

ADVERTISEMENT TO BID

GRADY COUNTY, GEORGIA

General Contractors with commercial renovation experience are invited to bid on a General Contract for the USDA Office-Grady County project in Cairo, Georgia on August 15, 2016 at 12:00 p.m. in accordance with Construction Documents. All bids must be a lump sum basis; segregated Bids will not be accepted.

PROJECT: USDA Office-Grady County

BID DUE DATE: August 15, 2016, 12:00 p.m. local time

BID OPENING: 12:01 p.m. local time in Board of Commissioner's Office, 250 N Broad St, Cairo, GA 39828

A mandatory Pre-Bid conference will be held on **August 1, 2016 at 9:00 a.m. at the Project Site**, 65 11th Ave NE, Cairo, GA 39828 and all bidders or their representatives are required to be in attendance. The Pre-Bid Conference date is subject to change.

Grady County, Georgia will receive sealed bids until 12:00 p.m. local time on August 15, 2016. Bids received after this time will not be accepted. All bidders are invited to attend the Bid Opening. Bids will be opened publicly and read aloud at the following location:

Grady County Courthouse
250 N Broad Street
Cairo, GA 39828

Drawings and Specifications may be obtained at www.gradycountyga.gov at the bottom of the home page under Public Notices and Updates. All materials furnished and all work performed shall be in accordance with Drawings and Specifications. Each Bid shall be addressed to:

Carlos Tobar
County Administrator
250 N Broad Street
Cairo, GA 39828

and be marked:

1. Bids for USDA Office-Grady County
2. (Name of Bidder)
3. (Address of Bidder)
4. (City, State, Zip Code)

All bids shall be delivered by a representative of the Bidder or by registered mail with return receipt requested. Bid security in the amount of five percent of the Bid must accompany each Bid in accordance with the Instruction to Bidders.

General Commercial Liability Insurance, minimum \$1,000,000 coverage, and Workers Compensation Insurance, minimum \$300,000 coverage, will be required. A retainage of 5% of the contract amount will be withheld until all work is completed to Grady County's satisfaction. The county estimates that acceptance of project should take no more than thirty (30) days. The terms of the winning bid will be confirmed in a contract provided by the County after the bid is chosen. Contractor will participate and comply with E-verify.

The Owner reserves the right to waive irregularities and/or informalities in any Bid and to reject any or all Bids in whole or part, with or without cause, and/or accept the Bid that in its judgment will be for the best interest of the Grady County, Georgia.

Carlos Tobar
County Administrator
250 N Broad Street
Cairo, GA 39828



PROJECT SPECIFICATIONS

USDA OFFICE - GRADY COUNTY
65 11TH AVENUE NE
CAIRO, GA 39828

FOR: GRADY COUNTY

PROJECT MANUAL

June 16, 2016

ARCHITECTURE - INTERIOR DESIGN - PLANNING



USDA OFFICE - GRADY COUNTY
65 11TH AVENUE NE
CAIRO, GA 39828

SPECIFICATIONS INDEX

NON-TECHNICAL FRONT END SPECIFICATIONS
TO BE PROVIDED BY CONSTRUCTION MANAGER

TECHNICAL SPECIFICATIONS

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SECTION 01 12 00 – MATERIALS AND EQUIPMENT
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SECTION 01 11 00 - SUMMARY OF THE WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

1.2 PROJECT/WORK IDENTIFICATION:

- A. General: Project name is USDA OFFICE - GRADY COUNTY, CAIRO, GA as shown on the Contract Documents prepared by the Architect.
- B. Summary of References: Work of the Contract can be summarized by references to the Contract, General Conditions, Supplementary Conditions, Specification Sections, Drawings, addenda and modifications to the contract documents issued subsequent to the initial printing of this project manual and including but not necessarily limited to printed material referenced by any of these. It is recognized that work of the contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions and other forces outside the contract documents.
- C. Abbreviated Written Summary: Briefly and without force and effect upon the contract documents, the work of the Contract can be summarized as follows:

The Work Includes: The renovation of the existing office space including addition of restrooms, renovation of existing restrooms, updating finishes and lighting, and construction of a new partition wall.

1.3 CONTRACTOR USE OF PREMISES:

- A. General: The Contractor shall limit his presence on the site to the work indicated.
- B. Use of the Site: Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated, are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in project construction.
 - 1. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of soils and landscape planting, materials and location of storage sheds to the areas agreed upon. If additional storage is necessary, obtain and pay for such storage off site.
 - 2. Lock automotive type vehicles, such as trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the

- motor running or the ignition key in place.
3. Very limited space shall be allotted for Contractor/Subcontractor vehicle parking.

1.4 IDENTIFICATION OF CONTRACTOR'S EMPLOYEES:

- A. All employees of the Contractor, Subcontractors, Sub-Subcontractors and other personnel on the project site shall have a laminated badge or company shirt with the following information:
 1. Worker's name.
 2. Employer's name.
- B. Identification badge or company shirt shall be worn and visible at all times when on the project site.

1.5 OWNER OCCUPANCY:

- A. Owner Occupancy: Cooperate fully with the Owner or his representative during construction operations to minimize conflicts, provide complete information as to those areas of restricted occupancy by work, and maintain safe conditions and to facilitate Owner usage. Perform the work so as not to interfere with the Owner's operations as designated.

1.6 ALTERATIONS AND COORDINATION:

- A. General: The work of this Contract includes coordination of the entire work of the project, including preparation of general coordination drawings, diagrams and schedules, and control of site utilization, from beginning of construction activity through project close-out and warranty periods.
- B. Alterations: Where applicable, requirements of the contract documents apply to alteration work in the same manner as to new construction.

1.7 MISCELLANEOUS PROVISIONS:

- A. General: All work executed under the scope of this contract shall comply with the Steel Structures Painting Council guidelines for application of industrial and architectural coatings modified with additional methodology and regulatory requirements.
- B. All components scheduled to be replaced shall be replaced with new components and shall be supplied to meet architectural specifications. All components shall be certified to be free of lead based paint before installation.
- C. General Performance Requirements for Completed Work: The Contract Documents indicate the intended scope of work on the building and the individual coating and sealant systems and finishes. Compliance with governing regulations is intended and required for the work and for the Owner's occupancy and utilization.

END OF SECTION 01 11 00

SECTION 01 12 00 - MATERIALS AND EQUIPMENT

PART 1 - GENERAL:

1.1 STANDARDS:

- A. Reference to standards, codes specifications, recommendations and regulations: refer to the latest edition of printing in effect at the date of issue shown in the Documents, unless other date is implied by the suffix number of the standard.
- B. Applicable portions of the standards listed that are not in conflict with the Contract Documents shall be constructed as Specifications for this work.
- C. Specified variations from the standards listed shall be constructed as amendments and the unaltered portions of the Standards shall remain in full effect.
- D. In cases of discrepancies or variations between the listed Standards, the more stringent requirements shall govern.
- E. Keep at the site not less than one copy, in good condition, of the standards specifically indicated as the methods for applying, installing, connecting and erecting. Inform involved personnel as to the requirements and availability of the standards.

1.2 DELIVERY AND STORAGE:

- A. Schedule deliveries and unloading to prevent interference with other site operations and construction work. Arrange deliveries to avoid larger accumulations than can be suitably stored at site.
- B. Pack and handle material to prevent damage during loading, delivering and storing.
- C. Deliver packaged materials to site in manufacturer's original, unopened, labeled containers. Do not open containers until approximate time for use.
- D. Store materials at locations that will not interfere with progress of work. Arrange locations of storage areas in approximate order of intended use.
- E. Store materials in a manner that will prevent damage to materials or structure, and that will prevent injury to persons.

1.3 STORING AREAS:

- A. The Owner will make available limited storage areas on the building site. At the start of the operation, make arrangements with the Owner's representative for the assignment of the areas. During construction maintain the areas in a neat condition.

- B. Limited parking of private cars is permitted on the property of the Owner in specified locations. Notify employees and Subcontractors of the restrictions before beginning the work.

1.4 MANUFACTURER'S DIRECTIONS:

- A. Apply, install, connect and erect manufactured items or materials according to the recommendations of the manufacturer when such recommendations are not in conflict with the Contract Documents.
- B. Furnish to the Architect in request, copies of the manufacturer's recommendations. Secure approval of recommendations before proceeding with work.
- C. Keep at site not less than one copy, in good condition, of manufacturer's recommendations or directions pertaining to work at the site. Inform involved personnel of requirements and availability of manufacturer's recommendations.

END OF SECTION 01 12 00

SECTION 01 31 00 – PROJECT MANAGEMENT COORDINATION

PART 1 - GENERAL

1.1 MANNER OF PERFORMING WORK:

- A. Arrange and organize work in such manner and method as to ensure minimum interference with the occupancy and operations of the existing buildings. Prior to beginning work, confer with the Owner regarding use of and access to the premises and building and space for temporary storage of materials and equipment.

1.2 SCHEDULING OF WORK:

- A. Schedule the construction so it will not interfere with the access to or operation of the existing buildings. Building operation must continue uninterrupted during the entire construction period.

1.3 SAFETY OF PERSONNEL:

- A. After work has commenced, execute work with constant consideration of the occupants of the building, to safeguard them from bodily harm that may be caused by the work.

1.4 EXISTING CONDITIONS:

- A. Special attention shall be given to existing conditions and their effect upon contemplated construction. Should any condition exist which is not covered by the Drawings and specified herein, adjust work so that the final results are as called for and are complete in every respect.

END OF SECTION 01 31 00

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including;
 - 1. Contractor's construction schedule.
 - 2. Submittal schedule.
 - 3. Daily construction reports and drawings.
 - 4. Shop Drawings.
 - 5. Product Data.
 - 6. Samples.
- B. Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
 - 1. Special prequalification requirements.
 - 2. Applications for payment.
 - 3. Performance and payment bonds.
 - 4. Insurance certificates.
 - 5. List of Subcontractors.
- C. Inspection and test reports are included in Section "Quality Control Services."

1.3 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
 - 3. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.
- B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.

1. Project name, and building reference.
 2. Date.
 3. Name and address of Architect.
 4. Name and address of Contractor.
 5. Name and address of subcontractor.
 6. Name and address of supplier.
 7. Name of manufacturer.
 8. Number and title of appropriate Specification Section.
 9. Drawing number and detail references, as appropriate.
- C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.
1. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

1.4 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar- chart type Contractor's construction schedule. Submit within 30 days of the date established for "Commencement of the Work".
1. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the Work as indicated in the "Schedule of Values".
 2. Within each time bar indicate estimated completion percentage in 10 percent increments. As Work progresses, place a contrasting mark in each bar to indicate Actual Completion.
 3. Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.
 4. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the Work. Show each activity in proper sequence. Indicate graphically sequences necessary for completion of related portions of the Work.
 5. Coordinate the Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.
 6. Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Architect's procedures necessary for certification of Substantial Completion.
- B. Work Stages: Indicate important stages of construction for each major portion of the Work, including testing and installation.

- C. Area Separations: Provide a separate time bar to identify each major construction area for each major portion of the Work. Indicate where each element in an area must be sequenced or integrated with other activities.
- D. Cost Correlation: At the head of the schedule, provide a two item cost correlation line, indicating "pre-calculated" and "actual" costs. On the line show dollar-volume of Work performed as of the dates used for preparation of payment requests.
- E. Distribution: Following response to the initial submittal, print and distribute copies to the Architect, Owner, subcontractors, and other parties required to comply with scheduled dates. Post copies in the Project meeting room and temporary field office.
 - 1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.
- F. Schedule Updating: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

1.5 SUBMITTAL SCHEDULE

- A. After development and acceptance of the Contractor's construction schedule, prepare a complete schedule of submittals. Submit the schedule within 10 days of the date required for establishment of the Contractor's construction schedule.

1.6 DAILY CONSTRUCTION REPORTS

- A. Prepare a daily construction report, recording the following information concerning events at the site; and submit duplicate copies to the Architect at weekly intervals:
 - 1. Work completed this date
 - 2. Area of work
 - 3. Products used, number of gallons, square feet covered, coverage rate, etc.
 - 4. Approximate count of personnel at the site.
 - 5. High and low temperatures, humidity, general weather conditions.
 - 6. Accidents and unusual events.
 - 7. Meetings and significant decisions.
 - 8. Stoppages, delays, shortages, losses.
 - 9. Emergency procedures.
 - 10. Orders and requests of governing/inspecting authorities.
 - 11. Change Orders received, implemented.
 - 12. Field tests and inspections. Meter readings and similar recordings.
 - 13. Partial Completions.
 - 14. Substantial Completions authorized.

1.7 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, and performance curves.
1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:
 - a. Manufacturer's printed recommendations.
 - b. Compliance with recognized trade association standards.
 - c. Compliance with recognized testing agency standards.
 - d. Application of testing agency labels and seals.
 - e. Notation of dimensions verified by field measurement.
 - f. Notation of coordination requirements.
 2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
 3. Preliminary Submittal: Submit a preliminary single-copy of Product Data where selection of options is required.
 4. Submittals: Submit a minimum of five (5) copies of each required submittal. The Architect will retain three, and will return the others marked with action taken and corrections or modifications required.
 - a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
 5. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.
 6. Do not proceed with installation until an applicable copy of Product Data applicable is in the installer's possession.
 7. Do not permit use of unmarked copies of Product Data in connection with construction.

1.8 SAMPLES

- A. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of materials, color range sets, and swatches showing color, texture and pattern.
1. Mount, display, or package Samples in the manner specified to facilitate review of qualities indicated. Include the following:
 - a. Generic description of the Sample.
 - b. Sample source.
 - c. Product name or name of manufacturer.
 - d. Compliance with recognized standards.
 - e. Availability and delivery time.
 2. Submit Samples for review of kind, color, pattern, and texture, for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual component as delivered

- and installed.
3. Where variation in color, pattern, texture or other characteristics are inherent in the material or product represented, submit multiple units (not less than 3), that show approximate limits of the variations.
- B. Submittals: Submit three (3) sets; one will be returned marked with the action taken.
1. Maintain sets of Samples, as returned, at the Project site, for quality comparisons throughout the course of construction.
 2. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
 3. Sample sets may be used to obtain final acceptance of the construction associated with each set.
- C. Field Samples specified in individual Sections are special types of Samples. Field Samples are full-size examples erected on site to illustrate finishes, coatings, or finish materials and to establish the standard by which the Work will be judged.
1. Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

1.9 ARCHITECT'S ACTION

- A. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Architect will review each submittal, mark to indicate action taken, and return promptly.
1. Compliance with specified characteristics is the Contractor's responsibility
- B. Action Stamp: The Architect will stamp each submittal with a uniform, self-explanatory action stamp.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION (Not Applicable).

