KAISER PERMANENTE LARGO MEDICAL CENTER RESTACK
MEDICAL OFFICE BUILDING AND PARKING STRUCTURE
LARGO, MARYLAND

SECTION 01 1000

SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Phased construction.
2. Owner-furnished, Owner-installed (OFOI) products.
3. Owner-furnished, Contractor-installed (OFCI) products.
4. Worker conduct and appearance - work rules.
5. Healthcare facility renovation work.
6. Access to site.
7. Coordination with occupants.
8. Work restrictions.
9. Specification and drawing conventions.

1.2 PHASED CONSTRUCTION

A. The Work shall be conducted in multiple phases as indicated on the drawings, with each phase substantially complete and ready for occupancy before commencement of subsequent phases.

B. Before commencing Work of each phase, submit an updated copy of Contractor's construction schedule showing the sequence, commencement and completion dates, and move-out and -in dates of Owner's personnel for all phases of the Work.

1.3 OWNER-FURNISHED, OWNER-INSTALLED (OFOI) PRODUCT

A. The specific product is not in this contract, and actual installation of the product will be made by the Owner.

B. Products will be indicated as follows:

1. Product prefixed with "Space for"
2. N.I.C.
3. Owner Furnished - Owner Installed
4. Product noted as "Future"

C. Roughing-in for Owner Furnished, Owner Installed Product is provided by applicable Sections governing the type of work. Obtain rough-in requirements from Owner.

1.4 OWNER-FURNISHED, CONTRACTOR-INSTALLED (OFCI) PRODUCT

A. Install products indicated as follows:

1. "Owner Furnished, Contractor Installed".
2. "Reuse".
3. "Relocate".

B. Provide labor, transportation, materials, tools, appliances and utilities necessary for the following:

1. Relocated Products:

a. Removing installed product from the Owner's existing facility, as required.
b. Transportation of product from Owner's facility to the job site.

2. Receiving and storage of Owner furnished, Contractor installed product, as required.
3. Providing materials and components for the product as necessary to install in an operating condition, but not including repairing of existing damages to the product.
4. Modification of product only as specified under the particular item.
5. Installation of product in this project, complete and in operating condition, including the adjusting and calibration of the product as necessary for proper operation.
6. Testing of product.
7. Paying of fees, licenses, and taxes in conjunction with the installation of the product.
8. Roughing-in and final utility connections for the Owner furnished, Contractor installed product remains the work of Sections governing the specific utility.

1.5 WORKER CONDUCT AND APPEARANCE - WORK RULES

A. General: The conduct and appearance of each worker at the jobsite is of paramount importance. The Owner reserves the right to require any worker to be reassigned to work outside the Owner's property.

1. Privacy: Where applicable, conduct work of the Contract with the maximum effort to maintain the privacy of the Owner's operations, staff, and clientele. Do not permit workers to peer into other areas of the building visible from the work area. Invasion of privacy is a major infraction of the work rules.
2. Conduct and Demeanor: Construction workers shall treat other construction workers, Owner's staff, clientele, and visitors (as applicable) professionally with respect and courtesy.
3. Physical Appearance: Require each worker to dress appropriately in a clean, neat, and professional manner.
4. Radios and Television: The use of entertainment devices including personal devices with headphones or earphones is prohibited at all times. Control the volume of communication radios and loudspeakers to avoid creating a nuisance.
5. Tobacco Products: The use of tobacco products is prohibited.
6. Language: The use of foul language is prohibited.
7. Loud Conduct: Screaming, yelling, and unnecessary loud conduct is prohibited.
8. Physical Actions: Running, horseplay, fighting, and other unprofessional conduct is prohibited. Fighting is a major infraction of the work rules.
9. Stealing: Stealing of any material, objects, furnishings, equipment, fixtures, supplies, clothing, or other items is prohibited and a major infraction.
10. Sexual Harassment: All forms of physical and verbal sexual harassment including, without limitation: touching; whistling; sexually explicit stories, jokes, drawings, photos, and representations; exhibitionism; and all other sexually oriented offensive behavior is prohibited.
11. Roaming: Construction personnel shall not be allowed to roam, or wander about, the existing facilities.
12. Eating: Construction personnel shall not use the existing Dining Area for breakfast, lunch, or dinner.

