

PART TWO PROVISIONS FOR CONTRACT ADMINISTRATION

DIVISION 01 GENERAL REQUIREMENTS

2006 Edition, Published January 1, 2006; Division Revision Date: January 1, 2006

01 00 00. GENERAL REQUIREMENTS

01 11 00. SUMMARY OF THE WORK

01 11 13. A GENERAL DESCRIPTION of all elements of the project, including exterior work and any other related work, is required. This description, though brief, should be complete enough to indicate the full scope of work in each contract so that prospective bidders can decide whether or not they wish to bid on the project. The use for which the project is being built should be explained. Some parts of this description can be copied from the Program of Requirements.

01 11 16. ITEMS FURNISHED BY THE UNIVERSITY: If the University furnishes items to be installed by any of the contractors, list the items and briefly indicate the work required of each contractor. Do not give detailed installation instructions; save details for the applicable section of the specifications.

01 12 00. MULTIPLE CONTRACT SUMMARY

01 12 13. LIST THE SEPARATE CONTRACTS under which the work will be accomplished and outline the scope of work included in each contract. Generally, there will be four separate contracts on major projects: General Construction, Plumbing, HVAC, and Electrical. Combine Fire Protection work with Plumbing. Consult the University Architect regarding desirability of separate contracts for Landscaping, Specialized Equipment, Carpet, Laboratory Equipment, Theater Equipment, Temperature Controls, and other work.

01 12 19. WORK ON OTHER PROJECTS: If other work, outside the scope of contracts for this project, will be performed simultaneously with the work on this project, explain how contractors must cooperate with outside contractors and with the University to avoid interference with each other's work.

01 14 00. WORK RESTRICTIONS: Fully describe all job conditions that will affect phasing and scheduling of the work. Particular attention must be given to scheduling remodeling work in buildings that will remain in operation during remodeling. Examples of some problems encountered are:

- .1 PROVIDING AND MAINTAINING MEANS OF INGRESS AND EGRESS: Temporary entrances and exits must meet code requirements.
- .2 MAINTAINING SECURITY: Areas that are being operated by the Using Agency must be secured from the construction area and vice versa.
- .3 USE OF DOCKING FACILITIES: Sometimes these facilities must be shared between the University and the contractors.
- .4 STORING OF CONSTRUCTION MATERIALS: If adequate areas cannot be provided, delivery schedules will be affected.
- .5 SCHEDULING FOR MOVES BY THE USING AGENCY: If remodeled spaces must be ready for use or vacated by certain dates, name the spaces and give the dates.
- .6 MAINTAINING SERVICES: These requirements should be detailed in the section entitled, TEMPORARY FACILITIES AND CONTROLS.

01 12 00. MULTIPLE CONTRACT SUMMARY (Cont'd)

.7 DUST CONTROL AND NOISE CONTROL: Temporary partitions required for control of dust and noise should be shown on the drawings. Construction of these partitions may be specified in the section entitled, TEMPORARY FACILITIES AND CONTROLS or in the section in which the partition materials are specified. Refer to paragraph 01 56 16. of these guides.

01 21 00. ALLOWANCES

.1 RESTRICTED USE: Allowances are generally prohibited, however, if circumstances warrant, the University Architect will approve the use of allowances for certain items.

01 21 16. CONTINGENCY ALLOWANCE FOR HARDWARE: Refer to Division 08.

01 23 00. ALTERNATES

01 23 01. TITLE OF SECTION FOR SPECIFICATIONS: Although the CSI format also lists this title as "ALTERNATIVES", it is required that the title, "ALTERNATES" be used in order to be consistent with State documents in which the word "alternate" is used.

.1 DEFINITION: Refer to paragraph 0042.3.6.5.5 for instructions in use of the word "alternate".

01 23 02. PURPOSE OF ALTERNATES: A limited number of alternates may be used as a means of ensuring base bids within the available construction funds. The Associate shall consult the University Architect regarding priority of alternates. Additive alternates shall be used in preference to deductive alternates. See 00013.2.

01 23 03. DESIGNATIONS for alternates shall be:

G-1, G-2, etc. for the General Contract.

P-1, P-2, etc. for the Plumbing Contract.

H-1, H-2, etc. for the Heating, Ventilating, and Air Conditioning Contract. (Do not use the letter "M" to designate this series.)

E-1, E-2, etc. for the Electric Contract.

Alternates for other separate contracts should be listed by consecutive numbers prefixed by the letters used on the drawings to designate the contract.

01 23 04. COORDINATION OF ALTERNATES: Care must be exercised to coordinate Plumbing, HVAC, and Electrical alternates with General Contract alternates, with each other, and to list alternates in consecutive order; when possible, alternates which are contingent upon one another should be given the same number, as: G-2, P-2, H-2, and E-2. Awards of alternates must be in priority sequence. Therefore, Alternate 1 is priority 1; Alternate 2 is priority 2; etc.

01 31 00. PROJECT MANAGEMENT AND COORDINATION

01 31 19. PROJECT MEETINGS

.1 PRECONSTRUCTION MEETING: The University will schedule and furnish the agenda for a preconstruction meeting after award of contract; attendance will be required for the Associate and successful bidders. Among items to be discussed are provisions specified in this division of the specifications.

.2 PROGRESS MEETING: Include the following in the specifications; edit and revise to suit job conditions. The General Contractor shall schedule a weekly job progress meeting with other prime contractors and major subcontractors and shall notify the Associate of the time and place of the meeting. Subsequent meetings shall be held on the same day and hour of the week for the duration of the construction period; except, upon instructions of the

01 31 00. PROJECT MANAGEMENT AND COORDINATION (Cont'd)

01 31 19. PROJECT MEETINGS (Cont'd)

Associate, the scheduled meetings may be increased or decreased as required by the progress of the work. Notes shall be taken by the Associate on discussions and decisions made at each meeting. Typed copies of the notes shall be distributed to all concerned parties; two copies shall be furnished to the University Architect.

