

SECTION F

GENERAL CONDUCT OF THE WORK AND SPECIAL REQUIREMENTS

F-01 General

- A. This section contains special instructions relating to the execution of the work shown on the drawings and required by the specifications, and is applicable to all Contracts.

F-02 Definitions

- A. Wherever the Contract Documents contain the terms "work," "building," "structure," "project," or words like import are used, it shall be understood to refer to and designate all construction materials and labor, complete and ready for use, within the limits of the contract lines as shown on the plot plan and specified.
- B. "Provide" as used in the specification documents shall be understood to mean furnish and install complete and ready for use.

F-03 Project Coordination

- A. The General Contractor shall be responsible for the overall coordination, control, and progress of the work for all of the other Prime Contractors, Subcontractors, and material suppliers involved in the project.
- B. The General Contractor shall also be responsible for preparing the progress schedule indicating the sequence and time required for the varied disciplines of the work. The progress schedule shall be submitted by the General Contractor to the other Prime Contractors requesting their sequence and time requirement input. The Prime Contractors will be required to either approve the progress schedule submitted by the General Contractor or give comments for correction.

After approval by all Prime Contractors, one progress schedule showing all disciplines shall be prepared. The completed progress schedule shall then be submitted to the Professional for review and approval. The approved progress schedule shall then be issued by the General Contractor to all Prime Contractors, the Professional, and the University.

F-04 Project Meetings

- A. Preconstruction Conference. Prior to commencement of the work, the Contractors shall meet in conference with representatives of the Owner, to discuss and develop mutual understanding, relative to administration of the project, general conduct of the work, progress schedules, safety programs, labor provisions, and other contract procedures relating to the work.
- B. The General Contractor shall provide a space to conduct a regularly scheduled, biweekly (every two weeks) meeting at the site for the purpose of coordinating the work. The General Contractor shall require representation from all Prime Contractors and by any Subcontractors upon request of the Professional or the University.

- C. Contractors shall attend personally or be represented at such meetings. Should the Contractor elect to be represented, it shall be understood and agreed that the University and the Professional, in dealing with contractor's representatives, do so with full assurance that such representative's actions and commitments may be accepted the same as though the contractor who signed, and is bound by the contract, were itself present and personally made such agreements or commitments.
- D. The Professional shall take and retain a verbatim record of the biweekly meeting and shall prepare and distribute summary minutes of each meeting within four (4) days to the University, the Contractors, and all other interested parties. Any corrections to the minutes are to be sent to the Professional within four (4) working days after receipt of same.

F-05 Order of Work

- A. If in the judgment of the University, it becomes necessary at any time during construction to expedite the work or any part of it to conform with the approved project schedule, the Contractor shall cease work at any location, transfer its men to other locations, and execute other portions of the work as may be directed.

F-06 Parking for Contractors' Employees

- A. Parking will be assigned by the University.
- B. Each Contractor shall arrange for transportation between the assigned parking area and the project site.

F-07 Unclassified Excavation

- A. All excavation work will be unclassified and will include (without limitation thereto) the excavation and removal of all soil, shale, rock or rock formations, boulders, existing foundations, fill, and any type of subsurface condition encountered.
- B. The University will consider no claims for extra compensation or extension of time because of the nature and subsurface conditions encountered.

F-08 Blasting

- A. Because of experimental work being done in certain buildings on the campus and because laboratory equipment can be damaged or destroyed by unexpected vibrations due to blasting operations, it will be necessary for the Contractor doing blasting to conform to an established procedure which is in effect on the campus. It is not anticipated that blasting will be required on this project; however, should this event occur, the procedure will be made available to the Contractor.

F-09 Protection of Property

- A. Protect all trees, shrubs, lawn areas, curbing, walks, roadways, and ground areas from damage during the course of the construction. Protect the existing structures and Contractors shall use care in the work in general in, on, and around the structures. Repair all damage to the satisfaction of the University at the responsible party's cost and expense.

F-10 Warning Lights

- A. Where warning lights are required, they shall be the blinker type, battery or electrically operated. Open-flame-type torches are not permitted.