13. Parking: Construction personnel shall only park in designated areas reserved for construction parking.
14. Penalties: First infraction of the work rules shall result in a verbal warning from the Owner. Second infractions shall result in being requested to leave the Owner's property. Owner's decision in such matters shall be final with no exceptions.

B. Warnings and Dismissal: For minor infraction of the rules, the Owner may issue a warning. Only one warning will be allowed per worker, and a second infraction shall result in immediate dismissal of the worker from the Owner's property. For major infractions such as invasion of privacy, the worker shall be dismissed immediately without warning and possibly subject to criminal prosecution.

C. Notification of Workers: Clearly notify and educate each worker about these Work Rules and the requirements for worker conduct and appearance.

1.6 HEALTHCARE FACILITY RENOVATION WORK

A. Interim Life Safety Measures (ILSM): The following Interim Life Safety Measures (ILSM) as established by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) shall be implemented, documented and enforced in and adjacent to all construction areas:

1. Ensure that exits provide free and unobstructed egress. Personnel shall receive training, and the Hospital shall be notified if alternative exits must be designated. Buildings/areas under construction must maintain escape facilities for construction workers at all times. Means of egress in construction areas must be inspected daily.
2. Ensure free and unobstructed access to emergency department/service and for emergency forces.
3. Ensure that fire alarm, detection, and suppression systems are not impaired. A temporary, but equivalent, system shall be provided, and the Hospital shall be notified, when any fire system is impaired. Temporary systems must be inspected and tested monthly.
4. Ensure temporary construction partitions are smoke tight and built of non-combustible or limited combustible materials that will not contribute to the development or spread of fire.
5. Provide additional fire-fighting equipment and use training for personnel.
6. Prohibit smoking in or adjacent to all construction areas.
7. Develop and enforce storage, housekeeping, and debris-removal practices that reduce the flammable and combustible fire load of the building to lowest level necessary for daily operations.
8. Conduct a minimum of two fire drills per shift per quarter.
9. Increase hazard surveillance of buildings, grounds, and equipment with special attention to excavations, construction areas, construction storage, and field offices.
10. Train personnel, and notify the Hospital, when structural or compartmentation features of fire safety are compromised.
11. Conduct organization wide safety education programs to assure awareness of deficiencies, construction hazards, and these ILSM.

1.7 ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Confine constructions operations to work in areas indicated on drawings.
2. Allow for Owner occupancy of site and use by the public.
3. Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times.
4. Do not use drives and entrances for parking or storage of materials.
5. Schedule deliveries to minimize use of driveways and entrances.
6. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
7. Coordinate use of premises under direction of Owner.
8. Assume full responsibility for the protection and safekeeping of Products under this Contract, stored on the site.
9. Move any stored Products, under Contractor'¢¢s control, which interfere with operations of the Owner or separate contractor.
10. Obtain and pay for the use of additional storage or work areas needed for operations.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.8 COORDINATION WITH OCCUPANTS

A. Partial Owner Occupancy: Owner will occupy the premises during entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits unless otherwise indicated.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

B. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.

1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner acceptance of the completed Work.
2. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
3. Before limited Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.
4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

1.9 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Coordinate the limitations relative to working hours in the existing building with Owner.

C. Existing Utility Interruptions: Refer to Division 01 Section "Execution" for requirements.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.

1. Notify Owner not less than 72 hours in advance of proposed disruptive operations.
2. Obtain Owner's written permission before proceeding with disruptive operations.

1.10 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be interpolated as the sense requires. Singular words will be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.
2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor, or by others when so noted.
3. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 230910 DUCTWORK ACCESSORIES

INDEX PAGE

PART 1. - GENERAL

1.1. RELATED DOCUMENTS

Drawings and general provisions of the contract, including general and supplementary conditions and Division 01 specification sections, apply to this section.

1.2. RELATED SECTIONS

Division 28 Section “Fire Detection and Alarm” for duct mounted fire and smoke detectors.

1.3. QUALITY ASSURANCE

SMACNA Compliance: Comply with SMACNA “HVAC Duct Construction Standards, Metal and Flexible”.