END OF SECTION 01 33 00

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for quality control services.
- B. Quality control services include inspections and tests and related actions including reports, performed by independent agencies, governing authorities, and the Contractor. They do not include Contract enforcement activities performed by the Architect.
- C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve the Contractor of responsibility for compliance with Contract Document requirements.
- D. Requirements of this Section relate to installation procedures.
 - 1. Specific quality control requirements for individual construction activities are specified in the Sections that specify those activities. Those requirements, including inspections and tests, cover production of standard products as well as installation procedures.
 - 2. Inspections, test and related actions specified are not intended to limit the Contractor's quality control procedures that facilitate compliance with Contract Document requirements.
 - 3. Requirements for the Contractor to provide quality control services required by the Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

1.3 RESPONSIBILITIES

- A. Contractor Responsibilities: The Contractor shall provide inspections, tests and similar quality control services, specified in individual Specification Sections and required by material manufacturing except where they are specifically indicated to be the Owner's responsibility, or are provided by another identified entity; these services include those specified to be performed by an independent agency provided by the Contractor. Costs for these services shall be included in the Contract Sum.
 - 1. The Contractor shall employ and pay an independent agency, to perform specified quality control services.
 - 2. The Owner may engage and pay for the services of an independent agency to perform inspections and tests specified as the Owner's responsibility.

3. Where the Owner has engaged a testing agency or other entity for testing and inspection of a part of the Work, and the Contractor is also required to engage an entity for the same or related element, the Contractor shall not employ the entity engaged by the Owner, unless otherwise agreed in writing with the Owner.
4. Retesting: The Contractor is responsible for retesting where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance with Contract Document requirements, regardless of whether the original test was the Contractor's responsibility.
5. Cost of retesting construction revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original construction.
6. Associated Services: The Contractor shall cooperate with agencies performing required inspections, tests and similar services and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but are not limited to:
 7. Providing access to the Work and furnishing incidental labor and facilities necessary to facilitate inspections and tests.
 8. Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.
 9. Providing the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
 10. Security and protection of samples and test equipment at the Project site.
- B. Coordination: The Contractor and each agency engaged to perform inspections, tests and similar services shall coordinate the sequence of activities to accommodate required services with a minimum of delay. In addition the Contractor and each agency shall coordinate activities to avoid, where possible, the necessity of removing and replacing construction to accommodate inspections and tests.

1.4 SUBMITTALS

- A. The independent testing agency shall submit a certified written report of each inspection, test or similar service, to the Architect, in duplicate, unless the Contractor is responsible for the service. If the Contractor is responsible for the inspection, test, or similar service, submit a certified written report of each inspection, test or similar service to the Architect and Owner's Representative, in duplicate.
 1. Report Data: Written reports of each inspection, test or similar service shall include, but not be limited to:
 - a. Date of issue.
 - b. Project title and number.
 - c. Name, address and telephone number of testing agency.
 - d. Dates and locations/areas of samples and tests or inspections.
 - e. Names of individuals making the inspection or test.
 - f. Designation of the Work and test method.
 - g. Identification of product/material, quantity and Specification Section.
 - h. Complete inspection or test data.
 - i. Test results and an interpretations of test results.

- j. Ambient conditions at the time of sample-taking and testing.
- k. Comments or professional opinion as to whether inspected or tested Work complies with Contract Document requirements.
- l. Name and signature of inspector.
- m. Recommendations on retesting, if applicable.

1.5 QUALITY ASSURANCE

- A. Qualification for Service Agencies: Engage inspection and testing service agencies, including independent testing laboratories, which are prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and which specialize in the types of inspections and tests to be performed.
 - 1. Each independent inspection and testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the State in which the Project is located.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: Upon completion of inspection, testing, sample-taking and similar services, repair damaged construction and restore substrates and finishes to eliminate deficiencies, including deficiencies in visual qualities of exposed finishes.
- B. Protect construction exposed by or for quality control service activities, and protect repaired construction.
- C. Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

END OF SECTION 01 40 00

SECTION 01 73 29 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. "Cutting-and-Patching" is hereby defined to include, but is not necessarily limited to, the cutting and patching of nominally completed and previously existing work in order to accommodate the coordination of work or the installation of other work or to uncover other work for access or inspection.
 - 1. Restoring or removing and replacing non-complying work is specified separately from cutting-and-patching, but may require cutting-and-patching operations as specified herein.
- B. Refer to other sections of these Specifications for specific cutting-and-patching requirements and limitations applicable to individual units of work.
 - 1. Refer to Division 15 and Division 16 Sections, for additional requirements and limitations on cutting-and-patching of mechanical and electrical work, respectively. The requirements of this section apply to mechanical and electrical work, unless otherwise indicated.

1.2 QUALITY ASSURANCE

- A. Requirements for Structural Work:
 - 1. Do not cut-and-patch structural work in a manner resulting in a reduction of load-carrying capacity of load/deflection ratio.
 - 2. Prior to cutting-and-patching the following categories of work, obtain Architect's/Engineer's written direction to proceed with cutting-and-patching as proposed in submittal by Contractor:
 - a. Structural steel.
 - b. Bearing walls.
 - c. Miscellaneous structural metals, including lintels, equipment supports, stair systems and similar categories of work.
 - d. Operational and Safety Limitations:
- B. Do not cut-and-patch operational elements and safety related components in a manner resulting in a reduction of capacities to perform in the manner intended, including energy performances, or resulting in decreased operational life, increased maintenance, or decreased safety.
- C. Prior to cutting-and-patching the following categories of work and similar categories where directed, obtain Architect's/Engineer's written direction to proceed with cutting-and-patching as proposed in submittal by Contractor:
 - 1. Primary operational systems and equipment Control, communication, conveying, and electrical wiring system.

D. Visual Requirements:

1. Do not cut and patch work which is exposed on exterior (or exposed in occupied spaces of the building) in a manner resulting in a reduction of visual qualities or resulting in substantial evidence of cut-and-patch work both as judged solely by Architect. Remove and replace work judged by Architect/Engineer to be cut-and-patched in a visually unsatisfactory manner.
2. Engage recognized expert entities to perform cutting-and-patching of exposed work including, but not limited to:
 - a. Roofing
 - b. Plaster
 - c. Stucco
 - d. Gypsum drywall
 - e. Acoustic ceilings
 - f. Flooring

1.3 SUBMITTALS

A. Proposals for Cutting-and-Patching:

1. Where prior written direction of cutting-and-patching is required, submit proposal well in advance of time work will be performed and request written direction to proceed. Include description of why cutting-and-patching can not (reasonably) be avoided, how it will be performed, products to be used, forms and tradesmen to perform the work, approximate dates of the work, and anticipated results in terms of variations from work as originally completed (structural, operational, visual and other qualities of significance). Where applicable, include cost proposal, suggested alternatives to cutting-and-patching procedure proposed, and a description of circumstances which lead to need for cutting-and-patching.
2. Written direction by Architect/Engineer to proceed with proposed cutting-and-patching does not waive the right to later required complete removal and replacement of work found to be cut-and-patched in an unsatisfactory manner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Provide materials for cutting-and-patching which will result in equal-or-better work than work being cut-and-patched, in terms of performance characteristics and including visual effect where applicable. Comply with requirements, and use materials identical with original materials where feasible and where recognized that satisfactory results can be produced thereby.

2.2 PREPARATION

- A. Temporary Support:

1. Provide adequate temporary support for work to be cut to prevent failure.
2. Do not endanger other work.

2.3 PROTECTION

- A. Provide adequate protection of other work during cutting-and-patching to prevent damage and provide protection of the work from adverse weather exposure.
- B. At the close of every work day all openings into secure areas and interior spaces left exposed due to cutting and patching activities shall be secured by the contractor to prevent entry or vandalism.

PART 3 - EXECUTION

3.1 CUTTING AND PATCHING

- A. Employ skilled tradesmen to perform cutting-and-patching. Except as otherwise indicated, proceed with cutting-and-patching at earliest feasible time in each instance and complete work without delay.
- B. Cut work by methods least likely to damage work to be retained and work adjoining. Review proposed procedure with original Installer where possible, and comply with recommendations therefrom.
 1. In general, where physical cutting action is required, cut work with sawing and grinding tools, not with hammering and chopping tools. Core drill openings for pipe and conduit through concrete and masonry.
 2. Comply with requirements of applicable sections of Division 2 where cutting-and-patching requires excavating and backfilling.
- C. Patch with seams which are durable and as invisible as possible. Where feasible, inspect and test patched areas to demonstrate integrity of work.
- D. Restore exposed finishes of patched areas and where necessary extend finish restoration onto retained work adjoining in a manner which will eliminate evidence of patching and refinishing.
- E. Where patch occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing patch after patched area has received prime and base coats.
- F. All penetrations through fire-rated construction shall be fire stopped as per NEC 300-21 using a through penetration fire-stop system (XHEZ) listed in the Underwriters Laboratory Fire Resistance Directory.

END OF SECTION 01 73 29

SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Unless otherwise indicated, demolished materials become Contractor's property.
- B. Comply with EPA regulations and disposal regulations of authorities having jurisdiction.
- C. Conduct demolition without disrupting Owner's occupation of the building.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 DEMOLITION

- A. Maintain and protect existing utilities to remain in service before proceeding with demolition, providing bypass connections to other parts of the building.
- B. Locate, identify, shut off, disconnect, and cap off utility services to be demolished.
- C. Employ a certified, licensed exterminator to treat building and to control rodents and vermin.
- D. Conduct demolition operations and remove debris to prevent injury to people and damage to adjacent buildings and site improvements.
- E. Provide and maintain shoring, bracing, or structural support to preserve building stability and prevent movement, settlement, or collapse.
- F. Protect building structure or interior from weather and water leakage and damage.
- G. Protect remaining walls, ceilings, floors, and exposed finishes. Erect and maintain dustproof partitions. Cover and protect remaining furniture, furnishings, and equipment.
- H. Promptly patch and repair holes and damaged surfaces of building caused by demolition. Restore exposed finishes of patched areas and extend finish restoration into remaining adjoining construction.
- I. Promptly remove demolished materials from Owner's property and legally dispose of them. Do not burn demolished materials.

END OF SECTION 02 41 19

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Carpentry work not specified as part of other sections and which generally is not exposed, except as otherwise indicated.
2. Rough carpentry for:
 - a. Miscellaneous lumber for attachment and support of other work.
3. Preservative treatment.

1.2 REFERENCES

- A. APA Form E30L -- Residential & Commercial; American Plywood Association; 1990.
- B. APA PRP-108 -- Performance Standards and Policies for Structural-Use Panels; American Plywood Association; 1988 (Revised 1989).
- C. ASTM A 153-82(87) -- Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 1982 (Reapproved 1987).
- D. AWPB LP-2-88 -- American Wood Preservers Bureau Quality Control and Inspection Procedures for Softwood Lumber, Timber and Plywood Pressure Treated with Waterborne Preservatives for Above Ground Use; 1988.
- E. AWPB LP-22-88 -- American Wood Preservers Bureau Quality Control and Inspection Procedures for Softwood Lumber, Timber and Plywood Pressure Treated with Waterborne Preservatives for Ground Contact Use; 1988.
- F. Standard Grading Rules for Southern Pine Lumber; Southern Pine Inspection Bureau (SPIB); 1991 (with Supplements No. 1, 2, 3 and 4).
- G. National Design Specification for Wood Construction; American Forest and Paper Association (formerly National Forest Products Association); 1991.
- H. Design Values for Wood Construction, A Supplement to the 1991 Edition National Design Specification; American Forest and Paper Association (formerly National Forest Products Association); 1991.
- I. NBS PS 1-83 -- Construction and Industrial Plywood; U.S. Department of Commerce, National Bureau of Standards; 1983 (with 1984 Revision).
- J. NBS PS 20-70(86) -- American Softwood Lumber Standard; U.S. Department of Commerce, National Bureau of Standards; 1970 (Amended 1986).

- K. NFPA WCD #1 -- Manual for Wood Frame Construction; American Forest and Paper Association (formerly National Forest Products Association); 1988.

1.3 SUBMITTALS

- A. Framing Connectors and Supports: Submit manufacturer's standard data demonstrating compliance with building code requirements.
- B. Material Certificates: For dimension lumber specified by minimum allowable unit stress, submit:
 - 1. Statement of species and grade selected for each application.
 - 2. Grading agency's grading rules showing allowable design values accepted by the Board of Review of American Lumber Standards Committee.
- C. Treated Wood: Treating plant's instructions for use, including storage, cutting, and finishing.
 - 1. Pressure preservative treatment: Treating plant's certification of compliance with specified standards and stating process employed and preservative retention values.

1.4 QUALITY ASSURANCE

- A. Lumber: Comply with NBS PS 20 and approved grading rules and inspection agencies.
- B. Grade Stamps for Concealed Lumber: Each piece of lumber, applied by inspection agency and showing compliance with each specified requirement.

1.5 DELIVERY STORAGE AND HANDLING

- A. Protect wood products against moisture and dimensional changes. Support stacks at several uniformly spaced points to prevent deformation. Store stacks raised above ground. Cover to protect from rain and snow. Select and arrange cover to allow air circulation under and all around stacks to prevent condensation. Maintain and restore displaced coverings. Remove from the site any wood products that have been subjected to moisture or that do not comply with the specified moisture requirements.

PART 2 - PRODUCTS

2.1 DIMENSION LUMBER

- A. Size: Provide nominal sizes indicated, complying with NBS PS 20 except where actual sizes are specifically required.
 - 1. Surfacing: Smooth lumber.
 - 2. Moisture content: Kiln-dry or MC15 (15 percent maximum moisture content).

- B. Miscellaneous Lumber: Provide dimension lumber and boards necessary for the support of work specified in other sections, whether or not specifically indicated, and including but not limited to blocking, nailers, etc.
 - 1. Moisture content: 15 percent maximum (kiln-dry).
 - 2. Lumber: S4S, No. 2 or standard grade.
 - 3. Boards: Construction, 2 common, or No. 2 grade.

2.2 BOARDS - LESS THAN 2 INCHES THICKNESS

- A. Moisture Content: Kiln-dry (15 percent maximum).
- B. Surfacing: Smooth.
- C. Grading Agency:
 - 1. SPIB.
- D. Species:
 - 1. Any allowed under referenced grading rules.
- E. Grade: No. 2, 2 common, or construction boards.

2.3 MISCELLANEOUS MATERIALS

- A. Fasteners: Provide as required by applicable codes and as otherwise indicated.
 - 1. Provide fasteners with a hot-dip zinc coating (ASTM A 153) for treated lumber and where wood is in ground contact, subjected to high relative humidity, or exposed to weather.
- B. Framing Connectors and Supports: Prefabricated, formed steel units; hot-dip galvanized finish unless otherwise indicated; type and size as required; approved by applicable codes.