01 32 00. CONSTRUCTION PROGRESS DOCUMENTATION

01 32 33. CONSTRUCTION PHOTOGRAPHS: The Associate shall furnish at least 12 quality exposures per month of 35 mm color film and 1 color print of each negative or slide exposed. Negatives or slides and prints shall be submitted to the University Architect each month. Prints may be 3-1/2" x 5" or larger. Film speed shall be 200 asa or slower. Photographs shall show progress, work which will be concealed, problem areas, etc. The back of each print will be identified with: project name, date photograph taken, exact location (such as Footing for Column B-9), and, if not obvious, the top of the photograph shall be marked. Negatives or slides shall be indexed and identified. **Contractors shall not provide the photographs.**

01 33 00. SUBMITTAL PROCEDURES

.1 CONSTRUCTION SCHEDULE: Include the following paragraph (or a paragraph similarly worded) in the specifications: Immediately following contract award, the General Contractor shall prepare a construction progress schedule covering all divisions of the work and shall submit copies of this schedule to all other prime contractors. Schedules, as received from other prime contractors, with necessary revisions, shall be incorporated into the original schedule. The final schedule, bearing the approval signature of all prime contractors, shall be submitted in quadruplicate to the Associate. Following approval by the University, copies of the final schedule shall be distributed to all interested parties. The schedule shall be broken down to a degree that will permit proper and complete coordination of all trades in each division of the work. Tentative dates for interruption of utility services shall be incorporated.

.2 PROJECT INSPECTION REPORTS: Instruction for preparation and submittal of these reports will be given at the preconstruction meeting.

01 33 13. CERTIFICATION REQUIRED FROM SUPPLIERS AND INSTALLERS: The following is a list of certifications and other submittals required, in addition to guarantees, to assure quality materials or workmanship, or both. For some of these requirements, correct wording of articles, to be incorporated in the technical sections, is provided in these guides. Also see 01 70 00.

.1 GENERAL CONSTRUCTION:

- | | |
|---------------------|---|
| Sewers | - Test approvals from City of Columbus or other controlling governmental agency |
| Reinforcing steel | - Mill certificate |
| Insulating concrete | - Manufacturer's certificate roof decks |
| Structural steel | - Erector's affidavit frame |
| Face Bricks | - Results of efflorescence tests |
| Masonry Restoration | - Experience record of contractor or subcontractor doing the work |
| Steel joists | - Manufacturer's certificate |
| Metal decking | - Manufacturer's certificate |
| Sealants | - Experience record of contractor or subcontractor doing the work |

01 31 00. PROJECT MANAGEMENT AND COORDINATION (Cont'd)

Metal Windows	- Performance reports
Reflective	- Performance reports insulating glass
Finish Hardware	- Inspection by an Architectural Hardware Consultant
Fire-rated ceiling	- Certification by installer
Carpeting materials	- Test reports and manufacturer's certificate
Non-standard	- Test reports and resilient floor manufacturer's certificate materials
Painting	- Statements by paint manufacturer and applicator
Fire-resistive	- Manufacturer's certificate coatings
Laboratory equipment*	- Financial statement of manufacturer, experience qualifications
Library equipment*	- Financial statement of manufacturer, experience qualifications
Kitchen equipment*	- Financial statement of manufacturer, experience and qualifications
Radiation protection	- Qualifications of installer
Elevators	- Maintenance Service, certificate of Inspection

* Laboratory Equipment, Library Equipment, and Kitchen Equipment will be included in General Contract unless directed otherwise by the University Architect.

.2 PLUMBING:

Soil, waste, and vent piping	- Inspection certificate
Underground service piping	- Test reports
Interior piping	- Test reports
Welders	- Copy of certification
Water lines	- Sterilization test report
Gas service and interior piping	- Test reports and recording line charts for purging and pressure

.3 FIRE PROTECTIONS:

Fire department	- Certification that pipe threads and connections are suitable for use with local hydrants and fire department equipment
Inspection	- National Automatic Sprinkler agreement and Fire Control Association standard inspection and maintenance form
Fire lines and fire pumps	- Test reports
Welders	- Copy of certification
System	- Fire Marshal's certification of inspection and acceptance

.4 HEATING, VENTILATING, AND AIR CONDITIONING:

Balancing of air and water systems	- Balance reports
Boilers	- Tests for safety and function, inspection and

01 31 00. PROJECT MANAGEMENT AND COORDINATION (Cont'd)

- Refrigerant lines - other certificates
- Proof of testing in compliance with USASI Standard, and reports
- Fan ratings - Test performance seals, performance curves
- Air, water, and steam lines - Test reports
- Welders - Copy of certification.

.5 ELECTRIC:

- Primary cable installations - High voltage d-c proof tests
- Cable splicing - List of proposed cable splicers and sample splice, either part of project or simply a sample, must be made to determine eligibility for approval of splicing

01 33 23. SHOP DRAWINGS AND SAMPLES: A separate section is required. This section should be written to include submittals for all prime contracts so that no separate section or article need be written in the specifications for these contractors; however, each section in the technical provisions should contain a reference to this section together with a list of items for which shop drawings or samples are required. Attention should be called to the fact that this section is a supplement to Article 14 of the General Conditions. Amplify Article 14 with a statement that the handwritten signature of the contractor is required, in addition to his stamp of approval.

.1 DRAWINGS REQUIRING CHECKING BY CONSULTANTS: The Associate shall determine the requirements for submittal of drawings pertaining to work done by consultants and shall stipulate the number of copies required; two copies of approved drawings are required for resubmittal to the University.

.2 SAMPLES: After consultation with the University Architect, the Associate shall indicate the items for which samples are required and shall stipulate the number of each required. Samples and color chips must be approved by the University Architect.

