

SECTION 01 5000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.
- B. Temporary utilities include, but are not limited to, the following:
 - 1. Drainage.
 - 2. Water Service and distribution.
 - 3. Sanitary facilities, including toilets, wash facilities, and drinking-water facilities.
 - 4. Heating and cooling facilities.
 - 5. Ventilation.
 - 6. Electric power service.
 - 7. Lighting.
- C. Support facilities include, but are not limited to, the following:
 - 1. Temporary roads and paving.
 - 2. De-watering facilities and drains.
 - 3. Project identification and temporary signs.
 - 4. Waste disposal facilities.
 - 5. Field offices.
 - 6. Storage and fabrication sheds.
 - 7. Lifts and hoists.
 - 8. Temporary stairs.
 - 9. Staging areas.
 - 10. Construction aids and miscellaneous services and facilities.
- D. Security and protection facilities include, but are not limited to, the following:
 - 1. Environmental protection.
 - 2. Stormwater control.
 - 3. Tree and plant protection.
 - 4. Pest Control.
 - 5. Site enclosure fence.
 - 6. Security enclosure and lockup.
 - 7. Barricades, warning signs, and lights.
 - 8. Covered walkways.
 - 9. Temporary enclosures.
 - 10. Temporary partitions.
 - 11. Fire protection.
- E. The Contractor must provide, maintain and remove required temporary facilities necessary to perform his own construction activities.
- F. Related Sections: The following sections contain requirements that relate to this section:
 - 1. Section 01 5100: Temporary Utilities for procedures regarding temporary power and lighting.
- G. Accessible Temporary Egress: Comply with applicable provisions in ICC/ANSI A117.1.

1.2 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:
 - 1. Building code requirements.
 - 2. Health and safety regulations.
 - 3. Utility company regulations.
 - 4. Police, fire department, and rescue squad rules.
 - 5. Environmental protection regulations.
- B. Standards: Comply with NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Mechanical Design Library "Temporary Mechanical Facilities."
 - 1. Mechanical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70 "National Electric Code."
- C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.3 PROJECT CONDITIONS

- A. Temporary Utilities: Prepare a schedule indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of permanent service.
- B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-preventive measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist onsite.

1.4 DIVISION OF RESPONSIBILITIES

- A. General: These Specifications assign The Contractor specific responsibilities for certain temporary facilities used by other Prime Contractors and other entities at the site.
- B. The Contractor is responsible for the following:
 - 1. Installation, operation, maintenance and removal of each temporary facility considered as its own normal construction activity, as well as the costs and use charges except as listed below.
 - 2. Plug-in electric power cords and extension cords, supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.
 - 3. Its own storage and fabrication sheds.
 - 4. Hoisting requirements, including hoisting loads in excess of 2 tons, hoisting material or equipment into spaces below grade, and hoisting requirements outside the building enclosure.
 - 5. Collection and disposal of its own hazardous, dangerous, unsanitary, or other harmful waste material.
 - 6. Secure lock-up of its own tools, materials and equipment.
 - 7. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.
 - 8. Maintaining temporary facilities provided by said Prime Contractor.

9. Complying with the regulations of the Commissioner of Education - 8 NYCRR 155.5 - Uniform Safety Standards for School Construction and Maintenance Projects specified in Division 1 Section "Summary of Work - Multiple Contracts."