Industry Standards: Comply with ASHRAE recommendations pertaining to construction of ductwork accessories, except as otherwise indicated. Comply with AMCA 500-D testing for damper rating.

UL Compliance: Construct, test, and label fire dampers in accordance with UL Standard 555 “Fire Dampers and Ceiling Dampers.” Leakage labeled under UL 555S.

NFPA Compliance: Comply with applicable provisions of NFPA 90A “Air Conditioning and Ventilating Systems,” NFPA92A pertaining to installation of ductwork accessories.

1.4. SUBMITTALS

Product Data: For each type of product indicated.

Shop Drawings: Indicate installation details in ductwork and other construction. Provide wiring diagrams.

PART 2. - PRODUCTS

2.1. ACCEPTABLE MANUFACTURERS

General: Ductwork Accessories are specified by manufacturer's numbers as to type and quality required. Subject to compliance with requirements, provide manufacturers or approved equivalent manufacturer products as indicated.

2.2. DAMPERS

2.2.1. General

Manual volume dampers shall have a velocity and pressure rating for the size of duct where utilized in duct system and duct rating as indicated in specification section "Metal Ductwork".

2.2.2. Manual Volume Dampers, Rectangular (For sizes 18"wx10"h and smaller)

Damper frame and blades shall be field fabricated and constructed of the same material as the duct in which it is installed. Dampers shall conform to SMACNA construction standards.

Damper blades shall be constructed with 22 gauge minimum, unless otherwise noted to be stainless steel, blades. Provide minimum 3/8" square steel end bearings. Provide Ventlock 635 manual locking dial regulator with tamper-resistant hexagonal lock nut, or approved equivalent. For insulated systems provide 2" hand quadrant standoff bracket.

2.2.3. Manual Volume Dampers, Round (For sizes 12" diameter and smaller)

Damper frame and blades shall be field fabricated and constructed of the same material as the duct in which it is installed. Dampers shall conform to SMACNA construction standards.

Dampers shall be constructed with 24 gauge minimum, unless otherwise noted to be stainless steel, blades but not less than two (2) gages more than the duct gage. Provide minimum 3/8" square steel end bearings. Provide Ventlock 635 manual locking dial regulator with tamper-resistant hexagonal lock nut, or approved equivalent. For insulated systems provide 2" hand quadrant standoff bracket.

2.2.4. Manual Volume Dampers, Rectangular (For sizes 18"wx10"h and larger)

Damper frame and blades shall be factory fabricated. Dampers shall conform to SMACNA construction standards.

Dampers shall consist of a 20 gauge galvanized steel, unless otherwise noted to be stainless steel, hat channel frame with 5" depth triple V type blades fabricated from 16 gauge galvanized steel; ½" plated steel axles; external (out of the airstream) blade to blade linkage. Testing shall be in accordance with AMCA standard 500. For insulated systems provide 2" hand quadrant standoff bracket. Basis of design is Greenheck model MBD-15.

Acceptable Manufacturers

- Greenheck
- Ruskin

2.2.5. Manual Volume Dampers, Round (For sizes 12" diameter to 24" diameter)

Damper frame and blades shall be factory fabricated. Dampers shall conform to SMACNA construction standards.

Damper shall consist of a 20-gauge galvanized steel frame with 6" depth; blades fabricated from 20 gauge galvanized steel; 3/8" plated steel axles. Testing and ratings shall be in accordance with AMCA Standard 500. For insulated systems provide 2" hand quadrant standoff bracket. Basis of design is Greenheck model MBDR-50.

Acceptable Manufacturers
- Greenheck
- Ruskin

2.2.6. Manual Volume Dampers, Rectangular (For Main duct medium pressure and velocities)

Damper frame and blades shall be factory fabricated. Dampers shall conform to SMACNA construction standards.

Dampers shall consist of a 16 gauge galvanized steel, unless otherwise noted to be stainless steel, hat channel frame with 5" depth triple V type blades fabricated from 14 gauge galvanized steel; ½" plated steel axles; external (out of the airstream) blade to blade linkage. Testing shall be in accordance with AMCA standard 500. For insulated systems provide 2" hand quadrant standoff bracket. Basis of design is Greenheck model VCD-33.