.2.1 SAMPLES FOR INCLUSION IN THE WORK: If samples are expensive or are complete assemblies suitable for inclusion in the work, e.g., precast concrete panels, locksets and door closers, laboratory or other equipment, state that approved samples may be installed in the work, provided the location of these items is made known to the Associate.

.3 MODELS AND PATTERNS: Specifications for ornamental work which requires models or patterns, shall specifically stipulate that models and patterns become the property of the University after the ornamental work has been installed.

01 35 00. SPECIAL PROCEDURES

01 35 43. HAZARDOUS MATERIALS PROCEDURES: Refer to Appendix V for information regarding hazardous materials. The University Architect shall be notified **IMMEDIATELY** of Contractor's intent to handle materials that are considered hazardous such as asbestos, mercury, flammable fuels, explosive chemicals, PCBs, etc.

01 45 00. QUALITY CONTROL

01 45 10. SERVICES BY SPECIALISTS: In addition to the field supervision and inspections required by the Associate's contract and by State agencies, the following services by specialists will be required on major projects. Fees for specialists' services will be handled by the Associate as a reimbursable expense. While these services will be performed, the Associate shall supervise the specified operations; the specialist shall furnish required reports directly to the Associate, the State Architect and the University Architect. Details of the type of services required, methods of investigation, frequency of investigations or tests, number and type of reports required, and method of payment for specialists' services shall be included in the applicable technical sections of the specifications. Unless expressly exempted by the University, the following services shall be performed by qualified independent testing agencies:

.1 GENERAL CONSTRUCTION:

Soils compaction tests
Piling and caissons, inspections and tests
Concrete sampling and tests
Sound transmission tests
Radiation testing

.2 PLUMBING CONSTRUCTION:

Supervision of purging of gas piping
Sterilization of water piping
Testing of completed installations prior to inspection by the State Fire Marshal or his designated representative.

.3 HVAC CONSTRUCTION:

Systems balancing
Soil corrosion analysis for cathodic protection
Pressure test for leaks by gas utility company

.4 ELECTRIC CONSTRUCTION:

Testing of communications systems
Testing of signaling systems
Testing of fire protection equipment and alarm system

01 50 00. TEMPORARY FACILITIES AND CONTROLS – Note overlapping of Special Conditions and Division 01 in State Architect's Handbook.

.1 ACCESS TO FACILITIES: While The Ohio State University is a publicly owned institution, its function and facilities are dedicated to serve specific operations and programs. Therefore, contractor personnel may be barred from using existing toilet, food service, or other facilities.

01 51 00. TEMPORARY UTILITIES: Requirements are generally as stated in the State Handbook with modifications regarding payment for water, fuel, and power consumed. Contractors must arrange for and pay for all temporary utilities required for prosecution of the work. Specifications shall be written to stress this point. The Ohio State University owns and operates the utilities throughout most of the Columbus campus. Peripheral areas and regional campus buildings may have service connections directly from the public utilities. The Associate will determine type and scope of each utility needed during construction document phase and, after discussion with The Department of Physical Facilities, provide

01 50 00. TEMPORARY FACILITIES AND CONTROLS (Cont'd)

01 51 00. TEMPORARY UTILITIES: (Cont'd)

specific direction to the contractors in the project specifications regarding the arrangement for such utilities.

.1 UTILITY COMPANY INSTALLATIONS: Plans for running temporary lines through University property shall be reviewed by the Associate in conference with the University Architect.

.2 CONNECTIONS TO EXISTING UTILITIES: If connections to University utilities are permitted, the Associate shall obtain drawings of existing utilities and shall consult the University Architect regarding services available and points of connections to services. All services shall be metered through meters furnished by the contractors and the University shall be reimbursed for water, fuel, and power consumed. The specifications shall contain instructions to the contractors to make requests for these services through the University Architect and by completing the form, UTILITY SERVICE REQUEST, obtained from The Department of Physical Facilities, 2003 Millikin Road, Columbus, Ohio 43210.

.3 COST: Costs for providing temporary services shall be included in the contractors' bids. Specifications shall clearly identify each contractor's responsibility for the installation of service lines and payment for services, whether services are furnished by the utility company or by the University.

.3.1 GENERAL CONTRACTOR shall pay for water, steam, fuel for heat, and electric power consumed.

.3.2 PLUMBING CONTRACTOR shall install and maintain water supply lines and make changes in lines as necessitated by conditions at the site.

.3.3 HVAC CONTRACTOR shall install and maintain heating systems and make changes as required.

.3.4 ELECTRICAL CONTRACTOR shall install and maintain electrical installations and make changes as required.

.4 DURATION OF SERVICES: The specifications shall clearly identify each contractor's responsibility for providing continuous utility services until date of final acceptance or beneficial occupancy (whichever comes first) including operation of permanent equipment and services.

01 52 00. CONSTRUCTION FACILITIES:

01 52 13. FIELD OFFICES AND SHEDS: Each prime contractor shall provide and maintain a clean, weathertight office at the site suitable for his own use, and for use of his subcontractors. All expenses including the installation cost, and the use of telephone, heat, light, water, and janitor service shall be borne by the contractor.

.1 GENERAL CONTRACTOR'S OFFICE shall be of size suitable for the use of the contractor, his subcontractors, the Office of Facilities Planning and Development's Project Captain, and the Associate's representative. Office shall be heated, lighted, have doors with locks, and private line telephone service. One space in the office shall be provided for use of the Associate's representative; space shall be equipped with plan table, filing cabinet, and telephone. The General Contractor or his authorized agent shall be present at the office, or elsewhere on the site, at all times while the work is in progress.

01 54 00. CONSTRUCTION AIDS

01 50 00. TEMPORARY FACILITIES AND CONTROLS (Cont'd)

01 54 13. TEMPORARY ELEVATORS:

.1 ONE NEW ELEVATOR may be used for construction purposes. Facilities shall be made available to all contractors and subcontractors; all costs associated with use shall be assigned to the General Contractor. Written arrangements must be made with the University Architect and must include:

Installation of protective covering of car interior, doors and entrance.