F-11 Access

- A. Each Contractor shall maintain unobstructed pedestrian and automobile traffic lanes on the campus roads, service drives, and parking areas.
- B. Protect existing buildings and structures from damage. Take all precautions to avoid damaging utilities.
- C. The General Contractor shall cover all stairs, treads, and risers, immediately after erection with heavy building paper, on top of which shall be placed boards, securely fastened in place, until project completion.
- D. Each Contractor shall provide constant protection against rain, wind, storms, frost, or heat so as to maintain his work, materials, apparatus, and fixtures free from damage. At the end of each day's work, cover work likely to be damaged. During cold weather, protect work from damage by freezing and provide such enclosures and heating apparatus as may be necessary to prosecute the work without stoppage for reason of unfavorable weather.
- E. Each Contractor, in all areas of operations, shall provide barricades, guard lights, and other appurtenances for the protection of workmen and public as required by applicable regulations and for the protection of roads, lighting, hydrants, walks, curbs, and adjacent grounds and planting for the duration of such operations. The Contractor shall bear the costs of damage caused by it and/or its Subcontractors.

F-12 Construction Fence

- A. The General Contractor shall be required to provide a construction fence enclosing the area of the work within the central limits. Construction fencing is also required for trailers and stored material that may be located outside the area of work. Fencing material should be adequate to protect persons and property.
 - 1. Provide a six foot high (6') chain-link fence with galvanized frame and fabric, and adequate gates as required. Posts shall be 2 inch dia and spaced at maximum of 8 feet OC. Anchor posts in concrete footing. Footing shall be 10 inch diameter, with bottom at 36 inches below grade. Place tops of footing 3 inches below grade and cover with soil. Embed posts 24 inches in concrete. Provide top stabilizing rail between posts. Top of posts shall be closed.
 - 2. Provide 5'-6" mesh fabric windscreen, mount top of fabric to top stabilizing bar. Fabric shall be PVC vinyl coated polyester, equal to Tenn-air curtain style, color US Open blue as manufactured by M. Putterman and Co., Inc. (800) 621-0146. Windscreen shall have reinforced hems and grommets every 12 inches on all edges. Install windscreen on construction side of fence, using 50-pound break strength tie wraps at every grommet. Pull fabric taught. (Optional: Penn State Logo shall be imprinted on windscreen facing the non-construction side of the fence at the request of the Project Manager.)

F-13 Temporary Facilities

- A. Offices. The General Contractor may erect a temporary office where directed. It shall be adequate in size for conducting the work, accommodating project meetings, and shall contain a plan-table and plan-rack available for use by the University's representative(s).
- B. Sheds. The Contractor may provide and erect temporary sheds, as directed, for the storage of tools, equipment, and materials.
- C. Toilets. The Contractor shall provide, erect, and maintain adequate toilet facilities for the convenience of workmen and others employed on the work. The University shall approve the type of facility and location.
- D. Scaffolding and Staging. The Contractor shall furnish and erect all ladders, staging, and scaffolding required.
- E. Design. The University shall approve the design and appearance of offices, sheds, and toilets prior to erection.
- F. Removal. Prior to completion of the work, the Contractors shall completely remove the temporary buildings, offices, sheds, toilets, scaffolding, etc., and all other items of temporary facilities and construction provided by them, and restore the area to the original condition acceptable to the University.

F-14 Existing Underground Utilities

- A. The existence and locations of underground utilities indicated on the drawings are not guaranteed. The Contractor shall investigate and verify in the field before starting any work.
- B. All excavation within three (3) feet of any existing underground utility line shall be accomplished by hand labor. Extreme caution shall be used in this area to prevent any damage to existing facilities.
- C. The Contractor shall adequately protect from damage (including shoring, if necessary), all underground utilities uncovered or exposed. The Contractor shall be responsible for all damage to existing underground utilities caused by its work and shall repair by a method approved by the University.
- D. Utilities serving existing buildings, installation, or facilities shall not be interrupted until the Contractor has made the necessary arrangements with and has received approval from the University.
- E. In the event that interruption of any existing utility service is necessary, the responsible Contractor shall be required to make all arrangements for shutdown and start-up of such service with the University representative.

F-15 Temporary Utility Services

- A. Each Contractor shall, at its own cost and expense, install, operate, protect, and maintain the respective temporary services as hereinafter specified, during the construction period of the entire project. These temporary services shall include water supply, electric light and power, temporary heat, material hoists, sanitary facilities, access roads, and any other services as may be stipulated in the General Conditions, Special Requirements, and/or specifications.