1.5 USE CHARGES

- A. General: Cost or use charges for temporary facilities are not chargeable to Owner, Architect or Owner and shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, the following:
 1. The Owner.
 2. Other Contractors.
 3. Owners construction forces.
 4. Occupants of Project.
 5. Architect.
 6. Testing Agencies.
 7. Personnel of authorities having jurisdiction.
- B. Water Service: Use water from the Owner's existing water system without metering and without payment of use charges. Access to water shall be approved by the Owner.
- C. Electric Power Service: Temporary electric power including set-up and maintenance is the responsibility of **The Contractor**.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide new materials. If acceptable to the Architect, the Contractor may use undamaged, previously used materials in serviceable condition. Provide materials suitable for use intended.
- B. Lumber and Plywood: Comply with requirements in Division 6 Section "Rough Carpentry."
 1. For job-built temporary offices, shops, and sheds within the construction area, provide UL-labeled, fire-treated lumber and plywood for framing, sheathing, and siding.
 2. For signs and directory boards, provide exterior-type, Grade B-B high density concrete form overlay plywood of sizes and thicknesses indicated.
 3. For vision barriers, provide minimum 3/8-inch-thick exterior plywood.
 4. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch-thick exterior plywood.
- C. Paint: Comply with requirements of Division 9 Section "Painting."
 1. Paint surfaces exposed to view from Owner occupied areas.
- D. Tarpaulins: Provide waterproof, fire-resistant, UL-labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins minimum 6 mil thickness.
- E. Water: Provide potable water approved by local health authorities.
- F. Open-Mesh Chain Link Fencing: Provide 0.120-inch-thick, galvanized steel posts, and 2.875" dia. Gate posts. Provide lockable gates. Furnish keys to the Owner, Architect, Architect's Site Representative and necessary construction personnel.

2.2 EQUIPMENT

- A. General: Provide new equipment. If acceptable to the Architect, the Contractor may use undamaged, previously used equipment in serviceable condition. Provide equipment suitable for use intended.
- B. Water Hoses: Provide 3/4-inch, heavy-duty, abrasion-resistant, flexible rubber hoses 100 feet long, with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge.
- C. Mechanical Outlets: Per Section 01 5100.
- D. Mechanical Power Cords: Per Section 01 5100.
- E. Fire Extinguishers: Provide hand-carried, portable, UL-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, UL-rated, Class ABC, dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for the exposures.
- F. 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

PART 3 - EXECUTION

3.1 INSTALLATION GENERAL

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the work. Relocate and modify facilities as required.
- B. The Contractor shall provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the work. Relocate and modify facilities as required.
- B. The Contractor shall provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

3.3 CONTRACTOR FIELD OFFICES

- A. All prime contractors and subcontractors may with permission from the architect and/or construction manager establish a field office for their own use. Said offices for the individual prime contractors, sub contractors, specialty contractors and the like shall be of such size and design as approved by the owner and architect and shall be located in the Owners fenced staging area at the Middle School entrance. Each representative contractor will arrange for

telephone service and electric service, if required, directly with the utility company. (No field offices or storage trailers will be allowed by the buildings.)

- B. Maintain, in the contractor's field office, all articles for First Aid treatment; further, the contractor shall establish standing arrangements for the immediate removal and hospital treatment of any employees and other persons on the job site who may be injured or who may become ill during the course work.

3.4 TEMPORARY AND PERMANENT SERVICES, GENERAL

- A. The Contractor's use of any permanent system or service of the building or portions thereof shall be subject to the Owners approval.
- B. The Contractor shall be responsible for any and all damage to permanent services used, and shall make good any and all damage to the satisfaction of the owner, prior to final completion and acceptance.
- C. **NOTE** - In accordance with OSHA and other applicable regulations, the representative Contractors performing erection of structural steel, precast concrete and such other "skeleton" type work are solely responsible for the netting, guard rail protection and such other safety devices as deemed necessary to protect the workers and public from harm. TEMPORARY LIGHT AND POWER

