

# SPECIFICATIONS

## **Pioneer 1, 4, Provo YSA Furring**

376 N 700 W, Provo, Utah

Project Number. 516437021010101

October 2021

CKR Engineers, Inc.

1295 North State Street, Orem, Utah 84057

[www.ckrengineers.com](http://www.ckrengineers.com) Orem: (801) 222-0922, Fax: (801) 222-0902

## **DIVISION 01**

### **SECTION 01 0000**

#### **GENERAL REQUIREMENTS: R&I PROJECT**

- 01 1000 SUMMARY**
- 01 1200 MULTIPLE CONTRACT SUMMARY**
- 01 1400 WORK RESTRICTIONS**
- 01 3000 ADMINISTRATIVE REQUIREMENTS**
- 01 3100 PROJECT MANAGEMENT AND COORDINATION**
- 01 3300 SUBMITTAL PROCEDURES**
- 01 3500 SPECIAL PROCEDURES**
- 01 4000 QUALITY REQUIREMENTS**
- 01 4100 REGULATORY REQUIREMENTS**
- 01 4200 REFERENCES**
- 01 6200 PRODUCT OPTIONS**
- 01 6400 OWNER-FURNISHED PRODUCTS**
- 01 6600 DELIVERY, STORAGE, AND HANDLING REQUIREMENTS**
- 01 7400 CLEANING AND WASTE MANAGEMENT**
- 01 7700 CLOSEOUT PROCEDURES**
- 01 7800 CLOSEOUT SUBMITTALS**

#### **SECTION 01 1000 SUMMARY**

- A. Provisions contained in Division 01 apply to all other sections and divisions of Specifications. All instructions contained in Specifications are directed to Contractor. Unless specifically provided otherwise, all obligations set forth in Specifications are obligations of Contractor.
- B. Comply with applicable laws and regulations.
- C. Owner may provide furnishings and/or equipment for Project. Contractor will receive, store, and protect such items on site until the date Owner accepts Project.
- D. Work by Owner: Owner will furnish and install some portions of the Work with its own forces. Complete the Work necessary to accommodate the Work to be performed by Owner before scheduled date for performance of such Work.

#### **SECTION 01 1200 MULTIPLE CONTRACT SUMMARY**

- A. Separate contracts may be issued by Owner for performance of certain construction operations at Project site. Contractor will afford other contractors reasonable opportunity to place and store their materials and equipment on site and to perform their work and will properly connect and coordinate its work with theirs where applicable.

#### **SECTION 01 1400 WORK RESTRICTIONS**

- A. During construction period, Contractor will have use of premises for construction operations. Contractor will ensure that Contractor, its employees, subcontractors, and employees comply with following requirements:
  1. Confine operations to areas within Contract limits shown on Drawings. Do not disturb portions of site beyond Contract limits.
  2. Do not allow alcoholic beverages, illegal drugs, or persons under their influence on Project Site.
  3. Do not allow use of tobacco in any form on Project Site.
  4. