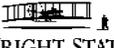


Document 00 73 00.16 - Supplementary Conditions – Stipulated Sum (Multiple Prime Contract)

Wright State University
Engineering and Construction
3640 Colonel Glenn Hwy ▪ Dayton, Ohio 45435-0001


WRIGHT STATE
UNIVERSITY
www.wright.edu
v: 937.775.4140
f: 937.775.3513

Certifications

These Supplementary Conditions amend and supplement the General Conditions and other provisions of the Contract Documents as indicated below. All provisions which are not amended remain in full force and effect. The terms used in these Supplementary Conditions which are defined in the Contracting Definitions or in the General Conditions shall have the meanings assigned to them in those documents.

These Supplementary Conditions are authorized for use on the Contracting Authority's Projects by the Ohio Department of Administrative Services:

By: Hugh Quill/CW Date: November 28, 2007
Hugh Quill, *Director*
Ohio Department of Administrative Services
by Craig Weise, *State Architect*

Contracting Authority

Wright State University
Engineering & Construction
3640 Colonel Glenn Hwy.
Dayton, Ohio 45435-0001
937.775.4140
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www.wright.edu/admin/facilities/index.html

Institutional Designee

Daniel Papay, P.E.
Director of Engineering and Construction

MODIFICATIONS TO GENERAL CONDITIONS

Insert subparagraph 1.4.4.1.1 as follows:

- .1 The Contractor shall physically locate underground utilities installed or exposed by the Contractor prior to backfilling. Physically locating means to measure each change in direction from two separate permanent objects and note the depth below grade on the As-Built Documents.

Replace subparagraph 2.1.4.1 with the following:

- .1 The Contractor is responsible for contacting the University Engineering & Construction Department at 937-775-4142 to obtain a dig permit 72 hours in advance of any digging, excavation, trenching, drilling, driving posts or any other such work. The Contractor is further responsible for contacting all area utility providers, the City of Fairborn, the Ohio Utilities Protection Services ("OUPS" at www.oups.org, phone 800-362-2764), and any

other privately owned utility or service shown on the plans and specifications one week prior to the above activities so as to prevent damage and disruption to underground utilities, cables, storage tanks, irrigation systems and any other such service or device. The owner of an underground utility is required within 48 hours notice to stake, mark, or otherwise designate the location of its utilities in the construction area together with its approximate depth. In the event that any underground utility owner fails to timely perform, the Contractor shall notify the A/E and contact the owner of the underground utility. The University's Excavation/Boring Permit shall be made a part of this document and is included at the end of Article 15.

Insert subparagraph 2.1.4.1.1 as follows:

- .1 In conjunction with subparagraph 2.1.4.1, the Contractor shall document the location of any existing or new utility or device uncovered or installed underground in accordance with subparagraph 1.4.4.1.1. This information is to be given to the Project Manager immediately for incorporation into the University's utility drawings.

Insert subparagraph 2.1.4.2 as follows:

- .2 The Contractor shall backfill excavations with material specified and approved in writing by the A/E. Surfaces (pavement, concrete, turf, etc.) shall be restored to like new conditions. Turf replacement shall be sod, and not seed.

Insert subparagraphs 2.4.2.1, 2.4.2.2, 2.4.2.3, and 2.4.2.4 as follows:

- .1 Work performed in an area that must be kept in operation shall be protected with a sheeted bulkhead sufficient to keep out dust and dirt, and to isolate the area.
- .2 A minimum of 10 foot-candles of night safety lighting covering the entire Site shall be provided for building construction (ANSI Standard 11.1-1973, Practice for Industrial Lighting).
- .3 Temporary fencing shall be installed and maintained to protect the Site, including any lay-down areas, temporary offices, etc. The Contractor shall submit a fencing plan to Wright State University ("University") prior to installation of any temporary fencing. The Contractor shall furnish and install chain link fencing, knuckled top and bottom, 6 foot supported with minimum 1-5/8 inch line posts and 2-3/8 inch end/gate posts on 2 x 1 feet weighted bases a maximum of 10 feet on center. Mesh openings shall be a maximum of 2-3/8 inches. All fencing materials shall be galvanized. The University may require Knox locks be installed on entrance gates. Warning signs shall be posted on the fence 40 feet apart stating; "Construction Area-Keep Out" or similar verbiage approved in writing by the University.
- .4 The Lead Contractor, in coordination with the University Project Representative, shall document the Site with videotape or other electronic means prior to the start of any Work on the Project. The videotape shall be made approximately 1 week prior to the start of construction. The purpose of the videotape will be to establish existing conditions before the Site is turned over to the Contractor. The videotape shall include, but is not limited to, lay-down/staging areas, condition of existing structures to remain, landscaping that is to remain or be restored subsequent to Project completion, any University property immediately adjacent to the Site, and ingress and egress routes across University property. The Lead Contractor shall provide 1 copy of the videotape to the University Project Representative.

Insert subparagraph 2.5.2.3 as follows:

- .3 The Contractor shall clean and restore storage areas to their original condition.

Insert subparagraphs 2.5.3.1 and 2.5.3.2 as follows:

- .1 The University reserves the right to refuse to allow material it considers, in its sole discretion, to be a fire hazard to be stored on the University's property.
- .2 The use of skid-steer loaders, track hoes, front loaders, back hoes, tractors, excavators, bulldozers, and similar equipment inside a structure is prohibited regardless of size, attachments, or type including, but not limited to, self-propelled, ride-on, or walk-behind.

Insert subparagraphs 2.7.1.1, 2.7.1.2, and 2.7.1.3 as follows:

- .1 The Contractor shall implement and follow practices designed to minimize risk and avoid harmful exposure to chemicals, biological or radiological substances, and physical or mechanical hazards.
- .2 The Contractor shall use facilities and equipment in the prescribed manner to avoid injury and health damage to themselves, others, and the environment.
- .3 The Contractor shall submit a written lockout/tagout procedure based on OSHA requirements to the University for approval at the beginning of the Project. The Contractor shall use this procedure whenever a system is to be de-energized.

Insert subparagraphs 2.7.3.3, 2.7.3.4, and 2.7.3.5 as follows:

- .3 The Contractor shall take the proper precautions to prevent fires when welding or while other fire-hazardous work is being performed.
- .4 The Contractor shall provide temporary fire extinguishers as required by Applicable Law.
- .5 The Contractor shall comply with requirements of Applicable Law during installation, use, and removal of temporary controls, facilities, and utilities.

Insert subparagraphs 2.7.5.5 and 2.7.5.6 as follows:

- .5 The licensed abatement Contractor shall make arrangements for the proper disposal of Hazardous Material off-site according to Applicable Law and University regulations.
- .6 University trash receptacles, sanitary sewers, and storm drains shall not be used for the disposal of Hazardous Material.

Insert subparagraphs 2.7.7, 2.7.8, 2.7.8.1, 2.7.8.2, 2.7.8.3 and 2.7.9 as follows:

- 2.7.7 The Contractor shall control fumes and dust to prevent any harmful or undesirable effects in the surrounding areas.
- 2.7.8 The Contractor shall provide a safe and secure Site.
 - .1 The Site shall be safe and secure if casual non-construction traffic (vehicular and pedestrian) is excluded from either entering in, or passing through, the Site and if the Site includes effective securing of equipment, storage of materials, and adequate lighting.
 - .2 The Site shall be completely enclosed by temporary fencing, meeting the requirements of subparagraph 2.4.2.3.