2.4 WOOD TREATMENT BY PRESSURE PROCESS

- A. Above ground Lumber: AWPB ACQ (waterborne preservatives).
 - 1. Manufacturer's standard moisture content.
 - 2. Treat the following:
 - a. Wood in contact with roofing, flashing, or waterproofing.
 - b. Wood in contact with masonry or concrete.
 - c. Wood within 18 inches of grade.
 - d. All wood noted as pressure treated.
 - e. Other members indicated.
- B. Ground Contact Treatment: AWPB ACQ. (waterborne preservatives).

1. Treat the following:
 - a. Wood in contact with ground.
 - b. All wood notes as pressure treated.

- C. Fasteners for Preservative Treated Wood: Hot-dip galvanized steel (ASTM A153).

PART 3 - EXECUTION

3.1 INSTALLATION - GENERAL

- A. Arrange work to use full length pieces except where lengths would exceed commercially available lengths. Discard pieces with defects that would lower the required strength or appearance of the work.
- B. Cut and fit members accurately. Install plumb and true to line and level.
- C. Fasten carpentry in accordance with applicable codes and recognized standards.
- D. Where exposed, countersink nails and fill flush with suitable wood filler.
- E. Use fasteners of appropriate type and length. Pre-drill members when necessary to avoid splitting wood.

3.2 MISCELLANEOUS CARPENTRY

- A. Provide miscellaneous blocking, nailers, grounds, and framing as shown and as required for support of facing materials, fixtures, specialty items, and trim. Cut and shape to the required size. Provide in locations required by other work.
- B. Use countersunk fasteners appropriate to applied loading.
- C. Install permanent grounds for concrete and masonry where required.

3.3 WOOD FRAMING - GENERAL

- A. Comply with sizes, spacing, and configurations indicated. Where not specifically indicated, comply with applicable codes and NFPA "Manual for Wood Frame Construction." Splice members only where specifically indicated or approved.
- B. Space fasteners as indicated. Where not specifically indicated, comply with applicable codes and the "Recommended Nailing Schedule" of NFPA "Manual for Wood Frame Construction" and "National Design Specification for Wood Construction."

END OF SECTION 06 10 00

SECTION 06 40 00 - ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Wood doors on plastic-laminate architectural cabinets.
 - 2. Solid-surfacing-material countertops.
- B. Related Sections include the following:
 - 1. Division 06 Section "Rough Carpentry" for wood furring, blocking, shims, and hanging strips required for installing woodwork and concealed within other construction before woodwork installation.
 - 2. Division 06 Section "Wood Restoration" for interior carpentry exposed to view that is not specified in this Section.

1.3 DEFINITIONS

- A. Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips for installing woodwork items unless concealed within other construction before woodwork installation.

1.4 SUBMITTALS

- A. Product Data: For high-pressure decorative laminate, adhesive for bonding plastic laminate, solid-surfacing material, cabinet hardware and accessories and finishing materials and processes.
- B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
 - 1. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.
 - 2. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, appliances, and other items installed in architectural woodwork.

C. Samples for Initial Selection:

1. Shop-applied opaque finishes.
2. Plastic laminates.
3. Solid-surfacing materials.

D. Samples for Verification:

1. Lumber and panel products with shop-applied opaque finish, 50 sq. in. (300 sq. cm) for lumber and 8 by 10 inches (200 by 250 mm) for panels, for each finish system and color, with 1/2 of exposed surface finished.

1.5 QUALITY ASSURANCE

- A. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards" for grades of interior architectural woodwork indicated for construction, finishes, installation, and other requirements.
- B. Forest Certification: Provide interior architectural woodwork produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."
- C. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver woodwork until painting and similar operations that could damage woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Project Conditions" Article.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Field Measurements: Where woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 1. Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed, and indicate measurements on Shop Drawings.

1.8 COORDINATION

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide materials that comply with requirements of AWI's quality standard for each type of woodwork and quality grade specified, unless otherwise indicated.
- B. Regional Materials: Cabinets shall be manufactured within 500 miles of Project site.
- C. Wood Species for Opaque Finish: Any closed-grain hardwood.
- D. Wood Panel Products: Comply with the following:
 - 1. Panel Products (Hardwood Plywood): HPVA HP-1, made with adhesive containing no urea formaldehyde.
- E. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or, if not indicated, as required by woodwork quality standard.
 - 1. Manufacturer: Subject to compliance with requirements, provide high-pressure decorative laminates by one of the following:
 - a. Formica Corporation.
 - b. Nevamar Company, LLC; Decorative Products Div.
 - c. Wilsonart International; Div. of Premark International, Inc.
- F. Solid-Surfacing Material: Homogeneous solid sheets of filled plastic resin complying with ISSFA-2.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Silestone by Cosentino
 - 2. Type: Standard type, unless Special Purpose type is indicated.
 - 3. Colors and Patterns: As selected by Architect from manufacturer's full range.

2.2 CABINET HARDWARE AND ACCESSORIES

- A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets.

- B. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 135 degrees of opening, self-closing.
- C. Back-Mounted Pulls: CC01-M1703 - Griggs Pull, 3", Brushed Satin Nickel, by Complete Cabinet Hardware, or equal.
- D. Back-Mounted Drawer Pulls: CC01-M1298 - Dakota Cup Pull, Brushed Satin Nickel, by Complete Cabinet Hardware, or equal.
- E. Catches: Magnetic catches, BHMA A156.9, B03141.
- F. Shelf Rests: BHMA A156.9, B04013; metal, two-pin type with shelf hold-down clip.
- G. Drawer Slides: BHMA A156.9, B05091.
 - 1. Heavy Duty Grade 1HD-200: Side mounted; full-extension type; zinc-plated steel ball-bearing slides.
 - 2. Trash Bin Slides: Grade 1HD-200; for trash bins not more than 20 inches (500 mm) high and 16 inches (400 mm) wide.
- H. Grommets for Cable Passage through Countertops.
- I. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA A156.9.

2.3 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln dried to less than 15 percent moisture content.
- B. Furring, Blocking, Shims, and Hanging Strips: Fire-retardant-treated softwood lumber, kiln dried to less than 15 percent moisture content.
- C. Adhesives, General: Do not use adhesives that contain urea formaldehyde.
- D. VOC Limits for Installation Adhesives and Glues: Use installation adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - 1. Wood Glues: 30 g/L.
 - 2. Contact Adhesive: 250 g/L.

2.4 FABRICATION, GENERAL

- A. Interior Woodwork Grade: Unless otherwise indicated, provide Premium-grade interior woodwork complying with referenced quality standard.

- B. Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to ambient relative humidity during fabrication and in installation areas.
- C. Fabricate woodwork to dimensions, profiles, and details indicated. Ease edges to radius indicated for the following:
 - 1. Corners of Cabinets and Edges of Solid-Wood (Lumber) Members and Rails: 1/16 inch (1.5 mm).
- D. Complete fabrication, including assembly, finishing, and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
- E. Shop-cut openings to maximum extent possible to receive hardware, appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.
 - 1. Seal edges of openings in countertops with a coat of varnish.

2.5 INTERIOR STANDING AND RUNNING TRIM FOR OPAQUE FINISH

- A. See Division 6 "Wood Restoration, Patching and Repair" for replacement and new standing and running trim.

2.6 WOOD CABINET DOORS FOR OPAQUE FINISH

- A. Grade: Premium.
- B. AWI Type of Cabinet Construction: Reveal overlay.
- C. Reveal Dimension: 1/2 inch (13 mm).
- D. Species for Exposed Lumber Surfaces: Any closed-grain hardwood.
- E. Type of Door Construction: Dovetail joints.

2.7 PLASTIC-LAMINATE CABINET BOXES

- A. Grade: Premium.
- B. AWI Type of Cabinet Construction: Reveal overlay.
- C. WI Construction Style: Style A, Frameless.

- D. WI Construction Type: Type I, multiple self-supporting units rigidly joined together.
- E. Laminate Cladding for Exposed Surfaces: High-pressure decorative laminate complying with the following requirements:
 - 1. Horizontal Surfaces Other Than Tops: Grade HGS.
 - 2. Vertical Surfaces: Grade HGS.
 - 3. Edges: Grade HGS.
- F. Materials for Semi-exposed Surfaces:
 - 1. Surfaces Other Than Drawer Bodies: High-pressure decorative laminate, Grade VGS.
 - a. Edges of Plastic-Laminate Shelves: PVC T-mold matching laminate in color, pattern, and finish.
 - b. For semi-exposed backs of panels with exposed plastic-laminate surfaces, provide surface of high-pressure decorative laminate, Grade VGS.
 - 2. Drawer Sides and Backs: Solid-hardwood lumber.
 - 3. Drawer Bottoms: Hardwood plywood.
- G. Concealed Backs of Panels with Exposed Plastic Laminate Surfaces: High-pressure decorative laminate, Grade BKL. Note: Backside of cabinets to be installed along north wall of Warming Kitchen are semi-exposed and shall have plastic laminate finish on back face of cabinets.
- H. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:
 - 1. As selected by Architect from laminate manufacturer's full range in the following categories:
 - a. Solid colors with core same color as surface, gloss or matte finish.

2.8 SOLID-SURFACING-MATERIAL COUNTERTOPS

- A. Grade: Premium.
- B. Solid-Surfacing-Material Thickness: 1 1/4 inch (3 cm) for countertops and 3/4" (2 cm) for backsplash.
- C. Colors, Patterns, and Finishes: Provide materials and products that result in colors of solid-surfacing material complying with the following requirements:
 - 1. As selected by Architect from manufacturer's full range.
- D. Fabricate tops in one piece, unless otherwise indicated. Comply with solid-surfacing-material manufacturer's written recommendations for adhesives, sealers, fabrication, and finishing.
 - 1. Fabricate tops with shop-applied edges of materials and configuration indicated.
 - a. Edge Profile: half bullnose.
 - 2. Fabricate tops with shop-applied backsplashes.

- E. Drill holes in countertops for plumbing fittings and soap dispensers in shop.

2.9 SHOP FINISHING

- A. Grade: Provide finishes of same grades as items to be finished.
- B. General: Finish architectural woodwork at fabrication shop as specified in this Section. Defer only final touchup, cleaning, and polishing until after installation.
- C. Shop Priming: Shop apply the prime coat including backpriming.
 - 1. Refer to Division 09 painting Sections for material and application requirements.
 - 2. Architectural cabinets to be shop primed and finished.
 - 3. Architectural woodwork specified in other sections, including Division 6 "Wood Restoration, Patching, and Repair" to be shop primed (including backpriming) and field finished.
- D. Preparation for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural woodwork, as applicable to each unit of work.
 - 1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to back of wood work in direct contact with masonry surfaces and all end-grain surfaces. Concealed surfaces of plastic-laminate-clad woodwork do not require backpriming when surfaced with plastic laminate.
- E. Opaque Finish:
 - 1. Grade: Premium.
 - 2. AWI Finish System: Conversion varnish.
 - 3. Color: As selected by Architect from manufacturer's full range.
 - 4. Sheen: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Before installation, condition woodwork to average prevailing humidity conditions in installation areas.
- B. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.

3.2 INSTALLATION

- A. Grade: Install woodwork to comply with requirements for the same grade specified in Part 2 for fabrication of type of woodwork involved.
- B. Assemble woodwork and complete fabrication at Project site to comply with requirements for fabrication in Part 2, to extent that it was not completed in the shop.
- C. Install woodwork level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb (including tops) to a tolerance of 1/8 inch in 96 inches (3 mm in 2400 mm).
- D. Scribe and cut woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- E. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork and matching final finish if transparent finish is indicated.
- F. Cabinets: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.
 - 1. Install cabinets with no more than 1/8 inch in 96-inch (3 mm in 2400-mm) sag, bow, or other variation from a straight line.
- G. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop.
 - 1. Align adjacent solid-surfacing-material countertops and form seams to comply with manufacturer's written recommendations using adhesive in color to match countertop. Carefully dress joints smooth, remove surface scratches, and clean entire surface.
 - 2. Install countertops with no more than 1/8 inch in 96-inch (3 mm in 2400-mm) sag, bow, or other variation from a straight line.
 - 3. Calk space between backsplash and wall with sealant specified in Division 07 Section "Joint Sealants."
- H. Touch up finishing work specified in this Section after installation of woodwork. Fill nail holes with matching filler where exposed.

3.3 ADJUSTING AND CLEANING

- A. Repair damaged and defective woodwork, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.

- B. Clean, lubricate, and adjust hardware.
- C. Clean woodwork on exposed and semi-exposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

END OF SECTION 06 40 00

SECTION 08 11 13 – HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK:

- A. Extent of standard steel doors and frames is indicated and scheduled on drawings.
- B. Finish hardware is specified elsewhere in Division-8.
- C. Building in of anchors and grouting of frames in masonry construction is specified in Division 4.

1.3 QUALITY ASSURANCE:

- A. Provide doors and frames complying with Steel Door Institute "Recommended Specifications: Standard Steel Doors and Frames" (SDI-100) and as herein specified.
- B. Fire-Rated Door Assemblies: Where fire-rated door assemblies are indicated or required, provide fire-rated door and frame assemblies that comply with NFPA 80 "Standard for Fire Doors and Windows", and have been tested, listed, and labeled in accordance with ASTM E 152 "Standard Methods of Fire Tests of Door Assemblies" by a nationally recognized independent testing and inspection agency acceptable to authorities having jurisdiction.

1.4 SUBMITTALS:

- A. Product Data: Submit manufacturer's technical product data substantiating that products comply with requirements.
- B. Shop Drawings: Submit for fabrication and installation of steel doors and frames. Include details of each frame type, elevations of door design types, conditions at openings, details of construction, location and installation requirements of finish hardware and reinforcements, and details of joints and connections. Show anchorage and accessory items.
 - 1. Provide schedule of doors and frames using same reference numbers for details and openings as those on contract drawings.
 - 2. Indicate coordination of glazing frames and stops with glass and glazing requirements.
- C. Label Construction Certification: For door assemblies required to be fire-rated and exceeding sizes of tested assemblies, submit manufacturer's certification for that each door and frame assembly has been constructed to conform to design, materials and construction equivalent to requirements for labeled construction.