3.5 3.7 TEMPORARY HEATING FACILITIES

- A. The **Mechanical Work Contractor (Contract #1)** is responsible for:
- B. Maintain 60-degree temperature in all areas via permanent or temporary systems. Provide permanent or temporary power for mechanical contractor's HVAC units for temporary heating or cooling. Temperature control shall be maintain during work hours, after hours and weekends and holidays.
- C. For all new work, the Contractor shall provide and pay for all temporary heating / cooling / dehumidification, coverings and enclosures necessary to properly protect all work and materials against damage by humidity, dampness and cold, to dry out the work and to facilitate the completion thereof.
- D. The fuel, equipment, materials, operating personnel and methods used therefore shall be at all times satisfactory to the Architect and adequate for the purpose intended.
- E. The Contractor shall maintain the critical installation temperatures provided in the technical provisions of the specifications herein for all work in those areas where same is being performed.
- F. The maintenance of proper heating, ventilation and adequate drying out of the work is the responsibility of the Contractor and any work damaged by dampness, insufficient or abnormal heating shall be replaced to the satisfaction of the Owner by and at the sole expense of the Contractor.
- G. Before and during the placing of ceiling finish and the application of other interior finishing, varnishing, painting, etc. and until final acceptance by the Owner of all work covered by the Contract, the Contractor shall, unless otherwise specified in the Contract Documents, maintain

a temperature of between 55 and 65 degrees F. Coordinate with Division 9 of the Technical Specifications.

- H. Use of the permanent system, if granted, shall not shorten, or negate, any equipment, or system guarantees required under this contract. Two additional filter changes are to be provided. A program of use, maintenance and restoration will be submitted with request for use of systems for temporary services.

3.6 TEMPORARY TOILET FACILITIES

- A. The Owner shall provide suitable toilet facilities at approved locations complying with all state and local requirements.

3.7 TEMPORARY WATER

- A. The **Mechanical Work Contractor (Contract #1)** shall:
 1. Provide and maintain a temporary water system of size and capacity as required below to supply the needs of the work.
 2. Provide and pay for all connections and permits.
 3. Install such temporary water system so that service shall be available at the commencement of the work. The permanent water risers and lines may be used for temporary water supply. The permanent services shall be turned over to the Owner in perfect condition. Any repairs required due to temporary use shall be made at the sole expense of the plumbing contractor.
 4. Protect temporary and permanent lines against any damage.
 5. Remove all temporary lines when directed by the Owner when such lines are no longer required.
- B. All Contractors shall:
 1. Provide all hose and other extensions from connections installed by the Plumbing Contractor and all labor, materials and supplies required to supply water to the work.
 2. Prevent water damage to the work.

3.8 STORAGE FACILITIES

- A. The Contractor and each subcontractor shall provide temporary storage shanties, tool houses and other facilities as required for own use. Temporary structures shall be located at the fenced staging area, and shall be removed upon completion of the work or when directed.
- B. Materials delivered to the site shall be safely stored and adequately protected against loss or damage. Particular care shall be taken to protect and cover materials that are liable to be damaged by the elements.
- C. Due to limited on site storage space, The Contractor shall coordinate delivery of his materials with the Owner who will determine when large deliveries shall be made and shall be designate storage locations on site for delivered materials. All stored materials must be stored in locked, watertight trailers, paid for by The Contractor.

3.9 SCAFFOLDING AND STAGING

- A. All scaffold, staging and appurtenances thereto shall comply in total to the requirements of Safety and Health Regulations for Construction Chapter XVII of OSHA, Part 1926 and all related amendments.

3.10 ROOF PROTECTION

- A. During the construction period, the all Contractors shall take strict precautions against unnecessary traffic on the roofing surface.
- B. All Contractors shall provide temporary protection on the roof surface when it is necessary for work to take place on completed sections.
- C. Upon such notification as required in subparagraph A, the Contractor shall assume responsibility for damages, if any, to the roofing system caused by the work of other trades, except that financial liability for any and all damages rests with the offending trade.

3.11 RUBBISH CONTAINER

- A. Each contractor shall provide suitable rubbish container device(s) for his own use (both demolition and construction debris), properly maintained and serviced, replaced as required and protected from access by the public fencing as may be specified herein or approved by the Architect or Owner.
- B. Each Contractor and Subcontractor shall sweep up and gather together daily all his own rubbish and removed materials and place same in containers.
- C. During the school year (September 1 – June 25) all dumpsters must be located in the Owner's fenced staging area by the Middle School entrance. (No dumpsters permitted outside school.) Contractors will transport debris to the dumpster via lull, dump truck, etc.