- .3 If the Contractor desires guard service, the Contractor shall provide same at Contractor's cost.

2.7.9 Lighting removed by the Contractor during construction shall be replaced with adequate temporary lighting during construction as determined by the A/E or the University.

Insert subparagraph 2.10.1.1 as follows:

- .1 The requirements of this paragraph 2.10 shall include testing or bacteriological analysis required for new domestic water piping per the American Water Works Standard C651. The Contractor shall be responsible for sampling and bacteriological analysis required in existing piping and/or buildings taken out of service related to this Project. Boil advisory situations and the University's policy regarding water shutdowns can be found in the University's Community Water System Contingency Plan (copies available upon request).

Insert subparagraph 2.11.6 as follows:

- .6 University trash receptacles, sanitary sewers, and storm drains shall not be used for the disposal of construction debris, waste materials, or rubbish.

Insert subparagraph 2.11.7 as follows:

- .7 The Lead Contractor shall maintain public streets and roads adjacent to property utilized for construction traffic clear, clean, and free from dirt and debris. Failure to clean public streets and roads will result in the University having it done at the Lead Contractor's expense in accordance with subparagraph 2.11.5.

Insert subparagraph 2.14.3 as follows:

- .3 The Contractor shall provide the A/E and the University with a list of contact persons, with telephone numbers, for 24-hour emergency contact.

Insert subparagraphs 2.16.2.5, 2.16.2.6, and 2.16.2.7 as follows:

- .5 If the Defective Work is considered by the University to be an emergency, the Contractor shall visit the Project within 1 day of receipt of the notice. If the Defective Work creates or contributes to a situation whereby the University is unable to occupy or use the space as intended, the Contractor shall visit the Project within 8 hours of receipt of the notice.
- .6 The notice in subparagraph 2.16.2.5 shall be construed to be from the University, if given by an authorized agent of the University's Engineering & Construction Department or Physical Plant Department.
- .7 Failure to comply with 2.16.2.5 or 2.16.2.6 shall cause the University to deem the Contractor non-responsive, which the University may use in determining the responsibility of the Contractor for award of future Contracts.

Insert subparagraph 2.17.2.1 as follows:

- .1 Interruptions to utility services shall be planned by the Contractor in coordination with the University, to provide the least inconvenience and downtime. A major utility shutdown shall require a minimum of 4 weeks notice from the Contractor. The Contractor shall provide a licensed and bonded electrician to operate all medium voltage electrical equipment and be present during the duration of the shutdown.

Insert subparagraph 9.1.2.8.1 as follows:

- .1 Closeout items shall be noted separately on the Schedule of Values. At a minimum, this shall include the following items and minimum percentage of the Contract Sum:
- | | |
|-----------------------------------|----|
| Punch List | 2% |
| Operating and Maintenance Manuals | 1% |
| As-Built Drawings | 1% |

Insert subparagraph 14.1.5 as follows:

- .5 The Contractor shall furnish to the University a complete list of all Subcontractors, together with a list of their respective material and equipment suppliers. The material and equipment suppliers list must list each product name and number together with the address of the company and name and address of the nearest representative.

Insert Article 15 with associated paragraphs and subparagraphs as follows in its entirety:

ARTICLE 15 - MISCELLANEOUS SUPPLEMENTARY CONDITIONS

15.1 Sexual Harassment

- 15.1.1 The University maintains an environment free from sexual harassment. Contractors and Subcontractors are hereby notified that, in accordance with University policy, prompt corrective measures will be taken to stop sexual harassment whenever it occurs.

15.2 Smoking and Tobacco

- 15.2.1 All University buildings are smoke free. Smoking will not be permitted in any indoor area. The ban on all tobacco products will be observed in all indoor and outdoor areas and parking areas on all University owned and leased property.

15.3 Use of Name

- 15.3.1 The Contractor shall not advertise the fact that it has contracted with Wright State University, or appropriate, or make use of the University's name or other identifying marks or property without the prior written consent of the University's Office of Business and Finance.

15.4 Use of Premises

- 15.4.1 Contractors shall use corridors, stairs and elevators as designated by the Contracting Authority. Extreme care shall be exercised to not exceed the carrying capacity of elevators nor to damage the cab interior in any way.
- 15.4.2 Loitering or wandering through interior of buildings or exterior grounds outside the limits of the Work shall not be permitted.
- 15.4.3 The Contractor shall confine its apparatus, materials, and the operations of its workers to the limits indicated by Applicable Law, permits and the directions of the A/E or the Project Manager. If possible, materials and equipment shall be installed in their final positions when brought to the Site. Short-term storage of equipment shall be scheduled by the Project Manager.
- 15.4.4 No signs or advertising of any kind shall be permitted on, or about, the Site, except those appearing on trucks and trailers.

15.4.5 Site Logistics Plan:

- .1 The Lead Contractor shall prepare, in coordination with all Separate Contractors, a plan of the Site indicating how the Contractors intend to use the Site. The plan should illustrate, as an example, areas to be used for lay down of material and equipment; office and storage trailer locations; vehicular access gates with ingress and egress routes; locations of wheel wash and concrete truck wash out activities; and offloading and hoisting locations.
- .2 The Contractor shall not be permitted to use University streets for any purpose not previously approved by the Parking & Transportation Department. This includes, but is not limited to, trucks stopping on streets awaiting access to the Site. Should Site constraints be such that offloading of trucks from University streets is required, the Contractor shall provide a written request to the Parking & Transportation Department 5 days in advance of the date when the unloading is required. The Contractor shall pay for any traffic control occasioned by the street blockage. The Contractor shall also post signs three days in advance of any street blockage longer than 2 hours warning motorists of the date, time, and duration of the planned blockage.

15.4.6 The Contractor shall validate with the appropriate University, City, County, or State agency as to the status of road work impacting traffic flow on, to, and from, campus.

15.5 Parking

15.5.1 Main Campus:

- .1 All parking on the University Campus is restricted and controlled by the University's Parking & Transportation Department. Employees of Contractors and Subcontractors shall purchase parking permits from the Parking & Transportation Department and shall park cars in areas assigned to them. Contractors parking on University property will be charged the current rate to park, as space is available. The Contractor shall purchase parking permits from the Parking and Transportation Office, E138 Student Union at 937-775-5690. Parking on streets or in restricted areas is prohibited. Violations will result in a citation or vehicle impoundment/towing by a third party towing company.
- .2 At the beginning of the Work, each Contractor shall report to the Parking & Transportation Department the approximate number of parking permits which will be required for all employees, including employees of subcontractors.
- .3 On-site parking for all Contractor personnel will not be permitted within construction limits.

15.5.2 All Other Campuses:

- .1 Contractors performing Work on all other campuses shall coordinate with the Project Manager on matters of parking permits and designated areas.

15.6 Vibration, Noise, and Dust Control

15.6.1 In occupied buildings, vibrations, noise and dust control shall be provided. The Lead Contractor or Separate Contractor responsible for creating dust shall install dust barriers as required by the construction operations.