- B. Temporary or permanent connections made by any Contractor to existing University systems shall be approved by the University, as to location and the manner and time of the connections to such systems. Where such connections require shutdown of an existing University system, the shutdown will be performed by the Contractor. A written advance notice of at least fourteen (14) days shall be given to the University by the Contractor requesting the shutdown. Directly after the final connection, reinstatement will be done by the Contractor.
- C. Temporary connections to new and/or existing permanent service lines shall be made at locations as directed by the University, protected while in use, and when the temporary service lines are no longer required, they shall be removed by the Contractor. Any part or parts of the permanent service lines, grounds and buildings, disturbed or damaged by the installation and/or removal of the temporary service lines shall be restored to their original condition by the Contractor responsible for the temporary installation by a method approved by the University.
- D. All underground utilities or service lines uncovered or exposed by the operations under this contract shall be adequately protected by the Contractor, who shall be responsible for the repair of any damage to such services. Services and utilities in and to existing buildings must not be connected to or interrupted without making the necessary written requests to the University and receiving written permission. All interruptions to University services must be scheduled two (2) weeks in advance and will generally be made outside of normal working hours.
- E. Temporary heat shall be provided by each Contractor as required for its use and at its cost and expense. Electric power from University sources shall not be used for temporary heat.
- F. Water will be available to all Contractors at no cost, at a hose bib located near the job site. Contractors shall provide, at their own cost and expense, all required extensions of existing facilities.
- G. Temporary construction power and lighting shall be provided by each Contractor for its use at its own cost and expense.
- H. Any Contractor who fails to carry out its responsibility in supplying temporary services, as set forth in its contract, shall be held responsible for such failure, and the University shall have the right to take such action as it deems proper for the protection and conduct of the work and shall deduct the cost involved from the amount due the Contractor.

F-16 Electric Power Equipment

- A. Due to the limited capacity of electric distribution on the Campus, the use of A.C.-powered welders and electric heaters is prohibited.

F-17 Temporary Sanitary Facilities

- A. Sanitary facilities will not be provided by the Owner. The use of Owner's facilities is prohibited (unless prior approval is granted by the Owner).
- B. The General Contractor shall, at its own cost and expense, provide, operate, and maintain in a clean and sanitary conditions, adequate sanitary facilities as approved by the Owner.

1. All sanitary facilities shall be fully enclosed buildings, screened against insects.
2. Open-pit type facilities will not be permitted.
3. The Plumbing Contractor shall install and maintain in operation a sufficient number of nonfreeze-type fixtures in a manner approved by the Owner.
4. When directed by the Owner, the Contractor shall dismantle and remove these facilities and leave the premises clean as required.
5. As soon as permanent soil lines have been installed inside the building, the Plumbing Contractor shall install two temporary water closets and two lavatories. These shall be kept in working order by the Plumbing Contractor and shall be maintained in a clean and sanitary condition by the General Contractor.
6. The use of self-contained "Job-Johnny" units will be permitted upon approval by the Owner.

F-18 Existing Underground Service and Utility Lines

- A. Notification to Public Utilities Prior to Excavation or Demolition Work When Using Powered Equipment or Explosives.
 1. All Contractors shall comply with all requirements of the Act of December 10, 1974 (P.L. 852, No. 287), referred to as the Underground Utility Line Protection Law, as amended by the Act of December 12, 1991 (Act No. 1991-38), prior to excavation or demolition work when using power equipment or explosives.
- B. At all locations, all underground utilities or service lines uncovered or exposed by the operations under the contract shall be adequately protected by the Contractor, who shall be responsible for the repair of any damage to such services. Contractor shall be responsible to the Owner for all costs resulting from the Contractor's damage to University lines. These include, but are not limited to material cost, wages, supervisory professional costs, disruption of services, research, and overhead costs. Contractor must notify the University immediately of any damages to utility lines and street lighting. Repairs shall be made by a method approved by the University.