Weekly cleaning and servicing by the elevator installer at the Contractor's expense.

Complete restoration of all elevator system components to like new condition ready for turnover to OSU.

The repair and warranty period required by the contract will not be diminished by authorizing this use.

.2 EXISTING ELEVATORS shall not be used during construction without permission of the University Architect. Refer to Division 14 for conditions governing this use.

.3 PROTECTIVE PADS and hooks for hanging the removable pads shall be furnished and installed in the elevator which is most suitable for furniture and equipment moving for use by the University.

01 54 16. TEMPORARY HOISTS:

.1 HOISTS: Specify that the General Contractor furnish hoisting facilities and that these facilities be made available to other contractors and to subcontractors. Other prime contractors may furnish facilities to suit their needs if suitable arrangements cannot be made with the General Contractor. Provide for hoisting of workers as well as materials and equipment if it will be cost effective.

01 55 00. VEHICULAR ACCESS AND PARKING

.1 CONSTRUCTION AREA MAINTENANCE AND ACCESS: If existing streets and roads on campus must be used, a detailed plan of the routes to be used must be worked out in cooperation with University personnel. The final approved plan shall be shown on the project drawings, and specifications must stipulate that no other streets and roads be used.

.2 CLEAN-UP ENFORCEMENT: Specifications shall contain provisions that Contractors must remove mud and spillage from public and university streets without delay. Failure to clean streets promptly could result in streets being cleaned by the University or other public agency at the Contractor's expense.

.3 REPAIRS OF DAMAGES TO FACILITIES: Specifications shall also contain provisions that damage to roads or other facilities on University property, resulting from hauling, storage of materials, or other activities in connection with the work, shall be repaired or replaced, at no expense to the University, by the Contractor causing the damage. Repairs or replacement shall be made to the satisfaction of the University Architect.

.4 MAINTENANCE OF TRAFFIC FLOW:

.4.1 PLANNING FOR TEMPORARY CONTROL: The University Police Department must be notified at least two weeks in advance of any anticipated work affecting traffic flow. To assure maintenance of flow and to safeguard all parties involved in planning temporary routing, a field inspection should be made jointly by the Associate, The University, and Contractor personnel prior to performing any work

01 50 00. TEMPORARY FACILITIES AND CONTROLS (Cont'd)

01 55 00. VEHICULAR ACCESS AND PARKING (Cont'd)

that would interrupt normal traffic patterns. Rerouting of traffic shall be planned as to route and direction, in cooperation with the University Department of Public Safety and as approved by the University Architect.

.4.2 **CONTRACTOR'S RESPONSIBILITIES:** The contractor, whose work requires interruption of traffic, shall be required to post signs in all affected areas, in sufficient numbers and with appropriate messages, to warn motorists entering the construction zone and to alleviate conflicts and confusion among motorists or pedestrians at intersections, crossings, turns, and other obstructions to normal traffic flow. Temporary signs shall be as shown in the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways, Ohio Department of Transportation. Temporary lanes shall be well marked, and obstructions, barriers, lane changes, or detours shall be indicated by appropriate signage at each point of potential confusion, as well as at each change in direction of a temporary route. University Police Department shall be notified in advance of the anticipated time of return to normal traffic patterns. Upon completion of construction affecting streets or traffic flow, but before temporary control devices and lane markings are removed, the area shall be restored to receive traffic in the normal pattern. The Police Department shall be notified of the actual time of completion of restoration.

.4.3 **PROVISIONS FOR SPECIAL DUTY POLICE OFFICERS:** If it is evident that traffic will become hazardous or restricted in any manner, uniformed special duty police officers must be provided by and at the contractor's expense. These officers shall be employed by contacting the University Director of Public Safety at least two weeks before officers' services are required. The contractor shall also forward a copy of the request to the University Architect. Specifications should be written to alert contractors to the possibility that special duty police officers might be needed at times other than, or in addition to, the contractor's normal work hours.

.5 **PARKING:** Parking at regional campuses is subject to regulations established by University Authorities at the particular campus. At the Columbus campus, employees of contractors and subcontractors must secure parking permits from the University Traffic Department and must park cars in areas assigned to them. Parking on streets or in restricted areas is prohibited. At the beginning of the work, each contractor shall report to the University Traffic Department the approximate number of parking permits which will be required for all employees, including employees of subcontractors. Each contractor shall provide the University Architect with a copy of his letter of application for parking permits.

01 56 00. TEMPORARY BARRIERS AND ENCLOSURES

.1 **INGRESS AND EGRESS FOR BUILDINGS:** During joint occupancy of buildings, entrances and exits for public use must be provided to meet code requirements. At least one ingress and egress and path of travel that is accessible to individuals with disabilities must be maintained to all user occupied portions of the building.

.2 **SIDEWALK BARRICADES:** Provide a detail for sidewalk barricades as required to discourage pedestrian traffic. The barricades is to be at least 42 inches high and of suitable width to completely obstruct passage beyond on the closed sidewalk. The barricade shall consist of: a rigid frame with a 2X6 wooden toe board affixed approximately one inch above the sidewalk across the entire width, cross bracing to hold the barricade in place, and orange safety fencing affixed to the frame. Specify/detail a sign stating "SIDEWALK CLOSED" affixed to the structure. Signage must meet all applicable ADA requirements.

01 50 00. TEMPORARY FACILITIES AND CONTROLS (Cont'd)

01 56 00. TEMPORARY BARRIERS AND ENCLOSURES (Cont'd)

01 56 16. NOISE AND DUST CONTROL: In occupied buildings the Associate shall indicate areas for which noise and dust control must be provided and shall specify methods of control. If details of installations are involved, specify these in the applicable sections of the technical specifications. The General Contractor or Lead Contractor shall install barriers indicated by the Associate and shall provide other dust control barriers as required by construction operations.