1.5 DELIVERY, STORAGE AND HANDLING:

- A. Deliver hollow metal work cartoned or crated to provide protection during transit and job storage. Provide additional sealed plastic wrapping for factory finished doors.
- B. Inspect hollow metal work upon delivery for damage. Minor damages may be repaired provided refinished items are equal in all respects to new work and acceptable to Architect; otherwise, remove and replace damaged items as directed.
- C. Store doors and frames at building site under cover. Place units on minimum 4" high wood blocking. Avoid use of non-vented plastic or canvas shelters which could create humidity chamber. If cardboard wrapper on door becomes wet, remove carton immediately. Provide 1/4" spaces between stacked doors to promote air circulation.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS:

- A. Acceptable Manufacturers: Subject to compliance with requirements, manufacturers offering steel doors and frames which may be incorporated in the work include, but are not limited to, the following:
 - 1. Steel Doors and Frames, (General):
 - a. Allied Steel Products, Inc.
 - b. Amweld/Div. American Welding & Mfg. Co.
 - c. Ceco Corp.
 - d. Copco Door Co.
 - e. Curries Mfg., Inc.
 - f. Kewanee Corp.
 - g. Mesker Industries, Inc.
 - h. Steelcraft/Div. American Standard Co.
 - i. Trussbilt, Inc.
 - j. Republic Builders Products Corp./Subs. Republic Steel.

2.2 MATERIALS:

- A. Hot-Rolled Steel Sheets and Strip: Commercial quality carbon steel, pickled and oiled, complying with ASTM A 569 and ASTM A 568.
- B. Cold-Rolled Steel Sheets: Commercial quality carbon steel, complying with ASTM A 366 and ASTM A 568.
- C. Galvanized Steel Sheets: Zinc-coated carbon steel sheets of commercial quality, complying with ASTM A 526, with ASTM A 525, G60 zinc coating, mill phosphatized.
- D. Supports and Anchors: Fabricate of not less than 18 gage galvanized sheet steel.
- E. Inserts, Bolts and Fasteners: Manufacturer's standard units, except hot-dip galvanize

items to be built into exterior walls, complying with ASTM A 153, Class C or D as applicable.

F. Shop Applied Paint:

1. Primer: Rust-inhibitive enamel or paint, either air-drying or baking, suitable as a base for specified finish paints.

2.3 FABRICATION, GENERAL:

- A. Fabricate steel door and frame units to be rigid, neat in appearance and free from defects, warp or buckle. Wherever practicable, fit and assemble units in manufacturer's plant. Clearly identify work that cannot be permanently factory assembled before shipment, to assure proper assembly at project site. Comply with SDI-100 requirements as follows:
1. Interior Doors: SDI-100, Grade II, heavy-duty, Model 1, minimum 18-gage faces.
 2. Exterior Doors: SDI-100, Grade III, extra heavy-duty, Model 2, minimum 16-gage faces.
- B. Fabricate exposed faces of doors and panels, including stiles and rails of nonflush units, from only cold-rolled steel.
- C. Fabricate frames, concealed stiffeners, reinforcement, edge channels, louvers and moldings from either cold-rolled or hot-rolled steel (at fabricator's option).
- D. Fabricate exterior doors, panels, and frames from galvanized sheet steel. Close top and bottom edges of exterior doors as integral part of door construction or by addition of minimum 16-gage inverted steel channels.
- E. Exposed Fasteners: Unless otherwise indicated, provide countersunk flat Phillips heads for exposed screws and bolts.
- F. Finish Hardware Preparation: Prepare doors and frames to receive mortised and concealed finish hardware in accordance with final Finish Hardware Schedule and templates provided by hardware supplier. Comply with applicable requirements of ANSI A115 series specifications for door and frame preparation for hardware.
- G. Reinforce doors and frames to receive surface-applied hardware. Drilling and tapping for surface-applied finish hardware may be done at project site.
- H. Locate finish hardware as indicated on final shop drawings or, if not indicated, in accordance with "Recommended Locations for Builder's Hardware", published by Door and Hardware Institute.
- I. Shop Painting:
1. Clean, treat, and paint exposed surfaces of steel door and frame units, including galvanized surfaces.
 2. Clean steel surfaces of mill scale, rust, oil, grease, dirt, and other foreign materials before application of paint.

- J. Apply shop coat of prime paint of even consistency to provide a uniformly finished surface ready to receive finish paint.

2.4 STANDARD STEEL DOORS:

- A. Provide metal doors of types and styles indicated on drawings or schedules.
- B. Door Louvers:
 - 1. Provide sightproof stationary louvers for interior doors where indicated, constructed of inverted V-shaped or Y-shaped blades formed of 24-gage cold-rolled steel set into 20-gage steel frame.

2.5 STANDARD STEEL FRAMES:

- A. Provide metal frames for doors, transoms, sidelights, borrowed lights, and other openings, of types and styles as shown on drawings and schedules. Conceal fastenings, unless otherwise indicated. Fabricate frames of minimum 16-gage cold-rolled furniture steel.
 - 1. Fabricate frames with metered corners, welded construction for exterior applications and interior masonry wall applications, knocked-down for field assembly at interior applications.
 - 2. Form exterior frames of hot dip galvanized steel.
- B. Door Silencers: Except on weatherstripped frames, drill stops to receive 3 silencers on strike jambs of single-swing frames and 2 silencers on heads of double-swing frames.
- C. Plaster Guards: Provide 26-gage steel plaster guards or mortar boxes, welded to frame, at back of finish hardware cutouts where mortar or other materials might obstruct hardware operation and to close off interior of openings.

PART 3 - EXECUTION

3.1 INSTALLATION:

- A. General: Install standard steel doors, frames, and accessories in accordance with final shop drawings, manufacturer's data, and as herein specified.
- B. Placing Frames: Comply with provisions of SDI-105 "Recommended Erection Instructions For Steel Frames", unless otherwise indicated.
 - 1. Except for frames located at in-place concrete or masonry and at drywall installations, place frames prior to construction of enclosing walls and ceilings. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is completed, remove temporary braces and spreaders leaving surfaces smooth and undamaged.
 - 2. In masonry construction, locate 3 wall anchors per jamb at hinge and strike levels.
 - 3. At in-place concrete or masonry construction, set frames and secure to adjacent construction with machine screws and masonry anchorage devices.
 - 4. Install fire-rated frames in accordance with NFPA Std. No. 80.
 - 5. In metal stud partitions, install at least 3 wall anchors per jamb at hinge and strike

levels. In open steel stud partitions, place studs in wall anchor notches and wire tie. In closed steel stud partitions, attach wall anchors to studs with tapping screws.

C. Door Installation:

1. Fit hollow metal doors accurately in frames, within clearances specified in SDI-100.
2. Place fire-rated doors with clearances as specified in NFPA Standard No. 80.

3.2 ADJUST AND CLEAN:

- A. Prime Coat Touch-up: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.
- B. Protection Removal: Immediately prior to final inspection, remove protective plastic wrappings from prefinished doors.
- C. Final Adjustments: Check and readjust operating finish hardware items, leaving steel doors and frames undamaged and incomplete and proper operating conditions.

END OF SECTION 08 11 13

SECTION 08 14 16 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK:

- A. Extent of flush wood doors as indicated and scheduled on drawings.
- B. Finish hardware is specified elsewhere in Division-8.
- C. Hollow metal frames are specified elsewhere in Division-8.

1.3 QUALITY ASSURANCE:

- A. Fire-Rated Door Assemblies: Where fire-rated door assemblies are indicated or required, provide fire-rated door and frame assemblies that comply with NFPA 80 "Standard for Fire Doors and Windows", and have been tested, listed, and labeled in accordance with ASTM E 152 "Standard Methods of Fire Tests of Door Assemblies" by a nationally recognized independent testing and inspection agency acceptable to authorities having jurisdiction.
- B. Glazing: All glazing in doors to be tempered. Provide factory fire rated glazing in all rated door assemblies as noted on schedule.

1.4 SUBMITTALS:

- A. Product Data: Submit manufacturer's technical product data substantiating that products comply with requirements.
- B. Shop Drawings: Submit for fabrication and installation of wood doors and steel frames. Include details of each frame type, elevations of door design types, conditions at openings, details of construction, location and installation requirements of finish hardware and reinforcements, and details of joints and connections. Show anchorage and accessory items.
 - 1. Provide schedule of doors and frames using same reference numbers for details and openings as those on contract drawings.
 - 2. Indicate coordination of glazing frames and stops with glass and glazing requirements.
- C. Label Construction Certification: For door assemblies required to be fire-rated and exceeding sizes of tested assemblies, submit manufacturer's certification for that each door and frame

assembly has been constructed to conform to design, materials and construction equivalent to requirements for labeled construction.

1.5 DELIVERY, STORAGE AND HANDLING:

- A. Deliver wood doors cartoned or crated to provide protection during transit and job storage. Provide additional sealed plastic wrapping for factory finished doors.
- B. Inspect doors upon delivery for damage. Minor damages may be repaired provided refinished items are equal in all respects to new work and acceptable to Architect; otherwise, remove and replace damaged items as directed.
- C. Store doors and frames at building site under cover. Place units on minimum 4" high wood blocking. Avoid use of non-vented plastic or canvas shelters which could create humidity chamber. If cardboard wrapper on door becomes wet, remove carton immediately. Provide 1/4" spaces between stacked doors to promote air circulation.

PART 2 - PRODUCTS

2.1 FLUSH WOOD DOORS

- A. Doors for Stained Finish: Premium grade.
 - 1. Faces: Closed-grain hardwood, to match existing.
- B. Fire-Rated Solid-Core Doors: Core construction to provide fire rating indicated, faces and grade to match non-fire-rated doors.
 - 1. Composite blocking where required to eliminate through-bolting hardware.
 - 2. Laminated-edge construction.

2.2 FABRICATION AND FINISHING

- A. Factory fit doors to suit frame-opening sizes indicated and to comply with referenced quality standard.
 - 1. Comply with NFPA 80 for fire-resistance-rated doors.
- B. Factory machine doors for hardware that is not surface applied.
- C. Cut and trim openings to comply with referenced standards.
 - 1. Trim light openings with moldings indicated.
 - 2. Factory install glazing in prepared openings.
 - 3. Louvers, as indicated on the mechanical drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with WDMA's "How to Store, Handle, Finish, Install, and Maintain Wood Doors."
 - 1. Install fire-rated doors to comply with NFPA 80.
- B. Repair, refinish, or replace factory-finished doors damaged during installation, as directed by Architect.

END OF SECTION 08 14 16

SECTION 08 70 00 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes items known commercially as finish or door hardware that are required for swing, sliding, and folding doors, except special types of unique hardware specified in the same sections as the doors and door frames on which they are installed.
- B. This Section includes the following:
 - 1. Hinges.
 - 2. Pivots.
 - 3. Lock and latch sets.
 - 4. Electric Strikes
 - 5. Flush Bolts.
 - 6. Exit devices.
 - 7. Push/pull units.
 - 8. Closers.
 - 9. Door Seals.
 - 10. Thresholds.
- C. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 8 Section "Standard Steel Doors and Frames" for silencers integral with hollow metal frames.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification sections.
- B. Product data including manufacturers' technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
- C. Final hardware schedule coordinated with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Final Hardware Schedule Content: Based on hardware indicated, organize schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include the following information:
 - a. Type, style, function, size, and finish of each hardware item.

- b. Name and manufacturer of each item.
- c. Fastenings and other pertinent information.
- d. Location of each hardware set cross referenced to indications on Drawings both on floor plans and in door and frame schedule.
- e. Explanation of all abbreviations, symbols, and codes contained in schedule.
- f. Mounting locations for hardware.
- g. Door and frame sizes and materials.
- h. Keying information.

1.4 QUALITY ASSURANCE

- A. Single Source Responsibility: Obtain each type of hardware (latch and lock sets, hinges, closers, etc.) from a single manufacturer.
- B. Fire-Rated Openings: Provide door hardware for fire-rated openings that complies with NFPA Standard No. 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and are identical to products tested by UL, Warnock Hersey, FM, or other testing and inspecting organization acceptable to authorities having jurisdiction for use on types and sizes of doors indicated in compliance with requirements of fire-rated door and door frame labels.

1.5 PRODUCT HANDLING

- A. Packaging of door hardware is responsibility of supplier. As material is received by hardware supplier from various manufacturers, sort and repackage in containers clearly marked with appropriate hardware set number to match set numbers of approved hardware schedule. Two or more identical sets may be packed in same container.
- B. Deliver individually packaged door hardware items promptly to place of installation (shop or Project site).
- C. Provide secure lock-up for door hardware delivered to the Project, but not yet installed. Control handling and installation of hardware items that are not immediately replaceable so that completion of the Work will not be delayed by hardware losses both before and after installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:
 - 1. Butts and Hinges:
 - a. Stanley Hardware, Div. Stanley Works, *Basis of Design.
 - b. Hager Hinge Co.
 - c. McKinney Products Co.

2. Pivots:
 - a. Hager Hinge Co., *Basis of Design.
 - b. Stanley Hardware, Div. Stanley Works
 - c. Glynn-Johnson Corp.
 - d. LCN, Div. Ingersoll-Rand Door Hardware Group.
 - e. Norton Door Controls, Div. Yale Security Inc.
 - f. Rixson-Firemark, Div. Yale Security Inc.
3. Exit/Panic Devices:
 - a. Corbin & Russwin Architectural Hardware, *Basis of Design.
 - b. Adams Rite Manufacturing Co.
 - c. Dor-O-Matic.
 - d. Monarch Hardware & Mfg. Co., Div Newman Tonks, Inc.
 - e. Precision Hardware, Inc.
 - f. Reed Exit Hardware, Div. Yale Security Inc.
 - g. Sargent Manufacturing Company.
 - h. Von Duprin, Div. Ingersoll-Rand Door Hardware Group.
 - i. Yale Security Inc.
4. Push/Pull Units:
 - a. Rockwood Manufacturing Company, *Basis of Design.
 - b. Baldwin Hardware Corp.
 - c. Brookline Industries, Div. Yale Security Inc.
 - d. Corbin & Russwin Architectural Hardware
 - e. Hager Hinge Co.
5. Lockset / Latchset:
 - a. Corbin-Russwin Architectural Hardware, *Basis of Design.
 - b. Yale Security Inc.
 - c. Cal Royal
6. Electric Strikes:
 - a. HES Inc. *Basis of Design.
 - b. Folger Adam
 - c. Von Duprin
7. Flush Bolts:
 - a. Hiawatha, Inc., *Basis of Design.
 - b. Rockwood Manufacturing Co.
 - c. H. B. Ives
8. Overhead Closers:
 - a. Corbin & Russwin Architectural Hardware
Basis of Design DC 8000 Series
 - b. Dorma Door Controls International.
 - c. LCN, Div. Ingersoll-Rand Door Hardware Group.
9. Kick, Mop, and Armor Plates:
 - a. Rockwood Manufacturing Co. *Basis of Design
 - b. Brookline Industries, Div. Yale Security Inc.
 - c. Corbin & Russwin Architectural Hardware, Div. Black & Decker Corp.
 - d. Hager Hinge Co.
 - e. Hiawatha, Inc.