Acceptable Manufacturers
- Greenheck
- Ruskin

Manual Volume Dampers, Round (For Main duct medium pressure and velocities up to 24" diameter)

Damper frame and blades shall be factory fabricated. Dampers shall conform to SMACNA construction standards.

Damper shall consist of: a 16 gauge galvanized steel frame with 6" depth; blades fabricated from 16 gauge galvanized steel; 1/2" plated steel axles. Testing and ratings shall be in accordance with AMCA Standard 500. For insulated systems provide 2" hand quadrant standoff bracket. Basis of design is Greenheck model VCDR-50.

Acceptable Manufacturers
Greenheck
Ruskin

2.2.7. Bearing Seals

Ventlok, Inc. or approved equal damper bearing seals on all inboard and outboard bearings.

2.2.8. Remote Damper Operators

Young Regulator damper adjustment device, including rod, steel gear operator (Model 927-B), recessed access regulator (Model 301CDS).

2.2.9. Airtight Isolation Dampers

Dampers shall be round flat blade type tested to be (low leak, bubble-tight) per ASME N520-1995.

Construction: The damper shall be manufactured from 11-gauge and 7-gauge T-304 stainless steel sheet metal. The damper shall have 7-gauge stainless steel blades with a silicone gasket to seal against the inside wall of the damper. The damper shall have 7-gauge flanges on the inlet and outlet with predrilled mounting holes and ¼" neoprene gasket. The damper shall be adequately reinforced to withstand negative pressure listed in duct construction table in specification section 230891. All welding procedures, welders and welder operators shall be qualified in accordance with ASME Boiler and Pressure Vessel Code, Section IX. Basis of Design is Camfil Farr model 3440R-0103. Provide with locking handle for blade operation. Dampers shall be designed to prevent leakage of gas during room or hood decontamination.

Acceptable Manufacturers
- Greenheck

2.2.10. Rectangular Control Damper

Damper shall consist of: a 16-gauge galvanized steel, unless otherwise noted to be stainless steel, channel frame with a 5" depth; opposed blade, airfoil shaped, galvanized steel double skin construction blades (14-gauge equivalent thickness); ½" diameter plated steel axles; extruded silicon rubber or EPDM blade seals; flexible aluminum jamb seals; and external (out of the airstream) blade-to-blade linkage.
Damper shall leak no more then 6 cfm/ft^2 at 4 inwg.
Testing and ratings shall be in accordance with AMCA Standard 500. Provide with 24-volt modulating electric actuator, which uses a 4-20 ma signal. Actuators shall be by Valvcon, Belimo, or approved equivalent. Basis of Design is Greenheck model VCD-33.

Acceptable Manufacturers
- Greenheck
- Ruskin
- Air Balance
- Arrow United Industries
- Penn Ventilator

2.2.11. Round Control Damper

Dampers shall consist of a round channel frame, single axle, and single circular blade fabricated from 10-gauge steel, unless otherwise noted to be stainless steel. Damper axle shall be continuous pivoting in stainless steel sleeve bearings pressed into each side of the damper frame. Provide EPDM seals with blade stops. Testing and ratings shall be in accordance with AMCA Standard 500. Provide with 24-volt modulating electric actuator, which uses a 4-20 ma signal. Actuators shall be by Valvcon, Belimo, or approved equivalent. Basis of Design is Greenheck model HCDR-150.

Acceptable Manufacturers
- Greenheck
- Ruskin
- Air Balance
- Penn Ventilator

2.2.12. Butterfly Backdraft Dampers

Provide stainless steel heavy-duty backdraft damper with one (1) continuous rod in the center and neoprene seals at the edge of the damper to prevent air leakage.

Acceptable Manufacturers
- Cook
- Ruskin
- Air Balance

2.3. TURNING VANES

2.3.1. Turning Vanes

Factory manufactured turning vanes constructed of material to match ductwork, 1-1/2" wide, 24-gauge minimum, curved airfoil double wall blades, supported with bars perpendicular to blades, and set into side strips suitable for screw or pop rivet mounting on opposite sides of duct. Seal over screws or rivets with sealant to make airtight.