15.6.2 Exhaust of unfiltered air, dust, construction debris or other undesirable products released into the exterior atmosphere or into occupied areas of the building outside the Site shall not be permitted.

The Project Manager reserves the right to limit or stop the continuation of work if proper air quality standards are not maintained.

- 15.6.3 In certain occupied buildings, tasks might be of such a nature that noise and vibration cannot be tolerated. In such spaces, work shall be scheduled for other than normal working hours. The Contractor is cautioned that week-end or overtime work, if required, shall be performed at no additional cost. Permission to work other than standard hours shall be received from the Contracting Authority prior to the occurrence. Weekend and overtime work shall be reflected in the Construction Progress Schedule.
- 15.6.4 Vibration control and control of transmission of noise are the responsibility of the Contractor whose operations are creating the conditions. Three principal considerations which shall be given to noise and vibration control are:
- .1 Noise control in compliance with OSHA requirements for the health and safety of building occupants; control shall be for all areas of the facility, including equipment rooms, boiler rooms, PRV stations, and fan rooms.
 - .2 Vibration control to limit sound produced by construction equipment, and for protection of the equipment existing in a building and the building structure.
 - .3 Vibration control to provide for maximum usefulness of the facility by keeping levels of vibration within ranges which are conducive to study and work or other uses for which the facility is designed.

15.7 Fire Prevention

- 15.7.1 Gasoline and other flammable liquids shall be kept in approved safety cans at all times and shall not be stored inside University facilities.
- 15.7.2 False Fire Alarms:
- .1 As liquidated damages, and not as a penalty, the Contractor acknowledges and agrees that the Contracting Authority shall be entitled to retain or recover from the Contractor \$300 or actual costs, whichever is greater, for each false fire alarm that is determined to be a result of negligence by the Contractor. This amount reflects the Contracting Authority's actual costs incurred in dealing with these false alarms, including, but not limited to, the costs of transportation, manpower, and loss of efficiency.

15.8 Commissioning

- 15.8.1 The Contractor shall permit the University's Commissioning Agent Project access to commission all performance based equipment, fixtures, and/or systems (e.g., HVAC, fire protection, smoke evacuation, fume hoods, emergency power, etc.), prior to final occupancy (phased or otherwise).
- 15.8.2 The Project Manager shall obtain prior written approval from the Contractor responsible for the fixture, equipment, and/or system, for commissioning access and related activities, which approval shall not be unreasonably withheld.
- 15.8.3 The University's Commissioning Agent shall promptly notify, in writing, the A/E and the Contractor responsible for the fixture, equipment and/or system of any deficiency noted during the commissioning effort for incorporation into the A/E's Punch List.

15.9 Safety and Health Rules

- 15.9.1 It is the policy of the University to provide a quality workplace environment for the learning experiences of teaching, education, work, and research which meets or exceeds Applicable Law for

health and safety. The University's policy includes procedures relating to emissions by air, by liquid-carried wastes, by solid and hazardous waste disposal, or by sonic, radioactive, or electromagnetic radiation. The Contractor shall read and acknowledge by its signature that they have read and understand the policy. The University's Safety And Health Rules shall be made a part of this document and are included at the end of Article 15.

15.10 Hot Work Permit

- 15.10.1 When construction operations require welding, cutting, burning or any open-flame/torch application, the Contractor shall follow the requirements of the University's Hot Work Permit program. The University's Hot Work Permit Program shall be made a part of this document in its entirety and is included at the end of Article 15.

END OF DOCUMENT

Wright State University Dig Permit FAQ

In what situations should a dig permit be submitted?

- Tent Installation (when stakes are used)
- Excavating
- Boring
- Post Hole Digging
- Installing Sign Posts
- Installing Fencing
- Any time the ground at WSU is going to be dug, bored, scratched, or otherwise disturbed in anyway.

Who owns underground utility locating equipment?

- Currently the following departments have equipment
 - Engineering and Construction
 - Physical Plant Grounds Department
 - CaTS Telecommunication Department

What is the time frame that a Dig Permit should be submitted?

- At least 72 business hours before the work is to take place.

Who should submit the Dig Permit?

- Whoever is performing the work. Be it an outside contractor, Physical Plant Employee, Grounds Employee, etc. The Dig Permit can also be submitted by the Project Manager.

Who is responsible for the Dig Permit being submitted?

- It is the Project Manager's responsibility along with the contractor/individual performing the work to make sure that a Dig Permit is submitted.

Who is responsible for contacting OUPS?

- Whoever is performing the work. Be it an outside contractor, Physical Plant Employee, Grounds Employee, etc.

Wright State University Dig Permit FAQ

What is the procedure for submitting a Dig Permit?

1. First the area of work needs to be marked in WHITE paint. This is a requirement of OUPS and WSU. Provide a drawing indicating the location of the excavation/boring with the dig permit.
2. Contact OUPS and record the confirmation number on the Dig Permit
3. Fill out the remainder of the Dig Permit – all areas of the form **MUST** be filled out
4. The Dig Permit is to be hand delivered to someone in the Engineering and Construction Department. Do not leave in a mail box or on someone's desk/chair. This could delay the process if that person is not in the office that day or is out for an extended period of time.

What happens once a Dig Permit is submitted?

- Once a dig permit is submitted it is handed over to David Kendrick and a map of the area is created.
- A copy of the permit and map is then faxed over to the CaTS Telecommunications Department so that they can review it for any telecommunication lines that may be in that area. CaTS has their own locating equipment and locates all of their own lines.
- The area is preliminarily checked to make sure that it is marked with white paint, if it is not the submitter of the permit is notified and told to mark the area in question. The 72 hour waiting period does not begin until the area has been marked.
- The area is checked for OUPS markings and the WSU utilities are marked by Engineering and Construction and CaTS. The Dig Permit is then signed and dated by Engineering & Construction and CaTS.
- The Permit is turned over to the Project Manager and work is allowed to proceed.



Engineering and Construction
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(937) 775-2587
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WRIGHT STATE UNIVERSITY

Excavation/Boring Permit

Permit #: _____

Permit Requested: Excavation Boring Other (ground rods, signposts, etc..)

Applicant Name: _____

Name and Title of Requestor: _____

Applicant Phone/Cell Phone: _____

Applicant Fax Number: _____

Applicant Address: _____

Project Name: _____

WSU Project Manager: _____

Description of Project: _____

Exact Location of Excavation: _____

O.U.P.S. Confirmation Number: _____ WSU Project Number: _____

Start date for proposed excavation work: _____

(Permit application shall be submitted a minimum of 72 hours prior to the start of the proposed excavation/boring.)

GENERAL PROVISIONS

1) This permitting process is designed to help prevent damage during excavation operations on the WSU campus. It is not intended to modify a project's drawings and specifications. Any discrepancies between items contained in the contract drawings and specifications and the general provisions of this permit shall be resolved in writing prior to the commencement of any excavation/boring work. **No excavation/boring work shall take place until this form has been submitted and approved in full by WSU.**

2) The Applicant shall review in detail the proposed area of excavation with Engineering and Construction (EC) and Computing and Telecommunications Services (CATS) prior to commencing any excavation work related to this project. The Applicant shall receive written approval of the area to be excavated from EC and CATS prior to starting any work via a signed copy of this permit. Any deviation, or changes encountered during excavation shall also require written approval by the EC and CATS. The applicant shall provide a drawing indicating the location of the excavation.