01 56 26. TEMPORARY FENCE: A 6 ft. high fence with gates shall be erected around the project site. Fence and location shall be subject to the approval of the University Architect. Show fence location on drawings.

.1 Usually a heavy woven steel wire fence on steel posts is sufficient; however, where appearance is a consideration, a privacy type fence might be required, provided the budget permits such construction.

.2 Barbed wire used on any part of the fence is prohibited.

.3 'No Trespassing' signs, which meet OSHA requirements, shall be specified.

.4 WEED CONTROL: Specify that the General Contractor must cut the weeds inside the construction fence as often as necessary to maintain a neat appearance at the project site.

01 56 36. TEMPORARY SECURITY ENCLOSURES:

.1 BUILDING SECURITY: During construction, one exterior door of any enclosed structure shall be provided with a lockset with an OSU security core. The General Contractor shall obtain security core from and return same to the University Architect.

.2 FENCE GATES: Except during working hours, gates shall be kept locked by the General Contractor at all times.

One gate shall be double locked with an OSU security padlock and the contractor's padlock in a manner that will allow access by unlocking either padlock. Other prime contractors may install their own padlocks if it is determined that they will require access to the area at time other than regular working hours. The OSU security padlock shall be obtained from, and returned to, the University Architect.

01 56 39. TREE AND PLANT PROTECTION: Refer to Division 31.

01 57 00. TEMPORARY CONTROLS:

1. AIR POLLUTION NUISANCES PROHIBITED: The General Contractor or the Lead Contractor shall provide controls to prevent air pollution. In accordance with all federal and state codes, and the Ohio Administrative Code 3745-15-07 (Environmental Protection Agency, Chapter 3745-15, General Provisions on Air Pollution Control, paragraph-07, most current version) the emission or escape into the open air from any source or sources whatsoever, of smoke, ashes, dust, dirt, grime, acids, fumes, gases, vapors, odors, or any other substances or combinations of substances, in such manner or in such amounts as to endanger the health, safety or welfare of the public, or cause unreasonable injury or damage to property, is hereby found and declared to be a public nuisance. It shall be prohibited for any person to cause, permit or maintain any such public nuisance.

01 50 00. TEMPORARY FACILITIES AND CONTROLS (Cont'd)

01 57 00. TEMPORARY CONTROLS: (Cont'd)

2. RESTRICTIONS OF EMISSIONS OF FUGITIVE DUST: The General Contractor or the Lead Contractor shall provide controls to prevent fugitive dust. In accordance with all federal and state codes, and the Ohio Administrative Code 3475-17-08 (Environmental Protection Agency, Chapter 3745-17, Particulate Matter Standards, paragraph-08, most current version), fugitive dust cannot be emitted from any source without taking reasonably available control measures to prevent it from becoming airborne. "Reasonable available control measures" means the control technology which enables a particular fugitive dust source to achieve the lowest particulate matter emission level possible and which is reasonable available considering technological feasibility and cost-effectiveness. These measures shall include but not be limited to:

2.1 The use of water or other suitable dust suppressant chemicals for the control of fugitive dust from the demolition of existing buildings or structures, construction operations or the grading of roads or the clearing of land;

2.2 The periodic application of asphalt, oil, water, or other suitable dust suppression chemicals on dirt or gravel roads or parking lots, and other surfaces which can cause emissions of fugitive dust;

2.3 The covering, at all times, of open bodied vehicles, when transporting materials that are likely to become airborne;

2.4 The paving of roadways and the maintaining of roadways in a clean condition; and

2.5 The prompt removal, in such a manner as to minimize or prevent resuspension, of earth or other material from paved streets onto which earth or other material has been deposited by trucking or earth-moving equipment or erosion by water or other means.

01 57 13. TEMPORARY EROSION AND SEDIMENT CONTROL:

1. COMPLIANCE WITH STORM WATER POLLUTION PREVENTION PLAN (SWP3): The General Contractor or Lead Contractor must maintain all erosion control practices in strict accordance with the SWP3 at all times throughout the site work. Representatives of the University, as designated by the University Architect, will make weekly inspections to assure compliance with the SWP3.

2. TEMPORARY EROSION CONTROL: The General Contractor or the Lead Contractor shall place temporary erosion and sediment control measures to minimize adverse impacts to storm water runoff. These control measures include the use of berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, catch basin/curb inlet protection, and slope drains, among other control devices or methods. These measures are to be coordinated with permanent erosion control features and plant materials. The selected control measures must also comply with appropriate provisions and plans in the City of Columbus, Division of Sewerage and Drainage Erosion and Sediment Control Regulation. Any plantings or mulches must also comply with all University Standards and be reviewed for prior approval by the University Landscape Architect.

3. SILT FENCE: The manufacturer's recommendation shall be followed with regard to shipping, handling, storage, installation, and protection from direct sunlight. The geotextile will be rejected if it has defects, tears, punctures, flaws, deterioration, or damage incurred during manufacture, transportation, storage, or installation. Each roll shall be labeled or tagged to provide product identification.

01 50 00. TEMPORARY FACILITIES AND CONTROLS (Cont'd)

01 57 13. TEMPORARY EROSION AND SEDIMENT CONTROL: (Cont'd)

- 3.1 The post spacing shall be as recommended by the manufacturer. The spacing of the post shall be adjusted such that the posts are located at the low points along the fence line. At joints, the overlap shall be nailed or similarly fastened to the nearest post with a lath.

4. STRAW BALES: Straw bales shall be embedded and staked as shown in the SWP3. Adjacent bales shall be chinked to eliminate gaps between the bales. Bales shall be placed such that bindings are parallel to and not in contact with the ground.

5. TEMPORARY SILT DITCH: Construct a special temporary ditch in relatively rolling areas where, in the judgment of the Associate, adjacent property may be damaged from sheet-type soil erosion. This special ditch is not intended to carry large volumes of water but to catch sediment from runoff. Construct silt checks within the ditch or at the outlet. Construct the special ditch according to the SWP3 at locations designated by the Associate.