- f. H. B. Ives, A Harrow Company.
- g. Baldwin Hardware Corp.
- 10. Astragal:
 - a. National Guard Products, Inc., *Basis of Design.
 - b. Hager Hinge Co.
 - c. Pemko Manufacturing Co., Inc
- 11. Door Stripping and Seals:
 - a. National Guard Products, Inc., *Basis of Design.
 - b. Hager Hinge Co.
 - c. Pemko Manufacturing Co., Inc.
- 12. Thresholds:
 - a. National Guard Products, Inc., *Basis of Design.
 - b. Hager Hinge Co.
 - c. Pemko Manufacturing Co., Inc.

2.2 SCHEDULED HARDWARE

- A. Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of finish hardware are indicated in the "Hardware Schedule" on the drawings in the door schedule. Products are identified by using hardware designation numbers of the following:
 - 1. Manufacturer's Product Designations: The product designation and name of one manufacturer are listed for each hardware type required for the purpose of establishing minimum requirements. Provide either the product designated or, where more than one manufacturer is specified under the Article "Manufacturers" in Part 2 for each hardware type, the comparable product of one of the other manufacturers that complies with requirements.
 - 2. ANSI/BHMA designations used elsewhere in this Section or in schedules to describe hardware items or to define quality or function are derived from the following standards. Provide products complying with these standards and requirements specified elsewhere in this Section.
 - a. Butts and Hinges: ANSI/BHMA A156.1.
 - b. Bored and Preassembled Locks and Latches: ANSI/BHMA A156.2.
 - c. Exit Devices: ANSI/BHMA A156.3.
 - d. Door Controls - Closers: ANSI/BHMA A156.4.
 - e. Auxiliary Locks and Associated Products: ANSI/BHMA A156.5.
 - f. Architectural Door Trim: ANSI/BHMA A156.6.
 - g. Template Hinge Dimensions: ANSI/BHMA A156.7.
 - h. Door Controls - Overhead Holders: ANSI/BHMA A156.8.
 - i. Interconnected Locks and Latches: ANSI/BHMA A156.12.
 - j. Mortise Locks and Latches: ANSI/BHMA A156.13.
 - k. Sliding and Folding Door Hardware: ANSI/BHMA A156.14.
 - l. Closer Holder Release Devices: ANSI/BHMA A156.15.
 - m. Auxiliary Hardware: ANSI/BHMA A156.16.
 - n. Materials and Finishes: ANSI/BHMA A156.18.

2.3 MATERIALS AND FABRICATION

A. Door Hardware:

1. Quality Level: Vandal resistant commercial.
2. Locksets and Latchsets: Cylinder type.
3. Lock Cylinders: Integral.
4. Lock Cylinders: Interchangeable.
5. Keying: Owner's requirements.
6. Hinges and Butts: Full mortised type with nonremovable pins at exterior doors.
7. Closers, Door Control, and Exit Devices: High frequency.
8. Closers, Door Control, and Exit Devices: Barrier-free.
9. Pivots: Center-hung type.
10. Push/Pull Units: Through-bolted type.
11. Hardware Finishes: Satin stainless finish on exposed surfaces.

B. Auxiliary Materials:

1. Door Trim Units: Kickplates, edge trim, and mail drops, and related trim.
2. Stops and overhead door holders.
3. Sounstripping.
4. Weatherstripping and thresholds.
5. Card-operated opening devices.

2.4 HINGES, BUTTS, AND PIVOTS

A. Templates: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.

B. Screws: Provide Phillips flat-head screws complying with the following requirements:

1. For metal doors and frames install machine screws into drilled and tapped holes.
2. For wood doors and frames install wood screws.
3. For fire-rated wood doors install #12 x 1-1/4-inch, threaded-to-the-head steel wood screws.
4. Finish screw heads to match surface of hinges or pivots.

C. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:

1. Out-Swing Exterior Doors: Nonremovable pins.
2. Out-Swing Corridor Doors with Locks: Nonremovable pins.
3. Interior Doors: Nonrising pins.
4. Tips: Flat button and matching plug, finished to match leaves, except where hospital tip (HT) indicated.

- D. Number of Hinges: Provide number of hinges indicated but not less than 3 hinges per door leaf for doors 90 inches or less in height and one additional hinge for each 30 inches of additional height.
 - 1. Fire-Rated Doors: Not less than 3 hinges per door leaf for doors 86 inches or less in height with same rule for additional hinges.

2.5 LOCK CYLINDERS AND KEYING

- A. Standard System: Provide masterkey system to match Owner's existing buildings. Contractor to confirm keying system and hardware compatibility with Owner's existing system prior to hardware submittals.
- B. Review the keying system with the Owner and provide the type required (master, grandmaster or great-grandmaster), either new or integrated with Owner's existing system.
- C. Equip locks with manufacturer's special 6-pin tumbler cylinder with construction masterkey feature that permits voiding of construction keys without cylinder removal.
- D. Equip locks with cylinders for interchangeable-core pin tumbler inserts. Furnish only temporary inserts for the construction period, and remove these when directed.
 - 1. Furnish final cores and keys for installation by Contractor after Substantial completion.
- E. Metals: Construct lock cylinder parts from brass or bronze, stainless steel, or nickel silver.
- F. Comply with Owner's instructions for masterkeying and, except as otherwise indicated, provide individual change key for each lock that is not designated to be keyed alike with a group of related locks.
 - 1. Permanently inscribe each key with number of lock that identifies cylinder manufacturer's key symbol, and notation, "DO NOT DUPLICATE."
- G. Key Material: Provide keys of nickel silver only.
- H. Key Quantity: Furnish 3 change keys for each lock, 5 master keys for each master system, and 5 grandmaster keys for each grandmaster system.
 - 1. Furnish one extra blank for each lock.
 - 2. Deliver keys to Owner.

2.6 LOCKS, LATCHES, AND BOLTS

- A. Strikes: Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame, finished to match hardware set, unless otherwise indicated.
 - 1. Provide flat lip strikes for locks with 3-piece, antifriction latchbolts as recommended by manufacturer.
 - 2. Provide recess type top strikes for bolts locking into head frames, unless otherwise indicated.

3. Provide dust-proof strikes for foot bolts, except where special threshold construction provides nonrecessed strike for bolt.
 4. Provide roller type strikes where recommended by manufacturer of the latch and lock units.
- B. Lock Throw: Provide 5/8-inch minimum throw of latch on pairs of doors. Comply with UL requirements for throw of bolts and latch bolts on rated fire openings.
1. Provide 1/2-inch minimum throw of latch for other bored and preassembled types of locks and 3/4-inch minimum throw of latch for mortise locks. Provide 1-inch minimum throw for all dead bolts.
- C. Flush Bolt Heads: Minimum of 1/2-inch diameter rods of brass, bronze, or stainless steel with minimum 12-inch long rod for doors up to 84 inches in height. Provide longer rods as necessary for doors exceeding 84 inches in height.
- D. Exit Device Dogging: Except on fire-rated doors where closers are provided on doors equipped with exit devices, equip the units with keyed dogging device to keep the latch bolt retracted, when engaged.
- E. Rabbeted Doors: Where rabbeted door stiles are indicated, provide special rabbeted front on lock and latch units and bolts.

2.7 PUSH/PULL UNITS

- A. Concealed Fasteners: Provide manufacturer's special concealed fastener system for installation, thru-bolted for matched pairs but not for single units.

2.8 CLOSERS AND DOOR CONTROL DEVICES

- A. Size of Units: Except as otherwise specifically indicated, comply with the manufacturer's recommendations for size of door control unit depending on size of door, exposure to weather, and anticipated frequency of use.
1. Where parallel arms are indicated for closers, provide closer unit one size larger than recommended for use with standard arms.
 2. Provide parallel arms for all overhead closers, except as otherwise indicated.
- B. Access-Free Manual Closers: Where manual closers are indicated for doors required to be accessible to the physically handicapped, provide adjustable units complying with ANSI A117.1 provisions for door opening force and delayed action closing.
- C. Combination Door Closers and Holders: Provide units designed to hold door in open position under normal usage and to release and close door automatically under fire conditions. Incorporate an integral electromagnetic holder mechanism designed for use with UL listed fire detectors, provided with normally closed switching contacts.
1. Provide integral smoke detector device in combination door closers and holders complying with UL 228.

- D. Provide grey resilient parts for exposed bumpers.

2.9 DOOR TRIM UNITS

- A. Fasteners: Provide manufacturer's standard exposed fasteners for door trim units consisting of either machine screws or self-tapping screws.
- B. Fabricate edge trim of stainless steel to fit door thickness in standard lengths or to match height of protection plates.
- C. Fabricate protection plates not more than 1-1/2 inches less than door width on hinge side and not more than 1/2 inch less than door width on pull side by height indicated.
 - 1. Metal Plates: Stainless steel, 0.050 inch (U.S. 18 gage).

2.10 WEATHERSTRIPPING AND SEALS

- A. General: Provide continuous weatherstripping on exterior doors and smoke, light, or sound seals on interior doors where indicated or scheduled. Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.
- B. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strip is easily replaceable and readily available from stocks maintained by manufacturer.
- C. Weatherstripping at Jambs and Heads: Provide bumper-type resilient insert and metal retainer strips, surface applied unless shown as mortised or semimortised, and of following metal, finish, and resilient bumper material:
 - 1. Extruded aluminum with natural anodized finish, 0.062-inch minimum thickness of main walls and flanges.
 - 2. Extruded aluminum with color anodized finish as selected from manufacturer's standard color range, 0.062-inch minimum thickness of main walls and flanges.
 - 3. Sponge neoprene conforming to MIL R 6130, Class II (Closed Cell).
 - a. Grade A: 30 to 150 deg F, oil-resistant and self-extinguishing.
 - 4. Expanded neoprene: Cellular rubber conforming to ASTM D 1056 Type 2 (closed-cell); Class B (low-swell, oil-resistant); Grade 2 (compression-deflection of 5 - 9 psi); and self-extinguishing in following size:
 - a. 3/16 x 5/8 inch.
 - b. 1/4 x 3/4 inch.
 - c. 3/8 x 1-1/4 inches.
 - 5. Solid neoprene conforming to MIL R 6855, Class II, Grade 40.
 - a. Flexible, hollow bulb or loop insert.

2.11 THRESHOLDS

- A. General: Except as otherwise indicated, provide standard metal threshold unit of type, size, and profile as shown on scheduled.

- B. Exterior Hinged or Pivoted Doors: Provide units not less than 4 inches wide, formed to accommodate change in floor elevation where indicated, fabricated to accommodate door hardware and to fit door frames, and as follows:
 - 1. For in-swinging doors provide units with interlocking lip and interior drain channel; include hook on bottom edge of door and drain pan.
 - 2. For out-swinging doors provide rabbeted type units with replaceable weatherstrip insert in stop.

2.12 HARDWARE FINISHES

- A. Match items to the manufacturer's standard color and texture finish for the latch and lock sets (or push-pull units if no latch or lock sets). New hardware to match existing finish.
- B. Provide finishes that match those established by BHMA or, if none established, match the Architect's sample.
- C. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.
- D. The designations used in schedules and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18, "Materials and Finishes," including coordination with the traditional U.S. finishes shown by certain manufacturers for their products.
- E. The designations used in schedules and elsewhere to indicate hardware finishes are the industry-recognized standard commercial finishes, except as otherwise noted.
 - 1. Rust-Resistant Finish: For iron and steel base metal required for exterior work and in areas shown as "High Humidity" areas (and also when designed with the suffix -RR), provide 0.2-mil thick copper coating on base metal before applying brass, bronze, nickel, or chromium plated finishes.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Mount hardware units at heights indicated in following applicable publications, except as specifically indicated or required to comply with governing regulations and except as otherwise directed by Architect.
 - 1. "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute.
- B. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Where cutting and fitting is required to install hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation or application of surface protection with finishing work specified in the Division 9 Sections. Do not install surface-mounted items until finishes have been completed on the substrates involved.

- C. Set units level, plumb, and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- D. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.

3.2 ADJUSTING, CLEANING, AND DEMONSTRATING

- A. Adjust and check each operating item of hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate freely and smoothly or as intended for the application made.
 - 1. Where door hardware is installed more than one month prior to acceptance or occupancy of a space or area, return to the installation during the week prior to acceptance or occupancy and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.
- B. Clean adjacent surfaces soiled by hardware installation.
- C. Instruct Owner's personnel in the proper adjustment and maintenance of door hardware and hardware finishes.

3.3 HARDWARE SCHEDULE

See specification Section 08 71 00

END SECTION 08 70 00

SECTION 08 71 11 – DOOR HARDWARE SCHEDULE

H1 – DOOR D1

4	EA	HINGE	T4A3386 4.5 X 4.5 NRP	630	MCK
2	EA	HINGE	T4A3386 4.5 X 4.5 QC8	630	MCK
1	EA	EXIT DEVICE	ED5470B X N955 X M94 X M55	626	C-R
1	EA	EXIT DEVICE	ED5470B-EO X M55 X M94	626	C-R
1	EA	RIM CYLINDER	3000-200-7 KEYWAY TO MATCH EXIST	626	C-R
1	EA	AUTO OPERATOR	SW-100 DBL	689	BES
2	EA	KICK PLATE	K1050 8" X 2" L.D.W. X .050" B3E	630	ROC
2	EA	FLOOR STOP	441H	626	ROC
1	EA	CONTROLLER	782		C-R
2	EA	PUSH BUTTON ACTUATO	502		NOR
1	EA	CARD READER	BY SECURITY SYSTEM PROVIDER		B/O
1	EA	MOTION SENSOR	XMS		SEC

DOORS ARE NORMALLY CLOSED AND LOCKED. ACCESSED BY CARD READER OR MECHANICAL KEY. AUTOMATIC DOOR OPENER ACTIVATED BY CARD READER AND PUSH BUTTON ON LOBBY SIDE; OR BY MOTION SENSOR ON CORRIDOR SIDE.

H2 – DOOR D2

6	EA	HINGE	T4A3786 4.5 X 4.5	26D	MCK
1	EA	ELEC EXIT DEVICE	ED5470B X N9905 X M55 (LESS BTM ROD)	626	C-R
1	EA	EXIT DEVICE	ED5470B-EO X M55	626	C-R
1	EA	RIM CYLINDER	3000-200-7 KEYWAY TO MATCH EXIST	626	C-R
2	EA	CLOSER	DC6210 M54	689	C-R
2	EA	KICK PLATE	K1050 8" X 2" L.D.W. X .050" B3E	630	ROC
2	EA	MAG HOLD-OPENS	998 X 24 VDC	689	RIX
1	EA	POWER SUPPLY	BPS-12/24-1		C-R
1	EA	CARD READER	BY SECURITY INTEGRATOR		B/O
1	EA	PUSH BUTTON RELEASE	PB4LN-2	630	SEC

DOORS NORMALLY HELD-OPEN BY MAGNETIC HOLD-OPEN DEVICES. RELEASED BY EITHER FIRE ALARM OR REMOTE BUTTON LOCATED IN SECURITY OFFICE. ONCE CLOSED, DOORS ARE LOCKED AND CAN BE OPENED BY CARD READER OR MECHANICAL KEY.