3) Boring procedures shall include line and grade control by a licensed surveyor or professional engineer. The procedures shall include verification and a summary of the work

Permit #: _____

performed by the licensed surveyor or professional engineer and shall be submitted to EC upon completion of the boring operation.

4) Upon completion of the excavation/boring project, as-built drawing of work performed shall be submitted to EC. These drawings shall include positional data (including elevation) for all items that were installed as part of the excavation project.

5) The Applicant shall clearly mark the boundary of the proposed excavation/boring site.

6) The Applicant shall take any and all precautions necessary to insure that the excavation/boring work shall not damage any existing underground facilities. Further, the Applicant shall hold WSU harmless for any and all claims that may arise from construction activities associated with this excavation/boring work.

APPLICANT CERTIFICATION

In requesting this permit the undersigned, representing the Applicant, certifies that he/she has read and understands all of the foregoing provisions; that he/she has authority to sign for and bind the Applicant; and that by virtue of his/her signature the Applicant is bound by all conditions set forth herein.

Printed/Typed Name	Signature	Title	Date
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UNIVERSITY APPROVALS

EC Approval: _____ Date Approved: _____ Time: _____

CATS Approval: _____ Date Approved: _____ Time: _____

Submit completed permit to Engineering and Construction Rm. 386 University Hall.



**SAFETY AND HEALTH RULES FOR CONTRACTORS
WRIGHT STATE UNIVERSITY (Dayton Area)
MARCH 2005 (REVISED)**

The following safety and health rules are to be complied with by all contractor working at all Wright State University locations in the Dayton area. These are general rules which do not necessarily address any specific federal, state, or local environmental or occupational safety and health code, regulation, and/or standard. It is the contractor's sole responsibility to be knowledgeable of applicable rules and regulations, whether federal, state, local or Wright State's, and to ensure compliance while conducting contractual work for Wright State University. These rules are applicable to all operating locations of Wright State University, except Lake Campus.

PRE-WORK MEETING

The university representative or project manager overseeing the contractor's work will hold a pre-work meeting with the contractor to review the following rules and to complete the written acknowledgement form (page 10). A representative of Environmental Health and Safety is to attend all pre-work meetings held by Physical Plant and Planning, Engineering and Construction. Environmental Health and Safety will attend the pre-work meetings of other departments, upon request (provided advance notice of the meeting is given). The project manager and Environmental Health and Safety are required to inform the contractor of any conditions or hazards in the area(s) in which they are to perform work. The project manager is also required to identify shelter areas to be used by contractor personnel in the event of severe weather.

TELEPHONE NUMBERS FOR REQUIRED NOTIFICATIONS AS STATED IN THIS DOCUMENT ARE LISTED ON PAGE 9.

CONTRACTORS:

PARKING

1. Will not park in roadways or pathways designated as "Access Routes" and "Fire Lanes". Most fire lanes are posted. Access routes and fire lane locations can be obtained from the Department of Planning, Engineering and Construction. Short term parking for loading and unloading of equipment and materials only is

permitted. The university department managing the project/work may approve parking in a fire lane for loading and unloading purposes. Contractor vehicles left in designated fire lanes will be subject to ticketing from either university Police or Parking & Transportation. Any questions concerning the location of fire lanes should be directed to Environmental Health and Safety or Planning, Engineering and Construction Management. The contractor must purchase parking permits for each vehicle or pay the fee in the visitor's parking lot or use metered parking slots. Parking & Transportation is located in E138 Student Union. Contractors are advised to contact Parking & Transportation regarding requirements for parking permits. Contractor vehicles left unattended in a designated fire lane will be subject to ticketing. When working on the Dayton (Main) Campus, the contractor must purchase a parking permit for each vehicle or pay the fee in the visitor's parking lot.

2. Will not park heavy vehicles or equipment directly over the main campus tunnel system. Will not cross tunnels with equipment or vehicles that exceed the weight limits posted by the university. Do not park heavy vehicles or equipment directly over curb boxes or underground storage tanks.
3. All contractor employees operating motor vehicles must possess a valid drivers license and wear seat belts while driving on university property.

(Axle Load Approximations for Tunnels on page 11)

(Axle Load for Tunnels: Drawing on page 12)

FIRE SAFETY

THE CONTRACTOR IS REFERRED TO PAGE 10 OF THIS DOCUMENT "WRITTEN ACKNOWLEDGEMENT" AS TO ASSUMED LIABILITY WITH REGARDS TO FIRE SAFETY.

1. Will egress university buildings upon hearing the fire alarm or receiving similar instructions over the public address system. The university department managing the project/work is responsible for identifying evacuation routes to contractor personnel and for notifying contractor personnel to egress the building when they are working in an area where the building fire alarm or public address system cannot be heard.
2. Will not use any internal combustion engines on the interior of any university building without the express approval of Environmental Health and Safety or Physical Plant's Casualty Prevention Supervisor.
3. Will not store gasoline or other flammable liquids in any university building unless stored in an approved flammable storage cabinet or container. The contractor should provide the project manager with a listing of chemicals and their quantities to be utilized on the project. Any questions regarding interior storage should be directed to Environmental Health and Safety or Physical Plant's Casualty Prevention Supervisor.

4. Will not use gasoline for prepping or clean up purposes inside of any university building. Other prepping or cleaning agents which are flammable must be approved by Environmental Health and Safety or Physical Plant's Casualty Prevention Supervisor before being used.
5. Will utilize electric heat gun for all heat shrink and terminations of electrical wiring when accomplished inside a building. Open torches will not be utilized for this purpose.
6. Will provide fire extinguishers where appropriate. The contractor will ensure that all their personnel are trained in the use of fire extinguishers.
7. Will place propane tanks on the outside of university buildings whenever possible. If not possible, then a regulator must be attached directly to the valve on the tank and protected from damage by a collar or other safeguard (OSHA requirement). Environmental Health and Safety or Physical Plant's Casualty Prevention Supervisor must approve any placement of propane tanks inside a university building.
8. Will not block open "fire doors" without the prior approval of Environmental Health and Safety or Physical Plant's Casualty Prevention Supervisor, who will in turn notify University Police. Any fire doors, for which approval has been granted to block open, must be closed during non-working hours or when left unattended for any length of time.
9. Will report all fires. On main campus, notify WSU Police Dept. Communications Center by dialing 2111, 911, or by use of designated emergency telephones located throughout the campus. At off-campus locations, notify the local fire department.
10. Will not place tools, equipment, or materials such as to block fire doors, fire alarms, exterior egress doors, fire hose connections, fire pumps, etc.
11. Will ensure that employees do not smoke in any interior location of a university building. This includes buildings occupied totally or in part by the contractor regardless of the work done, location of the work, or duration of the work. Aside from being a violation of university policy, it is unlawful in the State of Ohio to smoke on the interior of any state-owned or leased building.
12. The use of open flame heaters is prohibited in enclosed buildings at all times. The use of open flame heaters in opened structures is subject to the approval of Environmental Health & Safety, Physical Plant's Casualty Prevention Supervisor and/or the Fairborn Fire Department.