F-19 Interruption of Existing Services

- A. Utilities serving existing buildings, installations, or facilities shall not be interrupted until the Contractor has made the necessary arrangements with and has received approval from the University.
- B. In the event that interruption of any existing utility service is necessary, the responsible Contractor shall be required to make all arrangements for shutdown and start-up of such service with the University representative, and shall pay all costs for such interruption and service restoration.
- C. All planned interruptions to University services must be scheduled two (2) weeks in advance and the work will generally be done outside of normal working hours.

F-20 Laying Out the Work

- A. The General Contractor shall employ a competent, experienced engineer and have the engineer determine all lines and grades and certify same from time to time during the progress of the work.
 - 1. The General Contractor shall establish bench marks referenced to finished grade lines and critical elevations.
 - 2. Each Prime Contractor or Subcontractor shall provide a competent engineering service to lay out its work in accordance with lines and grades established by the General Contractor.

F-21 Measurements

- A. Before ordering material or proceeding with the work, the Contractors shall verify all measurements at the site. No extra compensation will be allowed because of differences between actual measurements and dimensions shown, but such differences shall be referred to the Professional for consideration before proceeding with the work.

F-22 Clearing of Roads, Parking Areas, and Traffic on Campus

- A. The General Contractor shall daily clean all mud, dirt, and debris resulting from all Contractors' operations from the adjacent streets, sidewalks, drives, and parking areas, and shall repair all damage caused by the cleaning. If the Contractor fails to clear mud and construction debris from roads and walks, the University will clear this mud and debris and bill the Contractor(s) at cost.
- B. All traffic will be subject to the rules and regulations and penalties of its University and applicable local laws. All hauling and construction traffic shall use only those roads designated by the University. The use of Jake Brakes on campus is prohibited.
- C. Contractors shall carefully schedule delivery and installation of its work so to cause the least interruption of normal rush-hour traffic.
- D. The General Contractor shall maintain streets, sidewalks, and driveways free of encumbrance at all times for pedestrian and automotive traffic. When necessary to block these off, do so only with prior approval of the University and only at designated time. Each closing must have the prior approval of the University.
- E. Parking for Contractors' employees is prohibited on campus roads, drives, and courts.
- F. Where mud, snow, ice, or other hazardous conditions exist, the General Contractor shall remove the hazards or shall provide and maintain such temporary pathways as are required for safe and expeditious prosecution and inspection of the work of all trades.

F-23 Cleanup

- A. The General Contractor shall take precautions against the presence of rats, mice, and other pests. The General Contractor shall exterminate them if they are observed, engaging a reputable exterminating firm to give regular service as necessary.

- B. Each Contractor shall keep the premises clean at all times of dirt, rubbish, and debris resulting from the work of all contracts, and shall remove all rubbish and debris in metal containers at the end of each working day. Each Contractor shall remove all rubbish and cartons resulting from the installation of fixtures and equipment. Disposal of materials by burning at the site is expressly prohibited. The Contractor will not use the University's trash collecting containers.
- C. Prior to substantial completion of the work, each Contractor and Subcontractor shall do the final cleaning of the surfaces of all the Contractor's installations as may be required by the various specification sections.
- D. Each Contractor, in addition, shall employ a professional cleaning organization to remove all paint and stains from glass and to wash all glass throughout the work, to clean and polish the finished surfaces of all fixtures, equipment, and accessories and to vacuum clean all floors.
- E. All permanent equipment used to supply temporary services shall be completely cleaned and reconditioned by the appropriate Contractor prior to final acceptance by the University. Filters shall be in clean condition, interiors of all strainers shall be replaced or cleaned and seats on all valves and diaphragms on all traps of all sizes of the used portions shall be examined, cleaned, and replaced as necessary to the satisfaction of the University. Costs of cleaning, reconditioning, and replacement of parts of the permanent systems shall be at the expense of the responsible Contractor.
- F. If a Contractor fails to clean up, the University may do so and the cost thereof shall be charged to the Contractor as provided in the General Conditions.

F-24 Existing Facilities

- A. The University will maintain activities and normal office hours in the building during the course of this construction project. Difficulties of working in an existing operational building are recognized; however, the Contractor must cooperate to keep noise, dirt, and other interferences to a minimum. Housekeeping shall be such to assure no disruption of the University's operations and the Contractor shall schedule his work well in advance and give notice to all building occupants of any disruption.
- B. Existing facilities must be maintained watertight and dust free at all times. The Contractors shall make all necessary provisions to this end and shall be responsible for any damage resulting from noncompliance with this requirement.