6. TEMPORARY SEEDING AND PROTECTION: Before ordering, obtain the review and prior approval from the University Landscape Architect for any seed before use. Promptly perform the work of temporary seeding and protection to prevent visible erosion. Protect all seeded areas with mulch that precludes siltation. Perform temporary seeding and protection under the following conditions:
 - 6.1 When it is impractical to bring an area to final line, grade, and finish so that permanent seeding protection work can be performed without subsequent serious disturbance by additional grading.

 - 6.2 When soil erosion occurs, or it is considered to be a potential problem, on areas where construction operations are temporarily suspended.

 - 6.3 When an immediate cover would be desirable to minimize erosion, siltation, or pollution.

 - 6.4 On temporary roadways that are expected to remain in place for longer than 30 days and that are constructed of erodible materials.

7. TEMPORARY MULCH: Before ordering, obtain the review and prior approval from the University Landscape Architect for any mulch before use. When temporary seeding and protection would be required, but the time of exposure is 30 days or less, perform temporary mulching to prevent visible erosion. Place temporary mulch to an approximate 2-inch loose depth and apply tackifier.

8. CATCH BASIN/CURB INLET PROTECTION: Install and maintain catch basin or curb inlet protection on all existing inlets/basins receiving runoff from disturbed areas. All protection must be suitable for minimizing infiltration of silt into storm inlets as specified by the Associate and in the SWP3. The protection must be installed and maintained in accordance with the manufacturer's instructions.

9. TEMPORARY DRAINAGEWAYS: As erodible areas are exposed, construct temporary drainageways where needed to divert runoff from erosive soil areas to the silt traps or checks or silt ditches. Construct interceptor ditches or silt fences at the top of cut slopes when beginning excavation. Construct surface ditches, roadside ditches, and flumes to carry runoff from the site at the earliest possible time during the grading work.

01 50 00. TEMPORARY FACILITIES AND CONTROLS (Cont'd)

01 57 13. TEMPORARY EROSION AND SEDIMENT CONTROL: (Cont'd)

9.1 When needed, use pipe as liners for these temporary drainageways. The Associate will approve the type and location of the drainageways as well as the need for a liner. Install the pipe liner according to the Plans and Standard Drawings. Use pipe of any substantial type or material for overflow pipe in the construction of temporary silt basins and for flumes. When fill slopes have been constructed to such a stage that protection of the face of the slope from runoff is necessary, construct a temporary earth mound ditch or silt fence at the outer edge of the shoulder along the top of the embankment as directed by the Associate. Construct the ditch to form an earth mound on the embankment side of the ditch and carry runoff from the roadway along the shoulder to the flumes and roadside ditches. Use temporary berm ditches at the top of fill slopes after completing the permanent seeding and protection work and until beginning the surface operations. Stabilize the ditch and mound by spraying with asphaltic material when deemed necessary.

10. CONSTRUCTION ENTRANCES. All ingress and egress points for construction vehicles (construction entrances) are to be constructed in accordance with the City of Columbus, Division of Sewerage and Drainage Erosion and Sediment Control Regulation.

01 57 23. TEMPORARY STORM WATER PROTECTION AND CONTROL:

1. OHIO EPA PERMIT for NATIONAL POLLUTION DISCHARGE ELIMINATION (NPDES): The Associate shall obtain this permit. Any construction activity that disturbs one or more acre of total land is required to obtain a National Pollution Discharge Elimination System (NPDES) Construction General Permit (CGP) from the Ohio Environmental Protection Agency (Ohio EPA).

2. OHIO EPA NOTICE OF INTENT (NOI) AND STORM WATER POLLUTION PREVENTION PLAN (SWP3): If a NPDES Permit is required, the Associate shall prepare and submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWP3) to the Ohio EPA. The SWP3 is to be prepared in compliance with current provisions of the Ohio Water Pollution Control Act (Ohio Revised Code, Title LXI (sixty-one) Water Supply - Sanitation - Ditches, Chapter 6111 Water Pollution Control, most current version) and CGP. The NOI and SWP3 must be reviewed and approved by the University Engineer and the Office of Environmental Health and Safety before submittal to the Ohio EPA. A copy of the NOI, SWP3 and letter from Ohio EPA granting permit coverage must be maintained at the construction site for the duration of the project. Copies are to be made available to Ohio EPA upon request.

2.1 The NOI and SWP3 must be prepared and submitted to Ohio EPA in a timely manner, at least 21 days prior to beginning any site work. Allow adequate time for Ohio EPA approval.

.3 DRAINAGE: The General Contractor shall provide temporary drainage trenches, drains, sumps, pumps, or other items required to afford satisfactory working conditions for the execution and completion of the work of all contractors and to protect all work. Water shall be diverted to or shall be pumped into existing storm sewerage systems and shall not be allowed to run onto ground surface area.

.3.1 STORM WATER RUN-OFF: Include the pumping of tunnels, elevator pits, and other structures which collect storm water and waste water run-off from construction operations.

01 60 00. PRODUCT REQUIREMENTS

01 66 00. PRODUCT STORAGE AND HANDLING REQUIREMENTS

.1 TRANSPORTATION AND HANDLING: Although scheduling of deliveries is the responsibility of the contractors, the Associate shall, by visual observation and by checking the contractor's estimates for partial payments, control deliveries to assure that storage spaces are not unduly encumbered with materials which cannot be installed in the work within a reasonable time. The General Conditions provide for payment for materials properly stored and insured at off-site locations.

.2 STORAGE AND PROTECTION: Specify that each contractor shall provide suitable weathertight storage sheds of sufficient size to hold materials required on the site at one time, for storage of materials which might be damaged by the weather. Outdoor storage of materials shall be confined to the areas within the construction fence.