OCCUPATIONAL SAFETY AND HEALTH

All projects shall comply with Occupational Safety & Health Standard of Construction Industry (29 CFR Part 1926) latest edition. These regulations apply during construction and use. Some regulations will also apply to maintenance activities by the owner which include OSHA General Industry Provisions, fall protection and other features.

1. Must identify any chemical(s) to be used on campus, during the life of the project, to the university project manager prior to the start of work. This is to include paints, other surface coatings and finishes with the exception of latex paints. The project manager will review this listing with Environmental Health and Safety to establish controls (if needed) and to determine whether a Material Safety Data Sheet (MSDS) is needed.
2. Will inform the University Safety Officer [(937-775-2169)] and the project manager of any intent of bringing onto university property radioactive materials or radiation-generating equipment, including generally-licensed devices or equipment used for non-destructive testing. Notification must be made at least seven days in advance of the scheduled usage of said materials/equipment on university property. The materials or devices must comply with all relevant Ohio Department of Health rules, including licensure or registration, exposure control monitoring, security, and training. The contractor will supply any document requested by the Radiation Safety Officer demonstrating regulatory compliance, usage plans, and control measures.
3. Will inform the University Radiation Safety Officer [(937-775-2169)] and the project manager of any intent of bringing onto university property a Class IIIb or IV laser. Notification must be made at least seven days in advance of the scheduled usage of said equipment on university property. The laser system and its usage must fulfill the latest specification of American National Standard Institute Z136.1 and 29 CFR 1926.54.
4. Will implement lockout/tagout procedures where required. The university project manager overseeing the contractor's work will always be notified, in advance, of any lockout of electrical circuits or other sources of energy. The project manager must, in turn, notify the Physical Plant Supervisor of the maintenance zone where the work is to be conducted.
5. Will not shut down any electrical system or other utilities without the approval of Physical Plant and Planning, Engineering, and Construction Management. Notification of intent to shut-down a utility will be made by the contractor in writing to the university project manager. It is the responsibility of the project manager to notify and get the approval of appropriate Physical Plant and/or Planning, Engineering, and Construction Management personnel. Under normal work conditions, notification is required at least 2 workdays in advance for small

and limited outages and at least 5 working days for major outages. Under field and/or emergency conditions, immediate notification must be made. Any accidental interruption of a utility must be reported immediately to the university project manager.

6. Electrical rooms/vaults and breaker panels will be secured when unattended. Electrical rooms and vaults will not be used for storage purposes during the life of the project.
7. Will utilize Ground Fault Circuit Interrupters (GFCI) where required by the National Electric Code or where prudent practice would deem their use appropriate.
8. Will not utilize any powder (.22 or other caliber blank cartridge) actuated tools without approval from the university project manager.
9. Will possess welding permits, where applicable. For all work other than the construction of new buildings, it is required that Environmental Health and Safety be notified of all locations where welding is to take place. An observer with an appropriate fire extinguisher is required for all welding operations. The observer will not leave the area until there is no longer a risk of a fire.
10. Will contact WSU Physical Plant and Planning, Engineering and Construction Management at least 48 hours in advance of any digging, excavation, trenching, drilling, driving posts, or any other type of earth disruption. Each contractor is also required to call the Ohio Utilities Protection Service at 1-800-362-2764 to clear all other privately owned utilities. In some cases, the City of Fairborn will have to be notified to clear their utilities in the area.
11. Will cordon off and post all work areas, as necessary, to protect contractor personnel and the general public. The university department overseeing the project/work or Environmental Health and Safety may, at their discretion, require an area to be cordon and posted. Posting will meet the requirement of OSHA. Contractor will notify the university project manager of problems with the public ignoring notices of restrictive entry into the construction or work area. Only employees of the contractor(s), authorized university personnel, and local, state and federal regulatory inspectors will be permitted within the work area and only when wearing appropriate protective equipment
12. Will provide fall protection meeting OSHA requirements whenever employees are working at elevated levels requiring fall protection. Toe boards will be installed on all elevated work, where appropriate. Utilization of the fall protection systems installed on the Nutter Center corporate boxes and merchandise booths, ring roof of the Nutter Center, the water tower access ladder is mandatory whenever employees are working on these platforms.

In the design of new projects, consideration should be given to the permanent installment of anchorage devices or other means, which meet the intent of the current OSHA

safety requirements. Of particular interest is Subpart M – Fall Protection. Requirements may apply to construction or maintenance of roof, wall, walkway, windows and other work areas where free fall distance is six (6) feet or more.

13. Will ensure that workers do not participate in horseplay or other unsafe acts (running, fighting, throwing items, etc.).
14. Will report all personal workplace injuries or illnesses to the project manager who, in turn, must report the incident to Environmental Health and Safety. Assistance for serious injuries or injuries can be obtained by calling WSU Police Dept. Communications Center at 775-2111, 911 or use of the main campus emergency telephones.
15. Will ensure that their workers do not possess or use any intoxicating liquors or drugs while working under contract with the university. Firearms or other weapons are prohibited on campus.
16. Will ensure all vehicle operators utilize seat belts while driving on campus.
17. Must provide all required equipment, tools, and protective equipment and clothing needed to accomplish the work. Contractors will not be permitted to utilize university equipment and tools. Exception to this rule may be allowed in emergency or other special situations with the approval of the university department managing the work. Approval for use of university lifts, forklifts, scaffolding, cranes, etc. may be given by the project manager provided that Environmental Health and Safety are permitted to review the contractor's qualifications. Only qualified trained employees will be authorized to operate equipment. Contractor must provide proof of employee training when requested by Environmental Health & Safety or the department managing the work.
18. Will ensure that all forklift operators have met the training requirement of the revised OSHA powered industrial truck standard (29 CFR 1910.178) and that they operate said equipment in a safe and responsible manner at all times. Gasoline powered forklift are prohibited from use in any university building or the tunnel system. Approval may be given for propane operated units following Environmental Health and Safety's review of the intended use.
19. Will not enter or conduct any activity in a permit required confined-space without prior approval of Environmental Health and Safety. Contractor personnel must have documentation of complete compliance with OSHA Standard 29 CFR 1910.146 prior to being contracted with to do work in a permit required confined space. When required, the contractor will furnish qualified rescue personnel and equipment either on-site or having timely response capabilities meeting the intent of the regulation. The following areas are considered permit required confine-space at all university locations.

All components of the sanitary sewer system.
All underground storm drainage systems.
All vessels, storage tanks, etc. which have the capability for entry.
All valve pits, sump pump pits, acid neutralization pits and brine pits.
All other areas so identified.

ENVIRONMENTAL QUALITY

1. Must report all chemical, infectious, radiological, and/or other regulated wastes to Environmental Health and Safety. All such waste must be removed from the university properly containerized, labeled, manifested, and disposed of in compliance with applicable environmental regulations. A copy of the waste manifest will be provided to Environmental Health and Safety. Non-regulated waste cannot be disposed of in university waste containers unless such usage is approved in the Statement of Work.

SECURITY

1. Will secure work areas to prevent unauthorized entry during non-working hours.
2. Will report all thefts or damages to equipment as soon as possible to WSU Police Dept. at 775-2111.
3. Will report all accidental damages to Wright State's equipment, piping, wiring, or other property to the project manager in a timely manner.