H3 – DOORS D3,D5, D6

3	EA	HINGE	TA2714 4.5 X 4.5	26D	MCK
1	EA	STOREROOM LOCK	CL3357 NZD (2-3/4 LATCH, ANSI STRIKE)	626	C-R
1	EA	CLOSER	DC6210-A4 X M54	689	C-R

H4 – DOORS D4, D7

3	EA	HINGE	TA2714 4.5 X 4.5	26D	MCK
1	EA	STOREROOM LOCK	CL3357 NZD (2-3/4 LATCH, ANSI STRIKE)	626	C-R
1	EA	ELECTRIC STRIKE	1006J X 2005M3 X 2006M	630	HES
1	EA	CLOSER	DC6210-A4 X M54	689	C-R

H5 – DOORS D8, D9

PER MANUFACTURER: DOORS SHALL REMAIN OPEN DURING BUSINESS HOURS BY MOTION SENSOR ON BOTH SIDES. AFTER HOURS, DOOR D8 SHALL OPEN BY CARD READER BOTH WAYS, AND DOOR D9 SHALL OPEN BY CARD READER FOR ENTRY AND MOTION SENSOR FOR EGRESS

End of Section 08 71 11

SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submit Product Data.
- B. Where STC-rated assemblies are required, provide materials and construction identical to assemblies whose STC ratings were determined according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.
- C. Where fire-resistance-rated assemblies are required, provide materials and construction identical to assemblies tested according to ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 METAL FRAMING AND SUPPORTS

- A. Steel framing for 1-hour fire rated partitions and non-rated partitions complying with ASTM C 645.
 - 1. Studs and Runners: Clark Deitrich cold-formed galvanized steel C-studs in conformance with ASTM C-645, or equal. Contractor to verify maximum framing height of new stud wall and verify that the new wall is within the limiting heights, with a L/240, for the ProSTUD20 at 16" o.c. If not, verify that the ProSTUD20 at 12" o.c. is within the limiting heights and adjust framing as needed.
 - a. Web Depth: 3 5/8"
 - b. Flange Length: 1 1/4 inches 125 flange
 - c. Designation: ProSTUD 20 (20 ga. drywall stud), 65 ksi
 - d. Minimum thickness: 0.019 inches
 - e. Minimum design thickness: 0.020 inches
 - 2. Bracing: Provide cold rolled channel bracing at a maximum of 48" o.c., unless manufacturer provides a letter in writing that the assembly will meet all design criteria without lateral bracing.
 - 3. Hot-dip galvanized coating complying with ASTM A 653, G40 (ASTM A 653M, Z90) for framing members attached to and within 10 feet (3 m) of exterior walls.

2.2 GYPSUM BOARD

- A. Interior gypsum board products in maximum lengths available to minimize end-to-end butt joints: ASTM C 36, in thickness and type indicated, with manufacturer's standard edges.
 - 1. Basis of Design: USG sheetrock brand gypsum panels by USG Corporation for wall applications
 - 2. Basis of Design: USG Imperial sag-resistant interior ceiling gypsum base by USG for ceiling applications.
- B. Fire rated type 'x' gypsum board products in maximum lengths available to minimize end-to-end butt joints: In thickness and type indicated in UL Detail U-419.

2.3 ACCESSORIES

- A. Accessories for Interior Installation: Cornerbead, edge trim, and control joints complying with ASTM C 1047, formed from steel sheet zinc coated by hot-dip process or rolled zinc or plastic.
- B. Aluminum Accessories: Extruded-aluminum accessories indicated with manufacturer's standard corrosion-resistant primer.
- C. Gypsum Board Joint Treatment Materials: Comply with ASTM C 475. Paper reinforcing tape and setting-type compounds.
- D. Miscellaneous Materials: Auxiliary materials for gypsum board construction that comply with referenced standards.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install steel framing to comply with ASTM C 754 and with ASTM C 840 requirements that apply to framing installation.
 - 1. Isolate steel framing from building structure, except at floor, to prevent structural movement from transferring loading to partitions.
 - 2. Where studs are installed directly against exterior walls, install asphalt felt strips or foam gaskets between studs and wall.
- B. Install and finish gypsum panels to comply with ASTM C 840 and GA-216.
 - 1. Isolate the perimeter of non-load-bearing gypsum board partitions where they abut structural elements, except floors, by providing a 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide space between gypsum board and the structure. Trim edges with U-bead edge trim

where edges of gypsum panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

2. Where STC-rated gypsum board assemblies are required, comply with ASTM C 919 for location of edge trim and closing off sound-flanking paths around or through gypsum board assemblies.
3. Install cementitious backer units to comply with ANSI A108.11.
4. Single-Layer Fastening Methods: Fasten gypsum panels to supports with screws.
5. Multilayer Fastening Methods: Fasten base layers and face layer separately to supports with screws.

C. Finishing Gypsum Board Assemblies: Level 4 finish, unless otherwise indicated.

END OF SECTION 09 21 16

SECTION 09 51 00 - ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 SUMMARY:

- A. Extent of each type of acoustical ceiling is shown and scheduled on drawings.
- B. Types of acoustical ceilings specified in this section include the following:
 - 1. Acoustical panel ceilings, exposed suspension.

1.3 SUBMITTALS:

- A. Product Data: Submit manufacturer's technical data for each type of acoustical ceiling unit and suspension system required.
- B. Coordination Drawings: Submit reflected ceiling plans, prepared by Installer for installation purposes, drawn accurately to scale and coordinated with related mechanical, electrical and other work above, penetrating, or connected to acoustical ceiling. Show ceiling suspension members, method of anchorage to building structure of hangers, size and location of initial access modules for acoustical tile ceilings (if any), and ceiling-mounted work including light fixtures, diffusers, grilles, and special moldings.
 - 1. Scale: 1/8" = 1'-0".
- C. Samples for Verification Purposes: Submit the following:
 - 1. 6" square samples of each acoustical panel type, pattern and color.
 - 2. Set of 12" long samples of exposed runners and moldings for each color and system type required.
- D. Certificates: Submit certificates from manufacturers of acoustical ceiling units and suspension systems attesting that their products comply with specification requirements.

1.4 QUALITY ASSURANCE:

- A. Fire Performance Characteristics: Provide acoustical ceiling components that are identical to those tested for the following fire performance characteristics, according to ASTM test method indicated, by UL or other testing and inspecting agency acceptable to authorities having jurisdiction. Identify acoustical ceiling components with appropriate marking of applicable testing and inspecting agency.
 - 1. Surface Burning Characteristics: As follows, tested per ASTM E 84.
 - a. Flame Spread: 25 or less.
 - b. Smoke Developed: 50 or less.

- B. Coordination of Work: Coordinate layout and installation of acoustical ceiling units and suspension system components with other work supported by, or penetrating through, ceilings, including light fixtures, HVAC equipment, fire-suppression system components (if any), and partition system (if any).

1.5 DELIVERY, STORAGE AND HANDLING:

- A. Deliver acoustical ceiling units to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination or other causes.
- B. Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical ceiling units carefully to avoid chipping edges or damaging units in any way.

1.6 PROJECT CONDITIONS:

- A. Space Enclosure: Do not install interior acoustical ceilings until space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete, and ambient conditions of temperature and humidity will be continuously maintained at values near those indicated for final occupancy.

1.7 EXTRA MATERIALS:

- A. Deliver extra materials to Owner. Furnish extra materials described below matching products installed, packaged with protective covering for storage and identified with appropriate labels.
 - 1. Acoustical Ceiling Units: Furnish quantity of full size units equal to 2.0% of amount installed.

PART 2 - PRODUCTS

2.1 ACOUSTICAL CEILING UNITS, GENERAL:

- A. Standard for Acoustical Ceiling Units: Provide manufacturer's standard units of configuration indicated which are prepared for mounting method designated and which comply with FS SS-S-118 requirements, including those indicated by reference to type, form, pattern, grade (NRC or NIC' as applicable), light reflectance coefficient (LR), edge detail, and joint detail (if any).
- B. Sound Attenuation Performance: Provide acoustical ceiling units with ratings for ceiling sound transmission class (STC) of range indicated as determined according to AMA 1-II "Ceiling Sound Transmission Test by Two-Room Method" with ceilings continuous at partitions and supported by a metal suspension system of type appropriate for ceiling unit of configuration indicated (concealed for tile, exposed for panels).

- C. Colors, Textures, and Patterns: Provide products to match appearance characteristics indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors, surface textures, and patterns available for acoustical ceiling units and exposed metal suspension system members of quality designated.

2.2 ACOUSTICAL PANELS:

- A. Mineral Fiber Composition Panels - Water Formed, with Acoustical Transparent Membrane and Acrylic Latex painted finish: Provide Type IV, Form 2 Pattern E per ASTM E 1264 and complying with the following requirements:
 - 1. Auditorium Spaces: Manufacturer's standard design combining exceptional light reflectance and superior sound absorption: other panel characteristics as follows:
 - a. Standard of Design: USG – Millennia Climaplus High - NRC
 - b. Color/Light Reflectance: White/LR 0.85 (per ASTM 1477).
 - c. Acoustics: NRC .75
 - d. Min CAC: 30
 - e. Size: 24" x 24" x 3/4".
 - f. Edge Detail: SLT
 - g. Grid Option: DX/DXL SLT
 - 2. Hallways and Closets: Manufacturer's standard design combining exceptional light reflectance and superior sound absorption: other panel characteristics as follows:
 - a. Standard of Design: USG – Millennia Climaplus
 - b. Color/Light Reflectance: White/LR 0.85 (per ASTM 1477).
 - c. Acoustics: NRC .70
 - d. Min CAC: 35
 - e. Size: 24" x 24" x 3/4".
 - f. Edge Detail: SLT
 - g. Grid Option: DX/DXL SLT

2.3 METAL SUSPENSION SYSTEMS, GENERAL:

- A. Standard for Metal Suspension Systems: Provide metal suspension systems of type, structural classification and finish indicated which comply with applicable ASTM C 635 requirements for service.
- B. Finishes and Colors: Provide manufacturer's environmental performance factory- applied finish for type of system indicated. For exposed suspension members and accessories with painted finish, provide color indicated or, if not otherwise indicated, as selected by Architect from manufacturer's full range of standard colors.
- C. Attachment Devices: Size for 5 times design load indicated in ASTM C 635, Table 1, Direct Hung.
- D. Hanger Wire: Galvanized carbon steel wire, ASTM A 641, soft temper, pre-stretched, Class 1 coating, sized so that stress at 3-times hanger design load (ASTM C 635, Table

1, Direct Hung), will be less than yield stress of wire, but provide not less than 12 gage.

- E. Edge Moldings and Trim: Metal or extruded plastic of types and profiles indicated or, if not indicated, provide manufacturer's standard molding for edges and penetrations of ceiling which fits with type of edge detail and suspension system indicated.
 - 1. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.
- F. Hold-Down Clips for Non-Fire-Rated Ceilings: For interior ceilings composed of lay-in panels weighing less than 1 lb. per sq. ft., provide hold-down clips spaced 2'-0" o.c. on all cross tees.

2.4 EXPOSED METAL DIRECT-HUNG SUSPENSION SYSTEMS:

- A. Non-Fire-Resistance-Rated Double Web Steel Suspension System: Manufacturer's standard system roll-formed from prefinished cold-rolled, hot dipped galvanized steel sheet with 15/16" wide aluminum cap exposed faces on structural members; other characteristics as follows:
 - 1. Basis of Design: USG Donn, DX/DXL
 - 2. Structural Classification: Intermediate-Duty System.
 - 3. Finish: Flat White
 - 4. Manufacturers of Non-Fire-Resistance-Rated Double Web Steel Suspension Systems:
 - a. Armstrong
 - b. Chicago Metallic Corporation.
 - c. Donn Corporation.
 - d. Eastern Products Div., Armstrong World Industries, Inc.
 - e. National Rolling Mills, Inc.

2.5 MISCELLANEOUS MATERIALS:

- A. Acoustical Sealant: Resilient, non-staining, non-shrinking, non-hardening, non-skinning, non-drying, non-sag sealant intended for interior sealing of concealed construction joints.
 - 1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
 - a. BA-98; Pecora Corp.
 - b. Tremco Acoustical Sealant; Tremco.

PART 3 - EXECUTION

3.1 PREPARATION:

- A. Coordination: Furnish layouts for inserts, clips, or other supports required to be installed by other trades for support of acoustical ceilings.
- B. Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid use of less-than-half width units at borders, and comply with reflected ceiling plans wherever possible.

3.2 INSTALLATION:

- A. General: Install materials in accordance with manufacturer's printed instructions, and to comply with governing regulations, fire-resistance rating requirements as indicated, and CISCA standards applicable to work.
- B. Arrange acoustical units and orient directionally-patterned units (if any) in manner shown by reflected ceiling plans.
 - 1. Install tile with pattern running in alternating directions to form "checkerboard" layout.
- C. Install suspension systems to comply with ASTM C 636, with hangers supported only from building structural members. Locate hangers not less than 6" from each end and spaced 4'-0" along each carrying channel or direct-hung runner, unless otherwise indicated, leveling to tolerance of 1/8" in 12'-0".
 - 1. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eye-screws, or other devices which are secure and appropriate for substrate, and which will not deteriorate or fail with age or elevated temperatures.
 - 2. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum which are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal force by bracing, countersplaying or other equally effective means.
- D. Install edge moldings of type indicated at perimeter of acoustical ceiling area and at locations where necessary to conceal edges of acoustical units.
 - 1. Sealant Bed: Apply continuous ribbon of acoustical sealant, concealed on back of vertical leg before installing moldings.
 - 2. Screw-attach moldings to substrate at intervals not over 16" o.c. and not more than 3" from ends, leveling with ceiling suspension system to tolerance of 1/8" in 12'-0". Miter corners accurately and connect securely.
- E. Install acoustical panels in coordination with suspension system, with edges concealed by support of suspension members. Scribe and cut panels to fit accurately at borders and at penetrations.
 - 1. Install hold-down clips in areas indicated, and in areas where required by governing regulations or for fire-resistance ratings; space as recommended by panel manufacturer, unless otherwise indicated or required.

3.3 CLEANING:

- A. Clean exposed surfaces of acoustical ceilings, including trim, edge moldings, and suspension members; comply with manufacturer's instructions for cleaning and touch-up of minor finish damage. Remove and replace work which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09 51 00

SECTION 09 65 00 - RESILIENT FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.2 SUMMARY

- A. Section includes:
 - 1. Vinyl composition floor tile.
 - 2. Rubber base and accessories.