Temporary structures shall be painted with at least one coat of paint; color shall be approved by the University Architect. No signs except small identification signs are permitted on sheds. Indoor storage shall be confined to unused spaces in the building. Corridors, stairs, and other public spaces shall not be used for storage. Special care must be exercised to protect electrical and HVAC equipment.

.3 STORAGE OF UNIVERSITY EQUIPMENT: Prior to completion of a building, large rooms at, or near, grade level with docking facility access shall be made available to the University for the secure storage of equipment. Details shall be arranged with the University Architect.

01 70 00. EXECUTION AND CLOSEOUT REQUIREMENTS

01 71 23. FIELD ENGINEERING

.1 LAYOUT DATA: A licensed engineer or surveyor shall be employed to layout structure coordinates, site improvements, and utilities, to determine all lines and elevations, and to verify same from time to time as the work progresses.

.2 GRADE LINES, LEVELS, AND BENCH MARKS shall be established and maintained by the General Contractor.

.3 BUILDING LAYOUT DATA: The General Contractor shall provide and maintain well-built batter boards at corners of buildings. As work progresses, he shall establish bench marks at each level and shall establish exact locations of partitions on rough floors as guides to all trades.

01 71 33. PROTECTION OF ADJACENT CONSTRUCTION

.1 ROOF PROTECTION: Specify that the Contractor shall provide protection for any roof area(s) that will be affected by the project. Protection shall consist of using ½-inch thick plywood with foam board attached. The composite board shall be laid with the foam towards the roof surface and shall be arranged to protect the roof from falling objects...i.e. hand tools, power hand tools and material. The protective covering shall be secured in a non-destructive fashion (i.e. weighted down) to avoid dislocation in inclement weather. This protection shall not relieve the Contractor from responsibility to repair any damage to the roof resulting from his work.

01 70 00. EXECUTION AND CLOSEOUT REQUIREMENTS (Cont'd)

01 77 00. CLOSEOUT PROCEDURES

.1 CLEANING: The Associate should review Article 28 of the General Conditions to determine whether or not this subject is adequately covered; some amplification might be required.

01 78 00. CLOSEOUT SUBMITTALS:

01 78 23. OPERATION AND MAINTENANCE DATA: Detailed requirements should be stipulated in the appropriate sections of the specifications. For items of General Construction, specify that information for care and maintenance be furnished for any item requiring more than ordinary custodial care. For mechanized equipment and electrical equipment, specify that operation manuals be provided, and for special equipment stipulate that, in addition to operation manuals, the original equipment manufacturer provide demonstrations and operating instructions by factory trained employees to designated University personnel who will be operating the equipment. The following are merely suggestions for the kind of data which might be required. Also see 01 79 00.

.1 GENERAL CONSTRUCTION:

Item	Data Required
Simulated masonry	Surface treatment
Cut stone	Dampproofing treatment
Glue-laminated wood	Finishes
Wood shingles and shakes	Preservative treatment
Fluid applied roofing	Instructions for patching
Single-ply membrane roofing	Maintenance and repair instructions
Aluminum, bronze, and S.S.	Care of finishes
Doors and windows	
Electronic locking systems	Wiring diagrams and operating instructions
Special flooring	Finishes and maintenance data
Chalkboards	Cleaning instructions
Motor-operated chalkboards	Wiring diagrams and operating instructions
Pedestrian control devices	Wiring diagrams
Sun control devices	Wiring diagrams
Equipment	Wiring diagrams and any special instructions required
Special Construction	Systems diagrams and any special instructions required
Elevators and hoists	Operating and maintenance instructions

.2 PLUMBING:

Item	Data Required
Piping systems	Printed diagrams - valve tag directory
Pumps, controls, and special systems	Wiring diagrams, operating instructions, parts lists, testing procedures

.3 HEATING, VENTILATING, AND AIR CONDITIONING:

Item	Data Required
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01 70 00. EXECUTION AND CLOSEOUT REQUIREMENTS (Cont'd)

Control systems	Printed diagrams and operating instructions
Valves	Type-written valve tag directory
Pumps, controls, and special systems	Wiring diagrams, operating instructions, parts lists, testing procedures

.4 ELECTRIC:

Item	Data Required
Communications systems	Point-to-point wiring diagrams and instruction manuals
Motor control centers	Overload heater charts
Equipment	Operating instructions
Fire alarm systems	Point-to-point wiring diagrams

.5 OPERATION AND MAINTENANCE MANUALS: The Associate shall review the contractor's submittals of manuals for correctness and sufficiency of data and, after approving the contents and format, shall obtain the number of copies required, including three copies for resubmittal to the University Architect.

.5.1 FORMAT FOR MANUALS: Manuals shall consist of manufacturers' typed or printed operation instructions and maintenance data, shop drawings or catalog cuts, and other data listed herein; all bound in 8-1/2" x 11" hard- back binder. Material shall be assembled as follows:

.5.1.1 INSIDE COVER: Title of job, The Ohio State University, address, date of submittal, name of contractor and name of manufacturer.

.5.1.2 SECOND PAGE: Index

.5.1.3 THIRD PAGE: Introduction to first section containing a complete written description of the equipment or system.

.5.1.4 FIRST SECTION: Written description of system contents, where equipment is located in building, how each part functions individually and how system works as a whole, concluded with a list of items requiring service and the service needed or reference to the manufacturer's data in the binder which describes proper service.

.5.1.5 SECOND SECTION: A copy of each shop drawing with an index at the beginning of the section.

.5.1.6 THIRD SECTION: A copy of manufacturer's operating instructions with an index at the beginning of the section.

.5.1.7 FOURTH SECTION: A list of all equipment incorporated into job, contractor's purchase order numbers, supplier's name and address.

01 78 36. AFFIDAVITS, AND GUARANTEES: In addition to the standard forms required by the contract documents, the following are required. When statements applying to these requirements are provided in these guides, the statements (or paragraphs similarly worded) shall be included in the specifications. The Associate can save a duplication of work at time of completion of construction if the specifications writer prepares a list of required affidavits, bonds, and guarantees as the specifications are prepared. Also see 01 33 13.