ASBESTOS

1. Will not initiate work in the buildings or areas listed below in item 2 without an on-site evaluation and the express approval of one of the following university employees.
There will be no exception to this rule.

(primary) Ron Hamilton, Industrial Hygienist 129 Allyn Hall
Environmental Health and Safety 775-3810

(secondary) Terri Dearbaugh, Sr. Industrial Hygienist 129 Allyn Hall
Environmental Health and Safety 775-2797

2. The following university buildings contain asbestos containing materials either in the form of structural spray (fire-proofing), thermal insulation on water and steam

lines, pressure vessels, etc., and other materials (floor tiles, ceiling tiles, wallboards, etc.):

Structural Spray Kettering Center (downtown Dayton) - all floor levels

Thermal Insulation & Biological Sciences I & II Medical Sciences

Other Materials: Brehm Lab Millett Hall

Cox Institute Oelman Hall

Creative Arts Center Physical Education/Univ. Center

Dwyer Hall (Lake Campus) sections of Student Union

Fawcett Hall Rockafield House

Hazardous Storage Service Building (old section)

Hot Water/Chill Water/ Telecommunication

Stream Lines - Tunnel Areas Transportation/Water Treatment

3. If the contractor encounters what he suspects to be asbestos-containing materials, he will immediately stop work in that area and notify the lead contractor and the university project manager. The project manager will contact the Department of Environmental Health & Safety who, in turn, will investigate and if necessary analyze the suspected materials. The Department of Environmental Health & Safety will notify the contractor and project manager of their determination of the material and if it is safe to continue work or what abatement procedures are to be followed.

LABORATORIES

The university has the legal obligation to inform contractors of hazardous conditions in contracted work areas and to remove or control these hazards while the contractor is working in the affected area. Additionally, the university must also protect the academic and research activities on-going within our laboratories and preserve regulatory approval to conduct such activities. AS SUCH, CONTRACTORS WILL NOT BE PERMITTED TO CONDUCT ANY ACTIVITY WITHIN A LABORATORY WITHOUT THE PRIOR COORDINATION OF THE PROJECT MANAGER WITH THE LABORATORY SUPERVISOR. EHS WILL ASSIST, AS NECESSARY.

MEDIA EQUIPMENT AND SYSTEMS

Most campus learning spaces (classrooms, lecture halls, etc.) have various types of media equipment, portable and installed within the room. Equipment also may be located in meeting and conference rooms, gyms, the arena, or any other public gathering space. Media equipment can be easily damaged by dust and debris of any type of construction work. **All contractors are required to contact the Center for Teaching and Learning (023 Dunbar Library, extension**

3162) at least three working days before beginning any type of work in area containing media equipment. The contractor is required, under the direction of the Center for Teaching and Learning, for providing and installing protective covering for any and all permanently installed media equipment in a construction area. The Center for Teaching and Learning will also locate and identify audio and video cables within walls and above ceiling at the request of the contractor.

TELECOMMUNICATIONS CLOSETS

Computing and Telecom Services (CaTS) has a number of Telecommunication Closets in each building on campus. These rooms **will not** be accessed by any contractor for any reason without an employee of CaTS present. In the event of an emergency after hours, the contractor must contact Public Safety, who will in turn contact CaTS. If a contractor enters a telecommunication closet **without** prior approval from CaTS, they will be responsible for any damage or time lost to the networking community. While working in these facilities, the contractor will be **responsible** for protection of all equipment contained in these environments and for returning the closet and equipment to its prior condition. All work performed must meet all current national, state, local and university codes and requirements. Storage of construction materials, tools or trash within these facilities even for a short duration will be prohibited. Any materials found will be immediately removed at the contractor's expense.

If access is required into a closet, call **775-4200**, at least one working day prior to the day that access is required to obtain permission for access.

TELEPHONE NUMBERS

- POLICE DEPT / WSU (OR USE EMERGENCY TELEPHONES).....775-2111, 911**
- FACILITIES PLANNING AND MANAGEMENT775-2587**
- ENVIRONMENTAL HEALTH AND SAFETY.....775-2215**
- FACILITIES PLANNING, ENGINEERING AND CONSTRUCTION
MANAGEMENT.....775-4140**
- PHYSICAL PLANT ADMINISTRATION.....775-4145**
- PHYSICAL PLANT CUSTOMER SERVICE CENTER.....775-4444**
- PURCHASING.....775-2411**
- PARKING & TRANSPORTATION.....775-5690**
- OHIO UTILITIES PROTECTION AGENCY.....1-800-362-2764**

FOLLOWING IS A WRITTEN ACKNOWLEDGEMENT THAT THE CONTRACTOR MUST READ AND SIGN. THE PROJECT MANAGER WILL SERVE AS A WITNESS TO THE SIGNING. A COPY OF THE SIGNED ACKNOWLEDGEMENT WILL BE FORWARDED BY THE PROJECT MANAGER TO ENVIRONMENTAL HEALTH AND SAFETY, 129 ALLYN HALL PRIOR TO THE START OF WORK.

ACKNOWLEDGEMENT

I acknowledge that I have read and understand Wright State University's Safety and Health Rules. I further acknowledge that all employees of my firm and of any of my sub-contractors will be briefed on these rules and will be required to comply while working on Wright State University property. The rules obtained within this document are local rules and compliance thereof does not relieve us or our sub-contractors of our responsibility to comply with all federal, state, and other local regulatory requirements.

BY SIGNING THIS ACKNOWLEDGEMENT, YOU ARE INDICATING THAT YOUR COMPANY HAS THE FINANCIAL RESOURCES TO REBUILD THIS FACILITY OR ANY PORTION THEREOF DESTROYED IN A FIRE CAUSED BY SMOKING OR THE MISUSE OF EQUIPMENT ON THE PART OF YOUR EMPLOYEES.

Project Title:

Location of Work:

Starting Date: _____

Name and Address of Firm

Print Name of Company Representative

Signature Date

Witness: _____

Print Name of University Project Manager

Date Signature

PLEASE FORWARD A COPY OF THE COMPLETED ACKNOWLEDGEMENT TO ENVIRONMENTAL HEALTH AND SAFETY AT 129 ALLYN HALL

Axle Load Approximation for Tunnels

All information, calculations, etc. from Paul J. Ford Structural Engineers, Columbus, OH.
February 2003

In order to execute the following calculations, you will need to know two pieces of information about the vehicle in question: the gross vehicle weight (i.e., the weight of the vehicle plus the contents); and, the number of axles.

For vehicles with two axles: Axle load = Gross Vehicle Weight x (0.40)

**For vehicles with more than two axles: Axle Load = Gross Vehicle Weight
(number of axles – 1) x (2)**

This approximation does not apply to vehicles on tracks such as dozers or certain mobile cranes. Those situations must be analyzed for the specific equipment and load.