F-25 Requirements During Construction

- A. Fence open ditches. Where walks cross such ditches, bridged walkways must be provided with rails on both sides. Bridged walkways must be adequately lighted at night.
- B. Service temporary walks and roads with No. 2 crushed stone if they are to be in public use.
- C. Walks and roadways used by both Contractor and the public shall be kept in repair and cleared by the Contractor at least once each day and more often as conditions require.
- D. Place no obstructions on or within fifteen (15) feet of fire hydrants. Hydrants must be accessible for fire fighting purposes.

- E. Protect and attend any type of temporary heating units used.
- F. Where walkways, roadways, or entrances used by the public are adjacent to or pass under construction scaffolding or near building edge, the Contractor shall provide an adequate covering for such area to protect passersby from falling objects.
- G. All temporary construction sheds, trailers, and flammable liquid storage areas belonging to Contractors shall be so placed on the construction site to minimize any danger to University property and the public.
- H. The University Department of Environmental Health and Safety is available for consultation regarding the above items and any other safety matter.

F-26 Protective Barricades

Contractors shall be aware that the University community includes many people with disabilities (visually impaired, wheelchair-bound, etc.), requiring extra attention on the part of the Contractor to assure that construction work is properly identified and protected. The following provides minimum protective measures to be followed by Contractors doing work beyond the main project construction fence in order to protect the general public from hazards created by open excavations, manholes, etc.:

- A. Any excavations outside the project fence shall be adequately protected to prevent falls, injury, or other hazard to the general public and University population, as follows:
 - 1. Excavations for the purpose of constructing/installing manholes, meter pits, valve pits, or similar appurtenances must be completely surrounded by a rigid fence (not flagging tape or plastic netting) of sufficient height and strength to prevent individuals from crossing into the excavated area. Such fencing shall incorporate toeboards around the bottom and must be positioned at sufficient distance from the top of excavation to provide adequate protection against undermining or sloughing off of the excavation slopes.
 - 2. Ditch excavations, such as for electrical, water, sewer, steam, gas, or other underground utility lines, shall, as a minimum, be protected on all sides with snow fencing or similarly strong material; fencing shall be positioned at a safe distance away from the top of slope of the excavation.
- B. Construction equipment used for hoisting men or materials (e.g., cranes and "cherry pickers," construction line trucks, mobile platforms, etc.) must be surrounded by appropriate protective barricades, safety lines, and signage to alert passersby of the presence of overhead loads and to provide adequate clearance around all boom swing areas, tail swing areas, overhead loads, and operating machinery. Passersby shall not be permitted to travel beneath suspended loads under any circumstances. If necessary, Contractor shall provide a flagman to assure safe passage of pedestrian and vehicular traffic.
- C. Open manholes must be protected at all times by a rigid, fence-type barricade around the opening.
- D. Flagging tape and traffic cones are not, under any circumstances, suitable or permissible barricading materials.

- E. Contractors shall notify--and receive approval from--the University's Construction Inspection Office prior to beginning any excavation or opening of any manholes outside the project fence. The Inspection Office will then advise the appropriate University office of the hazardous condition, including location, approximate starting time, and expected duration of the situation.
- F. Contractors shall report immediately to the University's Construction Quality Representative any accident or other incident, no matter how minor, which involves any member of the general public.

F-27 Delivery and Storage

- A. On-Site. All materials and equipment shall be delivered to the site and stored at locations approved by the University. Each Contractor shall be responsible for proper care and protection, and shall protect and be responsible for any damage to its work or materials from the date of the Agreement until final payment is made, and shall make good without cost to the University any damage or loss that may occur during this period. All cement, lime, and other materials which may be affected by the weather shall be covered and protected to keep them free from damage while they are being transported to and stored on the site. Should any materials be found defective or in any way contrary to the Contract, this material, no matter in what stage of completion, may be rejected by the Professional and/or the University and shall be removed from the site at once.
- B. Inside Building. In no case shall any materials be stored in mechanical and electrical spaces, nor shall any paint or other combustible supplies, tools, or equipment be stored in the building, except in tightly sealed metal containers, in well-ventilated spaces, and in a quantity limited to that day's need.
- C. Provisions for Large Items. The General Contractor shall make provisions for bringing into the building large items of equipment by leaving temporary openings for them as determined to be required. After the equipment is set in place, the General Contractor shall close the opening as required.
- D. Materials must be stored in such a way as not to damage existing structures or surrounding area. Any material or equipment stored on the roof of any building must be placed on dunnage and not directly on roof surface.