3.12 CONSTRUCTION FENCING

- A. Construction fencing shall be provided by the owner, enclosing all work and storage areas.
- B. Site access gates shall be provided as required, complete with all operating hardware and security devices.
- C. Should fencing be required to be relocated or modified during the course of the project due to additional access needed by the contractor, same shall be done at the total expense of the contractor.
- D. The construction fence shall be maintained in good order by all contractors throughout the life of the project.
- E. Note: Should any contractor damage or cause the need for repair to the construction fence, all costs involved with said repair will be back-charged to the contractor creating the need for repair.

3.13 JANITORIAL SERVICE/DAILY CLEANUP

- A. The Contractor shall furnish daily janitorial services for the project and perform any required maintenance of facilities as deemed necessary by the Owner during the entire life of the contract. Toilet facilities shall be kept clean and sanitary at all times. Services shall be accomplished to the satisfaction of the Owner. The Contractor shall provide daily trash collection and cleanup of the project area and shall dispose of all discarded debris, and the like in a manner approved by the Owner.
- B. The **Mechanical Work Contractor (Contract #1)** shall place foot wiping carpet at all entrances, exits to the work areas and provide daily cleaning for all dust and footprints from the corridors, stairs, and the like, caused by construction.

3.14 BURNING

- A. Burning will not be permitted.

3.15 TEMPORARY ROADWAYS – NOT USE

3.16 MAINTENANCE OF PERMANENT ROADWAYS

- A. The **Mechanical Work Contractor (Contract #1)** shall immediately remove dirt and debris which may collect on permanent roadways created by their work, deliveries, manpower, equipment, etc.

3.17 FIRE PREVENTION CONTROL

- A. All Contractors shall comply with the safety provisions of the National Fire Protection Association's "National Fire Codes" pertaining to the work and, particularly, in connection with any cutting or welding performed as part of the work.

3.18 TEMPORARY FIRE PROTECTION

- A. The Contractor shall take all possible precautions for the prevention of fires. Where flame cutting torches, blow torches, or welding tools are required to be used within the building, their use shall be as approved by the Owner at the site. When welding tools or torches of any type are in use, have available in the immediate vicinity of the work a fire extinguisher of the dry chemical 20 lbs. Type. The fire extinguisher(s) shall be provided and maintained by the Contractor doing such work.
- B. Fuel for cutting and heating torches shall be gas only and shall be contained in Underwriters laboratory approved containers.
- C. Storage of gas shall be in locations as approved by the Owner and subject to Fire Department regulations and requirements.
- D. No volatile liquids shall be used for cleaning agents or as fuels for motorized equipment or tools within a building except with the express approval of the Owner and in accordance with local codes. On-site bulk storage of volatile liquids shall be outside the buildings at locations directed by the Owner, who shall determine the extent of volatile liquid allowed within the building at any given time.
- E. The Contractor shall comply with the following requirements relating to compressed gas:

1. Where compressed gas of any type is used for any purpose at the site, it shall be contained in cylinders complying with ICC regulations. Gases of different types shall not be stored together except when in use and when such proximity is required.
 2. All gas cylinders shall be stored in sheds constructed of noncombustible materials. Sheds shall be well ventilated and without electric lights or fixtures and shall be located as far from other buildings as is practicable. All gas cylinders not in actual use, or in proposed immediate use, shall be removed from the building under construction or reconstruction. Empty gas cylinders shall be removed prior to bringing in a replacement cylinder. Cylinders shall at all times be supported and braced in an upright position. When not in use, the protective cap shall be screwed over the valve.
 3. All persons required to handle gas cylinders or to act as temporary firemen (Fire Watchers) shall be able to read, write and understand the English language; they shall also be required by the Contractor to read Part 3 of Pamphlet P-1 "Safe Handling of Compressed Gases" published by the Compressed Gas Association, 500 Fifth Avenue, New York, NY 10036.
 4. Where local ordinances are in effect regarding gas cylinders, (their use, appurtenances and handling), such ordinances shall supplement the requirements of this paragraph. All personnel engaged in fire watch shall be certified by the Local Fire Department having jurisdiction.
 5. LP-Gas Heating will not be permitted in enclosed areas below grade.
 6. Any cylinder not having the proper ICC markings or reinspection marking, or any cylinder with a leak shall be isolated immediately away from any building and the supplier shall be immediately notified; such other precautions as may be required to prevent damage or injury shall also be taken by the Contractor.
- F. The Contractor shall comply with the following requirements relating to welding and cutting:
1. All cutting and/or welding (electric or gas) must be done only by skilled, certified and licensed personnel.
 2. During welding or cutting operations, a contractors man shall act as a fire watcher. The fire watcher shall have proper eye protection and suitable fire fighting equipment including fire extinguisher (bearing current inspection Certificate), protective gloves and any other equipment deemed necessary.
 3. Welding or cutting shall not be done near flammable liquid, vapors or tanks containing such material.
 4. Where cutting or welding is done above or adjacent to (within two feet) combustible material or persons, a shield of incombustible material shall be installed to protect against fire or injury to sparks or hot metal.
 5. Tanks supplying gases for welding or cutting are to be placed in an upright position securely fastened, and close as practical to the operation. Tanks, actives or spares, shall be protected from excess heat and shall not be placed in stairways, hallways or exits. When not in use, protective valve cap shall be screwed on the cylinder.
 6. Adequate fire extinguishing equipment shall be maintained at all welding or cutting operations.
 7. The Contractor shall secure all required inspections.
 8. All equipment, hoses, gauges, pressure reducing valves, torches, etc., shall be maintained in good working order and all defective equipment shall immediately be removed from the job.
 9. No person shall be permitted to do any welding or cutting until his name, address and current license number have been submitted in writing to the Owner.
- G. Contractors for work outside the building shall commence operations promptly on award of Contract, and shall be responsible for same being kept clear of materials and debris in connection with their own work and that of other Contractors. If a Contractor for outside work

allows other contractors to deposit material and debris over its lines, the Contractor shall be responsible for all delay and extra cost occasioned thereby.

3.19 DISCONTINUE, CHANGES AND REMOVAL

A. All Contractors shall:

1. Discontinue all temporary services required by the Contract when so directed by the Owner or the Architect.
2. The discontinuance of any such temporary service prior to the completion of the work shall not render the Owner liable for any additional cost entailed thereby and each Contractor shall thereafter furnish, at no additional cost to the Owner, any and all temporary service required by such Contractors work.
3. Remove and relocate such temporary facilities as directed by the Owner without additional cost to the Owner, and shall restore the site and the work to a condition satisfactory to the Owner.

3.20 VENTILATION AND HUMIDITY CONTROL FOR CONSTRUCTION:

A. Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment from that specified that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

1. The Contractor shall be responsible for their own temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity.
2. Ventilate enclosed area to dissipate humidity, and to prevent accumulation of dust, fumes, vapors or gases.
3. Provide equipment as necessary for air and fresh exchange for the work area per OSHA standards.
4. Remove temporary ventilation equipment prior to the completion of construction.

3.21 VENTILATION AND HUMIDITY CONTROL FOR BUILDING:

A. **Mechanical Work Contractor (Contract #1) shall provide temporary ventilation required for permanently or temporarily enclosed portions of building or for protecting existing building interior from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.**

3.22 ROADS AND PAVED AREAS:

A. **Mechanical Work Contractor (Contract #1) shall construct and maintain temporary areas adequate to support loads and to withstand exposure to traffic during construction period.**

1. Includes access for delivery through staging area to building work areas, and to equipment and storage areas and sheds. Minimum of 6" reference NYSDOT Item. #304.3 course.
2. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.
3. Temporary areas are installed and/or maintained by for access to all required areas of the sites.
4. Contractors will be permitted to utilize existing campus roads, as designated (as segregated by the Owner - if required).