The Paul J. Ford (PJF) analysis is based on the information provided on the tunnel cross-sections the university provided. PJF assumed a concrete compressive strength of 4,000 psi and a yield strength of 60,000 psi for the reinforcing steel. PJF also assumed that the tunnels lie approximately 12 inches beneath the roadways. Based upon structural analysis of the tunnel cross sections, PJF has concluded that:

- 1.) The tunnels at locations **#1, #2, #3, #4, #5, #6, and #7** can safely support a highway loading of “**HS-20**” as defined by **AASHTO**, with a maximum axle load of **16,000** lbs.
- 2.) The tunnel at location **#8** can safely support a highway load of “**HS-15**” as defined by **AASHTO**, with a maximum axle load of **12,000** lbs.
- 3.) The tunnel at location **#9** is the weakest of all locations. The tunnel can safely support a live load of only **100** pounds per square foot or a maximum axle load of only **3,000** lbs. (*As of Sept. 2003, this area has been posted with signs and blockaded with bumper blocks*)

PJF conclusions are based upon the observation that the tunnels are in good physical condition and the assumption that they were built in accordance with the drawings.

AXLE LOAD APPROXIMATIONS FOR TUNNELS

N.T.S.

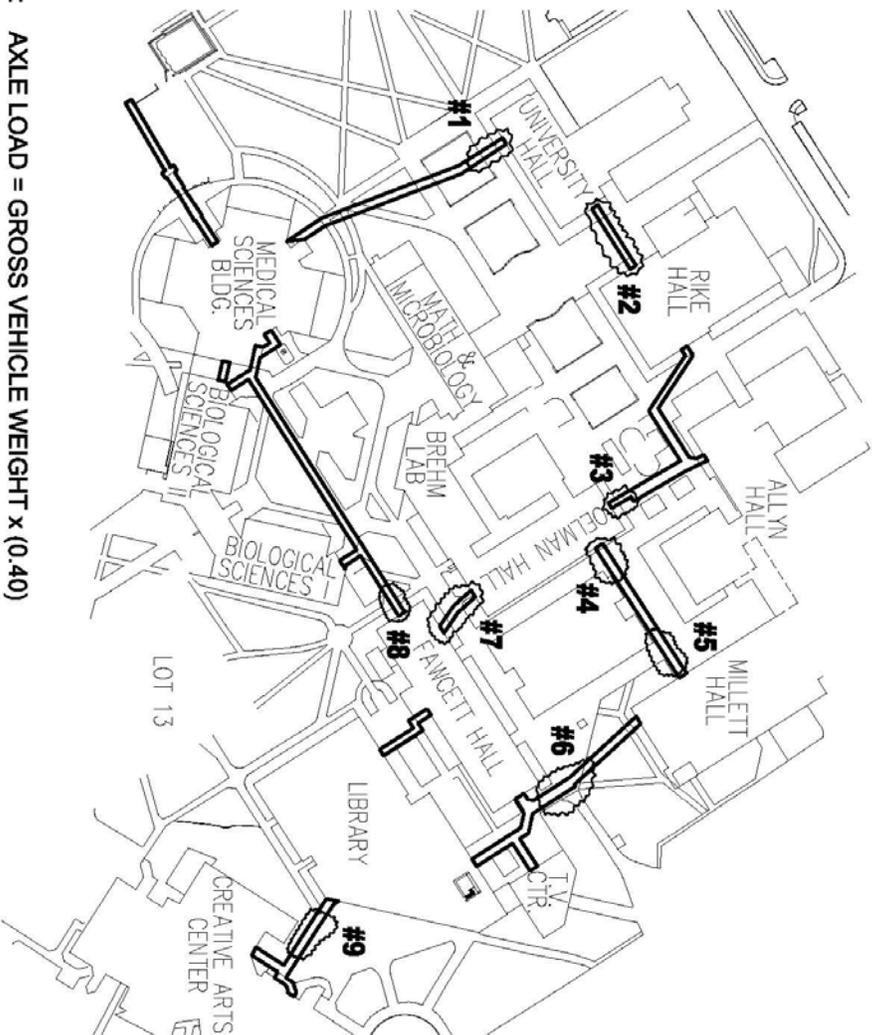
LOCATIONS:

#1, #2, #3, #4,

#5, #6, #7 = 16,000 LBS.

#8 = 12,000 LBS.

#9 = 3,000 LBS.



FOR VEHICLES WITH TWO AXLES: AXLE LOAD = GROSS VEHICLE WEIGHT x (0.40)

FOR VEHICLES WITH MORE THAN TWO AXLES: AXLE LOAD = $\frac{\text{GROSS VEHICLE WEIGHT}}{\text{NUMBER OF AXLES} - 1} \times 2$

FOR VEHICLES WITH TRACKS: CONTACT P.E.C. DEPT. FOR A DETERMINATION OF LOAD.

*SEE ALSO, "AXLE LOAD APPROXIMATION FOR TUNNELS" DOCUMENT.

Hot Work Permit Program

I. Introduction

The hazards associated with hot work operations (cutting, welding, brazing, open flame, torch application, soldering, grinding, etc.) have resulted in some of the largest industrial fires in the U.S. A Hot Work Permit System will be used when hot work operations must be performed outside designated areas. The following guidelines were prepared to assist you in your efforts to control these hazards.

These guidelines should be followed by both Plant employees and contractors during all hot work operations, except for those areas specifically designated for such work such as a welding shop located in a maintenance area or construction areas in unoccupied buildings. A designated University employee should be assigned to inspect the area where hot work operations will be performed before a hot work permit tag is issued. Precautions to be followed before, during and after hot work operations have been completed and are listed in the following guidelines.

All personnel directly involved in the use of and supervision of equipment that is utilized in hot work should be familiar with the equipment, the hazards of working with the equipment and the actions required to prevent and extinguish fires when and if they occur.

All personnel directly affected by this program should be instructed in the programs' contents and the necessary actions required before starting any hot work operations. Documentation of training should be retained in the personnel files of each individual instructed in this program, as well as a master listing of trained personnel to be retained with the master copy of this program.

II. Definitions

- a. Hot Work Operation: Any cutting, welding, brazing and soldering, open flame, torch applications, grinding, etc.
- b. Welder and welding operator should mean any operator of electric or gas welding and cutting equipment.
- c. Approved means listed or approved by a nationally recognized testing laboratory such as Underwriters Laboratories.

III. General Requirements

- A. Fire Prevention and Protection – (1) Basic Precautions
For elaboration of these basic precautions and of the special precautions of this section as well as a delineation of the fire protection and prevention responsibilities of welders and

cutters, their supervisors (including outside contractors) and those in management on whose property cutting and welding is to be performed, see Standard for Fire Prevention in Use of Cutting and Welding Processes, NFPA Standard 51B, (1989 edition). The basic precautions for fire prevention in welding or cutting work are:

1. Fire Hazards

If the object to be welded or cut cannot be moved, all moveable fire hazards in the vicinity should be taken to a safe place away from the area (at least 35-ft.).

2. Guards/Welding Blankets

If the object to be welded or cut cannot be moved and all the fire hazards cannot be moved, then guards shall be used to confine the heat, sparks, slag and to protect the immovable fire hazards. Approved welding blankets should be used to cover combustible materials.

3. Automatic Sprinkler Protection

If hot work operations are to be conducted in a building protected by automatic sprinklers, it should be verified the sprinkler system is in-service prior to conducting any hot work operations.

4. Restrictions

If the requirements listed above cannot be followed, then welding and cutting should not be performed.