01 70 00. EXECUTION AND CLOSEOUT REQUIREMENTS (Cont'd)

.1 AFFIDAVITS

- Carpeting materials - Installer attests that correct materials were installed
- Non-standard resilient - Installer attests that correct materials were floor materials installed.

.2 EXTENDED GUARANTEES

- Roofing - 10 year maintenance guarantee
- Flashing and sheet metal work - 10 year maintenance guarantee
- Membrane waterproofing - 3 year maintenance guarantee
- Sealants - 5 year guarantee
- Metal windows - 2 year guarantee for windows/5 year guarantee for weatherstripping
- Wood laminated plastic faced doors - Lifetime guarantee
- Tinted glass and insulating glass - 10 year guarantee
- Chalkboards - 20 year guarantee
- Water chillers and air cooled condensers - 5 year guarantee

01 78 29. FINAL INSPECTION: Procedures shall be as outlined in the article entitled Completion and Acceptance in the General Conditions and in the article entitled Final Inspection and Acceptance of Project in the State Handbook, except that representatives of The University as designated by the University Architect shall be included in the arrangements for joint final inspection. Do not make references to substantial completion or substantial completion certificates because these do not apply to work at The Ohio State University as indicated in State Handbook Section IX-37.

01 78 39. PROJECT RECORD (AS BUILT) DOCUMENTS:

.1 CONTRACTORS' RESPONSIBILITIES: These are stipulated in Article 11 of the General Conditions.

.2 ASSOCIATE'S RESPONSIBILITIES: After final acceptance of the project, the Associate shall revise the construction document tracings and electronic files to accurately record the project as-built. Identify the addenda, bulletin, change order, alternate, etc. for each item. Submit the revised prints and electronic files to the University Architect for review. Make any additional modifications and submit the tracings, electronic files, plus two (2) copies of prints made from the corrected tracings. Also provide five (5) copies of the specifications and general conditions modified by the addition of each accepted addenda, alternate, each accepted bulletin and change order and identification of the brands of materials which were accepted when choices were available to the contractors along with supporting electronic files. The University Architect will distribute this material to Programmed Maintenance (2 copies), the project (1 copy), Renovation/Construction files (1 copy), and all electronic files to the project archive along with the original sealed tracings. Identify the tracings and other documents with the label "RECORD DOCUMENTS".

01 70 00. EXECUTION AND CLOSEOUT REQUIREMENTS (Cont'd)

.2.1 ELECTRONIC FILE SUBMITTALS shall be presented in a logical manner with appropriate directory and subdirectory structures and shall: reflect the final "As Built" conditions; be delivered on Windows-format CD-ROM(s); and adhere to the following guidelines:

- Drawings:
 - Shall be delivered in the most recent version of AutoCAD for CAD drawings;
 - Shall have externally referenced drawing files permanently bound to the final drawing file by the consultant prior to delivery;
 - Shall have all reference files (font files, menus, shape files, etc.) delivered along with the final submittal. If copyrights prohibit this, such reference files shall not be used on the project;
 - Shall strictly adhere to the current published AIA guidelines for layering standards.
- Technical Specifications:
 - Shall be delivered in the most recent version of Microsoft Word.
- Operating and Maintenance Manuals (as available):
 - Shall be delivered in either the most recent version of Microsoft Word OR in Adobe Acrobat PDF format.

.2.2 DATA NOT IN ELECTRONIC FORMAT, but part of the final document submittal, (i.e. details that are 'sticky-backed' onto the plotted sheets), shall be noted in the electronic files completely, including a description of the drawing(s).

.3 SUBMITTAL SHALL CONSIST OF: A database file which compares the Program of Requirements Assignable Square Footage to that of the Schematic Design Document, the Design Development Document, the Construction Document, and the As-Built Document. This submittal must be in the following format:

TITLE BLOCK

Project Name:
Project Number:
Project total gross square footage (GSF):

<u>Column #</u>	<u>Column Header</u>
1	PoR Item Number
2	PoR Item Name
3	PoR ASF
4	Schematic Design ASF
5	PoR/Schematic Design ASF Difference
6	Design Development Room Number
7	Design Development ASF
8	PoR/Design Development ASF Difference
9	Construction Document Room Number

01 70 00. EXECUTION AND CLOSEOUT REQUIREMENTS (Cont'd)

<u>Column #</u>	<u>Column Header</u>
10	Construction Document ASF
11	PoR/Construction Document ASF Difference
12	As-Built Room Number
13	As-Built ASF
14	PoR/As-Built ASF Difference
15	Comments

This file should also contain a subtotal by Program Item Number Group (e.g. all spaces under Program Item Number 1.0 would be subtotaled). A Project total ASF should also be included (totals all Program Item # Group ASFs).

- .4 REQUEST FOR ASSOCIATE'S FINAL PAYMENT: After the corrected tracings have been reviewed by the University Architect and accepted, the Associate shall send a copy of the transmittal letter to the State Architect's Office at the time all RECORD DOCUMENTS are submitted to the University Architect. This must be done before final payment for services is requested. Final payment of fees will not be approved until acceptable documents are received.

01 79 00. DEMONSTRATION AND TRAINING

- .1 Specify that training is to be done by the original equipment manufacturer. (See Appendix T for a sample specification for system training). Training by the contractor or sales personnel is prohibited.
- .2 Training shall be identified separate from "start-up and check-out" in the specifications.
- .3 Specify that training shall be scheduled through the Facilities Operations and Development training coordinator.
- .4 Training shall include all materials; i.e. OEM manuals, books, plans, and specifications necessary for equipment troubleshooting and maintenance by in-house maintenance department, as appropriate.
- .5 Specify that the OEM shall provide labor for miscellaneous support during the warranty term.

END OF DIVISION 01 – GENERAL REQUIREMENTS