5. Road Cleaning: Maintain roads and walkways in an acceptably clean condition. This includes the removal of debris daily, if required, and/or a minimum of once a week due to all project traffic. Road cleaning equipment to be wet/vacuum type. The **Mechanical Work Contractor (Contract #1)** will clean roads for debris from building-related activities.
6. Snow Plowing: None required
7. Staging Areas:
 - a. Temporary parking by construction personnel shall be allowed and limited to only in areas so designated by Owner. Vehicles in violation of parking prohibitions may be towed from site and back-charged with all fees to the contractor.
 - b. Traffic Regulations:
 - 1) Access through Owner's entrances shall be limited
 - 2) Utilize only entrances/temporary roads as designated
 - 3) Maintain all District traffic regulations
 - 4) Construction parking will not be allowed adjacent to District buildings, additions or monuments
 - 5) Space for Contractor trailers for stored materials (e.g. light fixtures, acoustic ceiling materials, ducts, etc.) will be limited and will be located in Owner's provided staging area to be determined. Contractors will arrange to handle materials on a daily basis since there will be no storage space in the school.

3.23 TRAFFIC CONTROLS:

- A. **Mechanical Work Contractor (Contract #1)** shall provide temporary traffic controls at junction of temporary work area access or storage with public roads. Include warning signs for public traffic and "STOP" signs for entrance onto public roads, barricades, flagmen, etc. Comply with requirements of authorities having jurisdiction.

3.24 DE-WATERING FACILITIES AND DRAINS:

- A. The responsibility of de-watering of the site as to facilitate the work will be the responsibility of the **Mechanical Work Contractor (Contract #1)**, coordinate with Owner.
 1. Maintain building and construction area(s) free of water.
 2. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining property nor endanger permanent drainage piping system, provide temporary drainage until all roof work is complete.

3.25 PROJECT IDENTIFICATION SIGN – NOT USED

3.26 TEMPORARY SITE SAFETY AND DIRECTIONAL SIGNS:

- A. The **Mechanical Work Contractor (Contract #1)** shall provide signs in sizes required for legibility or as indicated. Install signs where required or indicated to inform public and persons seeking entrance to Project. (See staging drawing for additional requirements on exterior signage.)
 1. Prepare temporary signs to provide directional information to construction personnel and visitors.
 2. Construct signs of exterior-type Grade AC plywood ½" thick. Support on posts or framing of preservative-treated wood or steel, or attach to fencing; do not attach signs to buildings or permanent construction.
 3. Paint sign panel and applied graphics with exterior-grade alkyd gloss enamel over exterior primer. Engage an experienced sign painter or fabricator to apply graphics.

4. Include relocating temporary site safety and directional signs as many times as required or directed.
 - a. The **Mechanical Work Contractor (Contract #1)** shall furnish and install construction signage.
 - b. For construction traffic control/flow at entrances/exits, as requested by the Owner (4 required)
 - c. To direct visitors (2 required)
 - d. For construction parking (2 required)
 - e. To direct deliveries (2 required)
 - f. Emergency egress only – Construction area (4 required)
 - g. Per OSHA standards as necessary
 - h. For “No Smoking” safe work site at multiple locations (6 required)

3.27 ENVIRONMENTAL PROTECTION:

- A. The Contractor shall provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near Project site.

3.28 STORMWATER CONTROL:

- A. The **Mechanical Work Contractor (Contract #1)** shall provide earthen embankments, silt fence, haybales, and similar barriers in and around excavations and subgrade construction, sufficient to prevent flooding by runoff of stormwater from heavy rains.

3.29 SITE ENCLOSURE FENCE:

- A. 1. By Contractor if necessary for site staging or storage areas.

3.30 SECURITY ENCLOSURE AND LOCKUP:

- A. Each Contractor shall install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.

3.31 BARRICADES, WARNING SIGNS AND LIGHTS:

- A. Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.
 1. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch-(16-mm-) thick exterior plywood.