B. Special Precautions

When the nature of the work to be performed falls within the scope of this section, certain additional precautions may be necessary.

1. Combustible Material

Whenever there are floor openings or cracks in the flooring that cannot be closed, precautions shall be taken so that no combustible materials on the floor below will be exposed to sparks, which might drop through the floor. The same precautions shall be observed with regard to cracks or holes in walls, open doorways and open or broken windows.

2. Fire Extinguishers

Suitable fire extinguishing equipment shall be maintained in a state of readiness for instant use. Such equipment may consist of pails of water, buckets of sand, hose or portable extinguishers depending upon the nature and quantity of combustible material exposed.

3. Fire Watch

- a. Fire watchers should be required whenever welding or cutting is performed in locations where other than minor fire might develop, or any of the following conditions exist:

1. Appreciable combustible material in building construction or contents, or closer than 35 ft. away, but are easily ignited by sparks.
 2. Appreciable combustibles are more than 35 ft. away, but are easily ignited by sparks.
 3. Wall or floor openings within a 35-ft. radius expose combustible materials in adjacent areas including concealed spaces in walls or floors.
 4. Combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings, or rooftops and are likely to be ignited by conduction or radiation.
- b. Fire watchers should have fire-extinguishing equipment readily available and be trained in its use. They should be familiar with facilities for sounding an alarm in the event of fire. They should watch for fires in all exposed areas, try to extinguish them only when obviously within the capacity to the equipment available, or otherwise, sound the alarm. A fire watch shall be maintained for at least one hour after completion of welding or cutting operations to detect and extinguish possible smoldering fires. In addition, hourly rounds should be made up to four hours following hot work operations.
- c. **Authorization**
Before welding or cutting is permitted, the individual responsible for authorizing welding and cutting operations should inspect the area. He should designate precautions to be followed in granting authorizations to proceed in the form of a written permit.
- d. **Floors**
Where combustible materials such as paper clippings, wood shavings, or textile fibers are on the floor, the floor should be swept clean for a radius of 35 ft. Combustible floors should be kept wet, covered with damp sand or protected by welding blankets. Where floors have been wet down, personnel operating arc welding or cutting equipment should be protected from shock.
- e. **Prohibited Areas**
Cutting or welding should not be permitted in the following situations:
1. In areas not authorized by management.
 2. In sprinklered buildings while such protection is impaired.
 3. In the presence of explosive atmospheres (mixtures of flammable gases, vapors, liquids or dust with air), or explosive atmospheres that may develop inside uncleaned or improperly prepared tanks or equipment which have previously contained such materials, or that may develop in areas with an accumulation of combustible dusts.
 4. In areas near the storage of large quantities of exposed, readily ignitable materials such as bulk sulfur, baled paper or cotton.
- f. **Relocation of Combustibles**

Where practicable, all combustibles should be relocated at least 35 ft. from the work site. Where relocation is impracticable, combustibles shall be protected with flameproof covers or otherwise shielded with metal or non-asbestos guards or curtains.

g. Ducts

Ducts and conveyor systems that might carry sparks to distant combustibles should be suitably protected or shut down.

h. Combustible Walls

Where cutting or welding is done near walls, partitions, ceiling or roof of combustible construction, approved welding blankets should be provided to prevent ignition.

i. Noncombustible Walls

If welding is to be done on a metal wall, partition, ceiling or roof, precautions should be taken to prevent ignition of combustibles on the other side, due to conduction or radiation, preferable by relocating combustibles. Where combustibles are not relocated, a fire watch on the opposite side from the work should be provided.

j. Combustible Cover

Welding should not be attempted on a metal partition, wall, ceiling or roof having a combustible covering nor on walls or partitions of combustible sandwich-type panel construction.

- k. Pipe Cutting or Welding** on pipes or other metal in contact with combustible walls, partitions, ceilings or roofs shall not be undertaken if the work is close enough to cause ignition by conduction.

C. Management

Management should recognize its responsibility for the safe usage of cutting and welding equipment on its property and:

1. Based on fire potentials of facilities, establish areas for cutting and welding, establish procedures for cutting and welding in other areas.
2. Designate an individual responsible for authorizing cutting and welding operations in areas not specifically designed for such processes.
3. Insist that cutters or welders and their supervisors be suitably trained in the safe operation of their equipment and the safe use of the process.
4. Advise all contractors about flammable materials or hazardous conditions of which they may not be aware.

D. Supervisor

The supervisor:

1. Will be responsible for the safe handling and maintenance of cutting, welding or other hot work equipment and the safe use of such equipment.
2. Will determine the combustible materials and hazardous areas present or likely to be present in the work location.
3. Will protect combustibles from ignition by the following:
 - a. Have the work moved to a location free from dangerous combustibles.
 - b. If work cannot be moved, have the combustibles moved to a safe distance from the work or have the combustibles properly shielded against ignition.
 - c. See that cutting and welding are so scheduled that operations that might expose combustibles to ignition are not started during cutting or welding.
4. Should secure authorization for the cutting or welding operations from the designated management representative.
5. Should determine that the cutter or welder secures his approval that conditions are safe before going ahead.
6. Should determine that fire protection and extinguishing equipment are properly located at the site.
7. Where fire watchers are required, he shall see that they are available at the site.

E. Fire Prevention Precautions

Cutting or welding shall be permitted only in areas that are or have been made fire safe. When work cannot be moved practically, as in most construction work, the area shall be made safe by removing combustibles or protecting combustibles from ignition sources.

IV. Specific Requirements

A. Permits

Permits should be issued to the individual performing the actual cutting or welding operation only.

B. Permits should not be approved for any length of time exceeding the normal shift hours of the welder or cutting except:

1. When welding or cutting operations is planned to be continued into the next shift when the same welder or cutter is operating.
2. When emergency repair work warrants the continued operation of cutting and/or welding into the next shift.

C. No permit shall be authorized to be in effect for any length over twenty-four continuous hours.

- D. Permits should be designed and administered by Allan Smith at 775-4560 or the owners designated representative.
- E. Permits should be issued and logged on a job-to-job basis. No permits should be issued for general work in any location. Each specific job shall be issued a separate permit.
- F. Logs will be maintained to record the issue and retraction of hot work permits. The log should be kept in such a manner as to identify each permit issued, the time of issue, time of completion, work area and other necessary information as required.
- G. Once issued, the permit shall be posted in a conspicuous location near the work site so that it may be observed during welding or cutting operations.

H. Authorization

1. Authorization should not be given for hot work operations until all safety precautions and requirements listed on the permit are met. Under no circumstances is a permit to be issued sight unseen. The authorizing agent prior to authorization must conduct an inspection of the work site.
2. Authorization should not be granted for hot work operations if:
 - a. The welder or cutter is not properly trained in welding or cutting operations.
 - b. Fire watch is not identified and present at work site.
 - c. If welding or cutting equipment is not in proper operating condition and free from defect or damage.
 - d. If the authorizing individual feels that the operation may jeopardize the safety and welfare of workers, residents and guests in the vicinity of the work.
3. Welding or cutting operations without authorization should be permitted only in designated welding areas designed for that purpose (i.e., maintenance shop).
4. All other areas will require the use of a hot work permit, issued and signed by competent authority prior to the start of any hot work.