2.4. DUCT ACCESS DOORS

Provide for access to all automatic dampers, temperature sensing or control devices, fire dampers, damper motors, plenums, air filters, and all other items within the ductwork or housing which require inspection, service or adjustment, or where indicated.

Access doors in round ductwork shall be 12" x 16" minimum for ductwork 14" diameter and larger; and shall be 8" x 12" for ductwork 12" diameter or less. Rectangular ductwork and plenum doors shall be 12" x 16" minimum and shall be 8" x 12" for ductwork with 12" dimension or less.

Access doors less than 12” square shall have no hinges and two cam locks. Access doors up to 18” shall have continuous hinge and two cam locks. Access doors 18” and larger shall have no hinges and two cam locks per side.

Fabricate doors in conformance with SMACNA details and shall be pressure rated for the installed duct system and be airtight. All gaskets shall be neoprene.

Provide flush frames for un-insulated ductwork and extended frames for externally insulated duct. Provide vision panels where indicated on drawings.

Acceptable Manufacturers

- Ruskin
- Air Balance
- Duro Dyne
- Karp

2.5. FLEXIBLE CONNECTIONS

Provide flexible duct connections wherever ductwork connects to vibration isolated equipment, or where shown. Construct flexible connections of neoprene-coated flameproof fabric crimped into duct flanges for attachment to duct and equipment. Make duct connection with flanges and neoprene gaskets for airtight joint. Provide adequate joint flexibility to allow for thermal, axial, transverse, and torsional movement, and also capable of absorbing vibrations of connected equipment.

Acceptable Manufacturers

- Duro Dyne, Metalfab Canvas
- Flow-Flex, Fabric Connections
- Ventfabrics, Ventfab Metaledge

PART 3. - EXECUTION

3.1. INSTALLATION OF DUCTWORK ACCESSORIES

Bearing Seals: Provide damper end bearings on the ends of all damper rods where they penetrate the duct, to seal and prevent air leakage. Exception: End bearing seals are not required in ductwork systems for warehouse and office areas where the duct pressure class is less than 2" wc.

Remote Damper Operators: Provide Young Regulator damper adjustment device for dampers located above all inaccessible ceilings. Seal airtight around recessed operator to prevent air leakage.

Controls: Install all control devices, sensors, etc. in ductwork or AHU systems where shown on drawings.

Install ductwork accessories in accordance with manufacturer's installation instructions, with applicable portions of construction details as shown in SMACNA standards, and with recognized industry practices to ensure that products serve intended function.

Coordinate with other work, including ductwork, as necessary to interface installation of ductwork accessories properly with other work.

Install access doors for access to all automatic dampers, temperature sensing or control devices, fire dampers, damper motors, plenums, air filters, humidifiers, and all other items within the ductwork or housing which require inspection, service or adjustment. Where items are installed in ductwork and located behind a removable air grille or register, an access door is not required in the ductwork.

Label access doors to indicate purpose.

Label exposed side of lay-in ceilings where access doors occur.

Fire and combination fire/smoke dampers shall be installed using a minimum 20-gauge galvanized steel sleeve, and galvanized steel angle frame (not less than 10-gauge) on each side of opening, attached to damper sleeve. Installation of dampers shall be in accordance with NFPA requirements, and manufacturer instructions, describing the UL approved installation procedure. Seal off space between sleeve and the building construction tightly with fire stopping.

Install turning vanes in all square or rectangular bends, elbows, and tees in supply, return, and exhaust air systems. Ensure that turning vanes are installed at the correct angle for the air turn.

3.2. FIELD QUALITY CONTROL

Operate installed ductwork accessories to demonstrate compliance with airtight construction. Test for air leakage while system is operating to obtain a total system leakage of one percent total design airflow. Repair or replace faulty accessories, to obtain proper operation and leak proof performance.

3.3. ADJUSTING AND CLEANING

Adjusting: Adjust ductwork accessories for proper settings and adjust for proper action.

Extra Stock

Furnish extra fusible links to Owner, one (1) link for every 10 installed of each temperature range; obtain receipt.

END OF SECTION