1.3 DESCRIPTION OF WORK:

- A. Extent of resilient flooring and accessories is shown on drawings and in schedules. All rubber base shall be 6" high base.

1.4 QUALITY ASSURANCE:

- A. Manufacturer: Provide each type of resilient flooring and accessories as produced by a single manufacturer, including recommended primers, adhesives, sealants, and leveling compounds.
- B. Rubber Flooring Installer's Qualifications: Engage installer who has not less than five years of experience in the installation of rubber flooring, who is recognized by the flooring manufacturer, and who has performed installations of the same scale in the past three years.
- C. Vinyl Tile Installer's Qualifications: Engage Installer who has not less than five years experience in the installation of vinyl composition tile.

1.5 SUBMITTALS:

- A. Product Data: Submit manufacturer's technical data for each type of resilient flooring and accessory.
- B. Samples for Initial Selection Purposes: Submit manufacturer's standard color charts in form of actual sections of resilient flooring, including accessories, showing full range of colors and patterns available, for each type of resilient flooring required.
- C. Samples for Verification Purposes: Submit the following samples of each type, color, and pattern of resilient flooring required, showing full-range of color and pattern variations.

1. Full size tile samples.
 2. 12" long samples of resilient flooring accessories.
 3. Other materials as requested.
- D. Maintenance Instructions: Submit 2 copies of manufacturer's recommended maintenance practices for each type of resilient flooring and accessory required.

1.6 PROJECT CONDITIONS:

- A. Maintain minimum temperature of 65 deg F (18 deg C) in spaces to receive resilient flooring for at least 48 hours prior to installation, during installation, and for not less than 48 hours after installation. Store resilient flooring materials in spaces where they will be installed for at least 48 hours before beginning installation. Subsequently, maintain minimum temperature of 55 deg F (13 deg C) in areas where work is completed.
- B. Install resilient flooring and accessories after other finishing operations, including painting, have been completed. Do not install resilient flooring over concrete slabs until the latter have been cured and are sufficiently dry to achieve bond with adhesive as determined by resilient flooring manufacturer's recommended bond and moisture test.

PART 2 - PRODUCTS

2.1 VINYL COMPOSITION FLOOR TILE:

A. Products: Subject to compliance requirements, provide the following:

1. Tile Standard: ASTM F 1006, Class 2, through-pattern tile.
2. Wearing Surface: Smooth.
3. Thickness: 1/8" Through-pattern.
4. Size: 12 inch x 12 inch.
5. Color and Patterns: See Finish schedule on drawings. Color as selected by Architect, from standard color selection, for new areas of VCT flooring.

2.2 ACCESSORIES:

- A. Wall Base: Provide base complying with FS SS-W-40; Type I rubber with matching end stops and preformed or molded corner units, and as follows:
1. See Finish Schedule
- B. Resilient Edge Strips: 1/8" thick, homogeneous rubber composition, tapered or bullnose edge, color to match flooring, or as selected by Architect from standard colors available; not less than 1" wide.
- C. Adhesives (Cements): Waterproof, stabilized type as recommended by flooring manufacturer to suit material and substrate conditions.

- D. Concrete Slab Primer: Non-staining type as recommended by flooring manufacturer.
- E. Leveling and Patching Compounds: Latex type as recommended by flooring manufacturer.
- F. Acceptable Manufacturers of rubber base and accessories:
 - 1. Johnsonite
 - 2. Armstrong
 - 3. Roppe
 - 4. Mercer

PART 3 - EXECUTION

3.1 INSPECTION:

- A. Require Installer to inspect subfloor surfaces to determine that they are satisfactory. A satisfactory subfloor surface is defined as one that is smooth and free from cracks, holes, ridges, coatings preventing adhesive bond, and other defects impairing performance or appearance.
- B. Perform bond and moisture tests on concrete subfloors to determine if surfaces are sufficiently cured and dry as well as to ascertain presence of curing compounds.
- C. Do not allow resilient flooring work to proceed until subfloor surfaces are satisfactory.

3.2 PREPARATION:

- A. Prepare subfloor surfaces as follows:
 - 1. Use leveling and patching compounds as recommended by resilient flooring manufacturer for filling small cracks, holes and depressions in subfloors.
 - 2. Remove coatings from subfloor surfaces that would prevent adhesive bond, including curing compounds incompatible with resilient flooring adhesives, paint, oils, waxes and sealers.
- B. Vacuum surfaces to be covered, and inspect subfloor.
- C. Apply concrete slab primer, if recommended by flooring manufacturer, prior to application of adhesive. Apply in compliance with manufacturer's directions.

3.3 INSTALLATION GENERAL:

- A. Install resilient flooring using method indicated in strict compliance with manufacturer's printed instructions. Extend resilient flooring into toe spaces, door reveals, and into closets and similar openings.

- B. Scribe, cut, and fit resilient flooring to permanent fixtures, built-in furniture and cabinets, pipes, outlets and permanent columns, walls and partitions.
- C. Maintain reference markers, holes, or openings that are in place or plainly marked for future cutting by repeating on finish flooring as marked on subfloor. Use chalk or other non-permanent marking device.
- D. Install resilient flooring on covers for telephone and electrical ducts, and similar items occurring within finished floor areas. Maintain overall continuity of color and pattern with pieces of flooring installed on these covers. Tightly cement edges to perimeter of floor around covers and to covers.
- E. Tightly cement resilient flooring to subbase without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, or other surface imperfections. Hand roll resilient flooring at perimeter of each covered area to assure adhesion.

3.4 INSTALLATION OF TILE FLOORS:

- A. Lay tile from center marks established with principal walls, discounting minor offsets, so that tile at opposite edges of room area of equal width. Adjust as necessary to avoid use of cut widths less than 1/2 tile at room perimeters. Lay tile square to room axis, unless otherwise shown.
- B. Match tiles for color and pattern by using tile from cartons in same sequence as manufactured and packaged if so numbered. Cut tile neatly around all fixtures. Broken, cracked, chipped, or deformed tiles are not acceptable.
- C. Adhere tile flooring to substrates using full spread of adhesive applied in compliance with flooring manufacturer's directions.

3.5 INSTALLATION OF ACCESSORIES:

- A. Apply wall base to walls, columns, pilasters, casework and other permanent fixtures in rooms or areas where base is required. Install base in lengths as long as practicable, with preformed corner units, or fabricated from base materials with mitered or coped inside corners. Tightly bond base to substrate throughout length of each piece, with continuous contact at horizontal and vertical surfaces.
 - 1. On masonry surfaces, or other similar irregular substrates, fill voids along top edge of resilient wall base with manufacturer's recommended adhesive filler material.
- B. Place resilient edge strips tightly butted to flooring and secure with adhesive. Install edging strips at edges of flooring which would otherwise be exposed.

3.6 CLEANING AND PROTECTION:

- A. Perform following operations immediately upon completion of resilient flooring:

1. Sweep or vacuum floor thoroughly.
 2. Do not wash floor until time period recommended by resilient flooring manufacturer has elapsed to allow resilient flooring to become well-sealed in adhesive.
 3. Damp-mop floor being careful to remove black marks and excessive soil.
 4. Remove any excess adhesive or other surface blemishes, using appropriate cleaner recommended by resilient flooring manufacturers.
- B. Protect flooring against damage during construction period to comply with resilient flooring manufacturer's directions.
- C. Clean resilient flooring not more than 4 days prior to date scheduled for inspections intended to establish date of substantial completion in each area of project. Clean resilient flooring by method recommended by resilient flooring manufacturer.
1. Apply floor wax after cleaning and prior to accepting by Owner.

END OF SECTION 09 65 00

SECTION 09 68 00 - CARPETING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY:

- A. This Section includes carpet, accessories and installation.

1.3 SUBMITTALS:

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product Data for each type of carpet material and installation accessory specified. Submit manufacturer's printed data on physical characteristics, durability, fade resistance and fire test response characteristics. Submit methods of installation for each type of substrate.
- C. Shop Drawings showing columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet. Indicate the following:
 - 1. Carpet type, color, and dye lot.
 - 2. Seam locations, types, and methods.
 - 3. Pattern type, repeat size, location, direction, and starting point.
 - 4. Type, color, and location of edge, transition, and other accessory strips.
 - 5. Transition details to other flooring materials.
- D. Samples for initial selection in the form of manufacturer's Samples of materials showing the full range of colors, textures, and patterns available for each type of carpet indicated.
- E. Samples for verification of the following products, in manufacturer's standard sizes, showing the full range of color, texture, and pattern variations expected. Prepare Samples from the same material to be used for the Work. Label each sample with manufacturer's name, material type, color, pattern, and designation indicated on Drawings and carpet schedule. Submit the following:
 - 1. 12-inch-square Samples of each type of carpet material required.
 - 2. 12-inch Samples of each type of exposed edge stripping and accessory item.

- F. Methods for maintaining carpet including manufacturer's recommended frequency for maintaining carpet.
 - 1. Precautions for cleaning materials and methods that could be detrimental to finishes and performance. Include cleaning and stain-removal products and procedures.

1.4 QUALITY ASSURANCE:

- A. Installer Qualifications: Engage an Installer with a minimum of 10 years experience in commercial carpet installation, who is certified by the Floor Covering Installation Board (FCIB) or who can demonstrate compliance with FCIB certification program requirements.
- B. Single-Source Responsibility: Obtain all carpet from one source and by a single manufacturer.
- C. Carpet Fire-Test-Response Characteristics: Provide carpet with the following fire-test-response characteristics as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify carpet with appropriate markings of applicable testing and inspecting agency.
 - 1. Surface Flammability: Passes ASTM E 648, Class I (glue Down)
 - 2. Flame Spread: 25 or less per ASTM E 84.
 - 3. Flame Radiant Panel Test: Meets NFPA Class I, per ASTM E-648 gluedown.
 - 4. Smoke Density: ASTM E 662, Less than 450
 - 5. Electrostatic Propensity: Less than 3.0 kV per AATCC 134.

1.5 DELIVERY, STORAGE, AND HANDLING:

- A. General: Comply with the Carpet and Rug Institute's CRI 104, Section 5: "Storage and Handling."
- B. Deliver materials to Project site in original factory wrappings and containers, labeled with identification of manufacturer, brand name, and lot number.
- C. Store materials on-site in original undamaged packages, inside well-ventilated area protected from weather, moisture, soilage, extreme temperatures, and humidity. Lay flat, with continuous blocking off ground.

1.6 PROJECT CONDITIONS:

- A. General: Comply with CRI 104, Section 6: "Site Conditions."
- B. Space Enclosure and Environmental Limitations: Do not install carpet until space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete, and ambient temperature and humidity conditions are and will be continuously maintained at values near those indicated for final occupancy.

- C. Subfloor Moisture Conditions: Moisture emission rate of not more than 3 lb/1000 sq. ft./24 hours when tested by calcium chloride moisture test in compliance with CRI 104, 6.2.1, with subfloor temperatures not less than 55 deg F (12.7 deg C).
- D. Subfloor Alkalinity Conditions: A pH range of 5 to 9 when subfloor is wetted with potable water and pHDrion paper is applied.

1.7 WARRANTY:

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Carpet Warranty: Submit a written warranty executed by carpet manufacturer and Installer agreeing to repair or replace carpet that does not meet requirements or that fails in materials or workmanship within the specified warranty period. Failures include, but are not limited to, more than 10 percent loss of face fiber, edge raveling, snags, runs, and delamination.
- C. Warranty Period: Lifetime of Carpet.

PART 2 - PRODUCTS

2.1 CARPET:

- A. Products: Subject to compliance with requirements, provide:
 - 1. Philadelphia Commercial, J0184 At Play, 84703 Endurance

INSTALLATION ACCESSORIES:

- B. Concrete-Slab Primer: Nonstaining type as recommended by the carpet manufacturer.
- C. Trowelable Underlayments and Patching Compounds: As recommended by the following carpet manufacturer.
- D. Adhesives: Water-resistant, mildew-resistant, nonstaining type to suit products and subfloor conditions indicated and to comply with flammability requirements for installed carpet as recommended by the following carpet manufacturer.
- E. Seaming Cement: Hot-melt adhesive tape or similar product recommended by carpet manufacturer for taping seams and butting cut edges at backing to form secure seams and to prevent pile loss at seams.

PART 3 - EXECUTION

3.1 EXAMINATION:

- A. Examine subfloors and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting performance of carpet. Do not proceed with installation until unsatisfactory conditions have been corrected. Proceeding with carpet installation prior to subfloor conditions being corrected constitutes acceptance of the subfloor conditions by the carpet installer.
- B. Verify that subfloors and conditions are satisfactory for carpet installation and comply with requirements specified in this Section and the carpet manufacturer.

3.2 PREPARATION:

- A. General: Comply with carpet manufacturer's installation recommendations to prepare substrates indicated to receive carpet installation.
- B. Level subfloor within 1/4 inch in 10 feet, noncumulative, in all directions. Sand or grind protrusions, bumps, and ridges. Patch and repair cracks and rough areas. Fill depressions.
 - 1. Use leveling and patching compounds to fill cracks, holes, and depressions in subfloor as recommended by the carpet manufacturer.
- C. Remove subfloor coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone.
- D. Broom or vacuum clean subfloors to be covered with carpet. Following cleaning, examine subfloors for moisture, alkaline salts, carbonation, or dust.
- E. Concrete-Subfloor Preparation: Apply concrete-slab primer, according to manufacturer's directions, where recommended by the following carpet manufacturer.

3.3 INSTALLATION

- A. Direct Glue-Down Installation: Comply with CRI 104, Section 8: "Direct Glue-Down."
- B. Comply with carpet manufacturer's recommendations for seam locations and direction of carpet; maintain uniformity of carpet direction and lay of pile. At doorways, center seams under door in closed position. Do not bridge building expansion joints with continuous carpet.
- C. Where demountable partitions or other items are indicated for installation on top of finished carpet floor, install carpet before installation of these items.

- D. Cut and fit carpet to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet manufacturer.
- E. Extend carpet into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- F. Install pattern parallel to walls and borders.

3.4 CLEANING:

- A. Perform the following operations immediately after completing installation.
 - 1. Remove visible adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet manufacturer.
 - 2. Remove protruding yarns from carpet surface.
 - 3. Vacuum carpet using commercial machine with face-beater element.

3.5 PROTECTION:

- A. General: Comply with CRI 104, Section 15: "Protection of Indoor Installation."
- B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure carpet is without damage or deterioration at the time of Substantial Completion.

