliminary functional performance test forms to CxP for review prior to scheduling testing for witnessing.

Contractor shall coordinate functional performance testing with DFD, the A/E, CxP and Agency and notify them 5 business days prior to testing so that they may witness and document the test results. All contractors involved with specific assemblies, components, equipment, systems and interfaces shall have qualified installers and technicians present at the same time working together to perform testing and demonstrate correct performance through all operating and failure modes and compliance with contract documents and manufacturer's recommendations.

CxP shall establish sampling protocol and at the time of testing select sample test locations for identical pieces of equipment. Where simulation of conditions or altering of setpoints or values is required to achieve an operating or failure mode for testing, the contractor must receive CxP approval.

With DFD's oversight, the CxP is responsible for witnessing functional performance testing and recording the results and deficiencies. Correct minor deficiencies during testing. Deficiencies that cannot be corrected during testing will be documented and subject to retest. Retesting will continue until no deficiencies remain.

Retesting is required when testing cannot be successfully completed. Deficiencies requiring retesting include:

- Incomplete work and/or coordination with others
- Inadequate preparation of systems for testing
- Inadequate preplanning
- Inadequate staff, equipment, tools or resources for testing
- Material, equipment or construction deficiencies
- Incomplete or failed test due to reasons under the Contractor's responsibility

The cost of retesting is the responsibility of the contractor and subject to deductive change order at DFD's discretion. Correction of deficiencies and retesting are the responsibility of the contractor and are not subject to time extensions or delay claims.

OPERATION AND MAINTENANCE (O&M) DATA

Reference Division 01 General Requirements.

AGENCY TRAINING

Provide agency training using final O&M data. Training sessions to include classroom and site presentations as appropriate. Demonstrate operation of systems and equipment. Review setpoints and operating parameters. Demonstrate preventive and routine maintenance procedures as well as common repairs. Videotape training sessions providing reasonable video/audio quality and provide final record in labeled DVD format to agency along with a sign off sheet demonstrating receipt by the agency.

END OF SECTION