3.32 TEMPORARY ENCLOSURES:

- A. The **Mechanical Work Contractor (Contract # 1)** shall provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

1. Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
2. Vertical Openings: Close openings of 25 sq. ft. (2.3sq. M) or less with plywood or similar materials.
3. Horizontal Openings: Close openings in floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.
4. Install tarpaulins securely using fire-retardant-treated wood framing and other materials.
5. Where temporary wood or plywood enclosure exceeds 100sq. Ft. (9.2 sq. m) in area, use fire-retardant-treated material for framing and main sheathing.

- B. Temporary closures for specific openings shall be installed to protect building from exterior elements or odors / noise resulting from construction operations.

3.33 TEMPORARY PARTITIONS (construction protection from occupied spaces)

- A. **Mechanical Work Contractor (Contract #1)** shall erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise.

1. Construct dustproof partitions of not less than nominal 4-inch (100-mm) studs, 5/8-inch (16-mm) gypsum wallboard with joints taped on occupied side, and ½-inch (13-mm) fire-retardant plywood on construction side.
2. Construct dustproof, floor-to-ceiling partitions of not less than nominal 4-inch (100-mm) studs, 2 layers of 3-mil (0.07-mm) polyethylene sheets, inside and outside temporary enclosure. Cover floor with 2 layers of 3-mil (0.07-mm) polyethylene sheets, extending sheets 18 inches (460 mm) up the side walls. Overlap and tape full length joints. Cover floor with 3/4-inch (19-mm) fire-retardant plywood.
 - a. Construct a vestibule and airlock at each entrance to temporary enclosure with not less than 48 inches (1219 mm) between doors. Maintain water-dampened foot mats in vestibule.
3. Sound insulate partitions to provide noise protection to occupied areas.
4. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
5. Protect air-handling equipment and block off all diffusers.
6. Weatherstrip openings.

- B. During second shift night work for ceiling removal / replacement Mechanical Work Contract #1 will devise a framed double-layer plastic door system at the room door to prevent any dust migration into the adjacent spaces. At the end of each shift the incomplete room will be sealed to prevent access. All occupied areas must be completely cleaned without a trace for when the students / staff arrive the next morning.

- C. Temporary perimeter and stairwell barricades at grade changes and multiple levels, shall be installed and maintained under the **Mechanical Work Contractor (Contract #1)**, if the Contractor should need to temporarily relocate barrier, protect personnel in the area and replace barrier to original location. This clause does not void any Contractor's liability to maintain a safe work site, but merely to assign temporary work to one contract.

- D. Temporary and permanent entrances and exits to the building, shall be furnished, installed and/or maintained under the **Mechanical Work Contractor (Contract # 1)** as directed by the Owner. Exits shall be maintained for school exiting in emergency conditions until permanent structures are in place. Appropriate signage will be provided by this contractor at each location.

3.34 AREAS OF SPECIAL PROTECTION:

- A. Operations of the Contractor may not block, hinder, impede, or otherwise inhibit the safe and expeditious exiting of the building's occupants during an emergency.
- B. In the event of an emergency (designated by the school's alarm system or procedures) all construction activities must immediately cease. Contractor's work force will evacuate themselves from work areas and remain outside of work areas until the "all clear" is given. No work operations will be tolerated during the evacuation of the building or during an emergency. No cost to Owner will be accepted for stop of labor during emergency activities.

3.35 ENVIRONMENTAL PROTECTION:

- A. Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise-making tools and equipment to hours that will minimize complaints from persons or firms near the site.

3.36 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
 - 2. Protection: Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Termination and Removal: Unless the Owner requests that it be maintained longer, remove each temporary facility when the need has ended, when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been affected because of the temporary facility. Repair damaged work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are the Contractors property. The Owner reserves the right to take possession of project identification signs.
 - 2. At Substantial Completion, clean and renovate permanent facilities used during the construction period including, but not limited to, the following:
 - a. Replace air filters and clean inside of ductwork and housings.
 - b. Replace significantly worn parts and parts subject to unusual operating conditions.
 - c. Replace lamps burned out or noticeably dimmed by hours of use

END OF SECTION 01 5000