3.6 PRODUCT DATA:

- A. Carpet Designation: F1
 - 1. Construction: Multi-Level Pattern Loop
 - 2. Pile Thickness: 0,109" avg.
 - 3. Gauge: 5/64"
 - 4. Yarn Weight: 20 oz per sq. yd.
 - 5. Density: Average Density = 6,606
 - 6. Dye system: Solution/Space Dyed
 - 7. Fiber Product: Eco Solution Q® Nylon
 - 8. Backing: Primary – Synthetic, Secondary - ClassicBac®
 - 9. Size: Broadloom
 - 10. Performance Characteristics: As follows:
 - a. Radiant Panel (ASTM E-648): Class I (direct glue)
 - b. Smoke Chamber (ASTM E-662): less than 450 (flaming mode)
 - c. Electrostatic Propensity (AATCC 134): Less Than 3.0 Kvcolor: TBD
 - 11. Manufacturer: Philadelphia Commercial
 - 12. Style: J0184 At Play
 - 13. Color: 84703 Endurance

- B. Substitutions: Products to be evaluated for equivalency shall be submitted by a General Contractor to the Architect for evaluation 14 days prior to the bid date.

END OF SECTION 09 68 00

SECTION 09 91 00 - PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY:

- A. This Section includes surface preparation and field painting of the following:
 - 2. Exposed interior items and surfaces. All interior masonry shall have a block filler, primer and paint finish. Contractor shall apply a primer and paint to all new interior surfaces unless noted otherwise. Paint existing walls, doors, trim in work area of renovation and addition.
 - 3. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.
- B. Paint exposed surfaces, except where the paint schedules indicate that a surface or material is not to be painted or is to remain natural. If the paint schedules do not specifically mention an item or a surface, paint the item or surface the same as similar adjacent materials or surfaces whether or not schedules indicate colors. If the schedules do not indicate color or finish, the Architect will select from standard colors and finishes available.
 - 1. Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron work, and primed metal surfaces of mechanical and electrical equipment.
- C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.
 - 1. Prefinished items include the following factory-finished components:
 - a. Architectural woodwork and casework.
 - b. Finished mechanical and electrical equipment.
 - c. Light fixtures.
 - d. Distribution cabinets.
 - 2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:
 - a. Furred areas.
 - b. Ceiling plenums.
 - c. Pipe spaces.
 - d. Duct shafts.
 - e. Elevator shafts.
 - 3. Finished metal surfaces include the following:
 - a. Anodized aluminum.
 - b. Stainless steel.

- c. Chromium plate.
 - d. Copper.
 - e. Bronze and brass.
 - 4. Operating parts include moving parts of operating equipment and the following:
 - a. Valve and damper operators.
 - b. Linkages.
 - c. Sensing devices.
 - d. Motor and fan shafts.
 - 5. Labels: Do not paint over Underwriters Laboratories (UL), Factory Mutual (FM), or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.
- D. Related Sections include the following:
- 1. Division 8 Section "Steel Doors and Frames" for shop priming steel doors and frames.
 - 2. Division 9 Section "Gypsum Board Assemblies" for surface preparation for gypsum board.
 - 3. Divisions 15: Painting of mechanical work is specified in Divisions 15.

1.3 DEFINITIONS:

- A. General: Standard coating terms defined in ASTM D 16 apply to this Section.
- 1. Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.
 - 2. Eggshell refers to low-sheen finish with a gloss range between 5 and 20 when measured at a 60-degree meter.
 - 3. Satin refers to low-sheen finish with a gloss range between 15 and 35 when measured at a 60-degree meter.
 - 4. Semigloss refers to medium-sheen finish with a gloss range between 30 and 65 when measured at a 60-degree meter.
 - 5. Full gloss refers to high-sheen finish with a gloss range more than 65 when measured at a 60-degree meter.

1.4 SUBMITTALS:

- A. Product Data: For each paint system specified. Include block fillers and primers.
- 1. Material List: Provide an inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
 - 2. Manufacturer's Information: Provide manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material proposed for use.
 - 3. Certification by the manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs).

- B. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for each type of finish-coat material indicated.
 - 1. After color selection, the Architect will furnish color chips for surfaces to be coated.
- C. Samples for Verification: Of each color and material to be applied, with texture to simulate actual conditions, on representative Samples of the actual substrate.
 - 1. Provide stepped Samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.
 - 2. Provide a list of materials and applications for each coat of each sample. Label each sample for location and application.
- D. Qualification Data: For firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

1.5 QUALITY ASSURANCE:

- A. Applicator Qualifications: Engage an experienced applicator who has completed painting system applications similar in material and extent to that indicated for this Project with a record of successful in-service performance.
- B. Source Limitations: Obtain block fillers, primers, and undercoat materials for each coating system from the same manufacturer as the finish coats.

1.6 DELIVERY, STORAGE, AND HANDLING:

- A. Deliver materials to the Project Site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and the following information:
 - 1. Product name or title of material.
 - 2. Product description (generic classification or binder type).
 - 3. Manufacturer's stock number and date of manufacture.
 - 4. Contents by volume, for pigment and vehicle constituents.
 - 5. Thinning instructions.
 - 6. Application instructions.
 - 7. Color name and number.
 - 8. VOC content.
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain containers used in storage in a clean condition, free of foreign materials and residue.
 - 1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are

protected from fire and health hazards resulting from handling, mixing, and application.

1.7 PROJECT CONDITIONS:

- A. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 and 90 deg F (10 and 32 deg C).
- B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 and 95 deg F (7.2 and 35 deg C).
- C. Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85 percent; or at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.
 - 1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

1.8 EXTRA MATERIALS:

- A. Furnish extra paint materials from the same production run as the materials applied in the quantities described below. Package paint materials in unopened, factory-sealed containers for storage and identify with labels describing contents. Deliver extra materials to the Owner.
 - 1. Quantity: Furnish the Owner with extra paint materials in the quantities indicated below:
 - a. Interior, Semigloss Acrylic Enamel: 1 gal. (7.57 L) of each color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in the paint schedules.
- B. Products: Subject to compliance with requirements, provide one of the products in the paint schedules.
- C. Manufacturers Names: The following manufacturers are referred to in the paint schedules by use of shortened versions of their names, which are shown in parentheses:
 - 1. Devoe & Reynolds Co. (Devoe).
 - 2. ICI Paint World Group (ICI).
 - 3. Benjamin Moore & Co. (Moore).
 - 4. PPG Industries, Inc. (PPG).
 - 5. Pratt & Lambert, Inc. (P & L).

6. Sherwin-Williams Co. (S-W).

2.2 PAINT MATERIALS, GENERAL:

- A. Material Compatibility: Provide block fillers, primers, undercoats, and finish-coat materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
 - 1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.
- C. Colors: Provide color selections made by the Architect.

PART 3 - EXECUTION

3.1 EXAMINATION:

- A. Examine substrates, areas, and conditions, with the Applicator present, under which painting will be performed for compliance with paint application requirements.
 - 1. Do not begin to apply paint until unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
 - 2. Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.
- B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
 - 1. Notify the Architect about anticipated problems using the materials specified over substrates primed by others.

3.2 PREPARATION:

- A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of the size or weight of the item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

- B. Cleaning: Before applying paint or other surface treatments, clean the substrates of substances that could impair the bond of the various coatings. Remove oil and grease before cleaning.
1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
- C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
1. Provide barrier coats over incompatible primers or remove and reprime.
 2. Cementitious Materials: Prepare concrete, concrete masonry block, cement plaster, and mineral-fiber-reinforced cement panel surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
 - a. Use abrasive blast-cleaning methods if recommended by paint manufacturer.
 - b. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not paint surfaces where moisture content exceeds that permitted in manufacturer's written instructions.
 - c. Clean concrete floors to be painted with a 5 percent solution of muriatic acid or other etching cleaner. Flush the floor with clean water to remove acid, neutralize with ammonia, rinse, allow to dry, and vacuum before painting.
 3. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with the Steel Structures Painting Council's (SSPC) recommendations.
 - a. Blast steel surfaces clean as recommended by paint system manufacturer and according to requirements of SSPC-SP 10.
 - b. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
 - c. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by paint manufacturer, and touch up with the same primer as the shop coat.
 4. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.
- D. Materials Preparation: Mix and prepare paint materials according to manufacturer's written instructions.
1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.

2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
 3. Use only thinners approved by paint manufacturer and only within recommended limits.
- E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of the same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION:

- A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
1. Paint colors, surface treatments, and finishes are indicated in the schedules.
 2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
 3. Provide finish coats that are compatible with primers used.
 4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convector covers, covers for finned-tube radiation, grilles, and similar components are in place. Extend coatings in these areas, as required, to maintain the system integrity and provide desired protection.
 5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before the final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 6. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
 7. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
 8. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
 9. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.
 10. Sand lightly between each succeeding enamel or varnish coat.
- B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
1. The number of coats and the film thickness required are the same regardless of application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
 2. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give

special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.

3. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat of paint does not cause the undercoat to lift or lose adhesion.
- C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
1. Brushes: Use brushes best suited for the type of material applied. Use brush of appropriate size for the surface or item being painted.
 2. Rollers: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by the manufacturer for the material and texture required.
 3. Spray Equipment: Use airless spray equipment with orifice size as recommended by the manufacturer for the material and texture required.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.
- E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and in occupied spaces.
- F. Mechanical items to be painted include, but are not limited to, the following:
1. Piping, pipe hangers, and supports.
 2. Motors and mechanical equipment.
 3. Accessory items.
- G. Electrical items to be painted include, but are not limited to, the following:
1. Conduit and fittings.
 2. Switchgear.
 3. Panelboards.
- H. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.
- I. Prime Coats: Before applying finish coats, apply a prime coat of material, as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn through or other defects due to insufficient sealing.
- J. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

- K. Stipple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling, such as laps, irregularity in texture, skid marks, or other surface imperfections.
- L. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.4 FIELD QUALITY CONTROL:

- A. The Owner reserves the right to invoke the following test procedure at any time and as often as the Owner deems necessary during the period when paint is being applied:
 - 1. The Owner may engage the services of an independent testing agency to sample the paint material being used. Samples of material delivered to the Project will be taken, identified, sealed, and certified in the presence of the Contractor.
 - 3. The Owner may direct the Contractor to stop painting if test results show material being used does not comply with specified requirements. The Contractor shall remove noncomplying paint from the site, pay for testing, and repaint surfaces previously coated with the rejected paint. If necessary, the Contractor may be required to remove rejected paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

3.5 CLEANING:

- A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from the site.
 - 1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces.

3.6 PROTECTION:

- A. Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
- B. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.
 - 1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.7 INTERIOR PAINT SCHEDULE:

- A. Gypsum Board: Provide the following finish systems over interior gypsum board surfaces exposed to view: Two finish coats over primer.
1. Primer: Latex-based, interior primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils (0.031 mm).
 - a. Devoe: 50801 Wonder-Tones Interior Vinyl Latex Primer-Sealer.
 - b. Moore: Regal First Coat Interior Latex Primer & Underbody #216.
 - c. PPG: 17-10 Quick-Drying Interior Latex Primer-Sealer.
 - d. P & L: Z/F 1000 series Suprime "4" Interior Latex Wall Primer. (#1 or #4)
 - e. S-W: ProMar 200 Interior Latex Wall Primer 328W200.
 2. Flat Acrylic Finish: 2 finish coats over a primer.
 - a. First and Second Coats: Flat, acrylic-latex-based, interior paint applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.5 mils (0.064 mm).
 - 1) Devoe: 36XX Wonder-Tones Interior Latex Flat Wall Paint.
 - 2) Moore: Regal Wall Satin #215.
 - 3) PPG: 80 Line Wallhide Interior Wall Flat Latex Paint.
 - 4) P & L: Z/F 2000 Series Vapex Latex Flat Wall Finish.
 3. Semigloss, Acrylic-Enamel Finish: 2 finish coats over a primer.
- B. Ferrous Metal: Provide the following finish systems over ferrous metal:
1. Semigloss, Acrylic-Enamel Finish: One finish coat over an enamel undercoater and a primer.
 - a. Primer: Quick-drying, rust-inhibitive, alkyd-based or epoxy-metal primer, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.5 mils (0.038 mm).
 - 1) Devoe: 13101 Mirrolac Rust Penetrating Metal Primer.
 - 2) Moore: IronClad Retardo Rust-Inhibitive Paint #163.
 - 3) PPG: 6-208 Speedhide Interior/Exterior Rust Inhibitive Steel Primer.
 - 4) P & L: S 4551 Tech-Gard High Performance Rust Inhibitor Primer.
 - 5) S-W: LemCrom Metal Primer B50N2/850W1.
 - b. Undercoat: Alkyd, interior enamel undercoat or semigloss, acrylic-latex, interior enamel, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.3 mils (0.033 mm).
 - 1) Devoe: 39XX Wonder-Tones Semi-Gloss Interior Latex Enamel.
 - 2) Moore: Moore's Alkyd Enamel Underbody #217.
 - 3) PPG: 6-6 Speedhide Interior Quick-Drying Enamel Undercoater.
 - 4) P & L: Z/F 4100 Series Accolade Interior Semi-Gloss.
 - c. Finish Coat: Semigloss, acrylic-latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.3 mils (0.033 mm).
 - 1) Devoe: 39XX Wonder-Tones Semi-Gloss Interior Latex Enamel.

- 2) Moore: Moore's Regal AquaGlo Vinyl-Acrylic Latex Enamel #333.
 - 3) PPG: 88-110 Satinhide Interior Enamel Wall & Trim Lo-Lustre SemiGloss Latex.
 - 4) P & L: Z/F 4100 Series Accolade Interior Semi-Gloss.
- C. Zinc-Coated Metal: Provide the following finish systems over zinc-coated metal: Two finish coats over primer.
1. Primer: Galvanized metal primer applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.2 mils (0.031 mm).
 - a. Devoe: 13201 Mirrolac Galvanized Metal Primer.
 - b. Moore: IronClad Galvanized Metal Latex Primer #155.
 - c. PPG: 90-709 Pitt-Tech One Pack Interior/Exterior Primer/Finish DTM Industrial Enamel.
 - d. P & L: Z/F 1003 Suprime "3" Interior/Exterior Latex Metal Primer.
 - e. S-W: Galvite Paint B50W3.
 2. Semigloss, Acrylic-Enamel Finish: 2 finish coats over a primer.
 - a. First and Second Coats: Semigloss, acrylic-latex, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 2.6 mils (0.066 mm).
 - 1)See "semigloss, Acrylic" Schedule for "Ferrous Metal" above.
- D. Concrete Floors: Provide the following finish system over concrete floors: Two finish coats of concrete floor coating system, applied as recommended by manufacturer over fully cured and cleaned concrete floors.
1. PPG: Two coats Aquapon 35 over primer, Color Light Grey 95-3 (or equal by other manufacturer)

END OF SECTION 09 91 00