F-28 Fire Protection

- A. Each Contractor shall maintain and enforce regulations covering all fire hazards, including smoking, and shall provide during construction, the required number of suitable fire extinguishers in the proper locations.
- B. No fires for any purpose shall be permitted on the project. Remove all refuse from University property.
- C. No welding, cutting by torch, or work utilizing or causing inflammable wastes shall be done unless adequate fire protection is provided and maintained for the duration of the work in the area of operations. University welding/cutting permits will be required and shall be issued at no cost to the Contractor by the University.

F-29 Job Site Security

- A. The University will not provide job site security.

- B. The University assumes no responsibility for damage or loss to the Contractors' property.

F-30 Dewatering

- A. The General Contractor shall assume responsibility for continuous removal of all water, including surface and rainwater, by the use of pumps, drains, and other approved methods necessary to keep the excavation and site free from water at all times until completion.
- B. All water must be directed away from existing structures, shall cause no erosion and shall prevent foreign material from backing up existing drains or entering into the sewers.

F-31 Fastening Devices

- A. Fiber, plastic, lead plugs and shields, and any devices using wood screws are not acceptable as fastening devices to plaster, tile, concrete, or masonry. Use expansion bolts or driven devices in solid construction, and toggle bolts in hollow construction.

F-32 Welding

- A. All welding and cutting shall be done by qualified and certified welders. Certificates shall be filed with the Professional and the University prior to commencement of any welding.

F-33 Noise Control

- A. In most instances, noise control will be a matter of prime concern. It is, therefore, mandatory that all equipment such as compressors, generating equipment, etc., shall be fitted with mufflers or other noise abatement attachments.
- B. It may become necessary to schedule some operations during periods of low occupancy of neighboring buildings.

F-34 Provision for People with Disabilities

- A. All structures designed for general use, shall comply with all local, state, federal, and University regulations for facilities to accommodate people with disabilities.

F-35 Asbestos Removal

- A. The University has an ongoing asbestos identification and removal program. On renovation projects where the possibility exists that material containing asbestos fibers may be encountered, the situation will be reviewed by the University and a course of action determined.
- B. Possible asbestos removal situations will be discussed between the Professional and the University on a project-by-project basis.
- C. If asbestos is found to be present after construction is underway, the University Construction Inspection Office is to be notified immediately so that proper removal work can begin promptly. Removal or repairs will then be initiated following all applicable EPA and OSHA regulations.

F-36 Advertising Signs

- A. Neither the Professional nor Contractor shall erect advertising signs.

F-37 Project Sign

- A. On projects funded solely by the University, a project sign shall be prepared and erected by the General Contractor and shall conform to the Specifications provided by the University.
- B. The appropriate project name shall be inserted.

F-38 Warranty Period

- A. During warranty periods, the University will respond to emergency situations, that is, situations determined to be potentially harmful to the surrounding personnel, equipment, or environment. In cases where work is performed by University employees, the Contractor will be charged for all labor and material needed to complete emergency repairs, if the repairs are determined to be the result of faulty material or workmanship. The performance of these repairs shall not void any Contractor's warranties.
- B. The University will begin preventive maintenance programs immediately following final inspections. Preventive maintenance activities shall not relieve the Contractor from any equipment warranties.

F-39 Schedules and Reports

- A. Refer to General Conditions of the Contract, Article 11, for a detailed breakdown of information required.
- B. Together with each monthly application for payment, the Contractor shall forward to the University a summary report of the progress of the divisions of the work.

F-40 Confined Spaces

- A. All Contractors will have a written OSHA compliant permit-required confined space program.

F-41 Demolition Work

- A. Contractor is responsible for PA DEP/EPA notifications required for demolition work. Paperwork must be submitted to the Owner for review prior to submission to the proper agencies. Notification form templates are available from the Owner.
- B. Demolition Contractor performing work requiring notifications must be prequalified by the Owner.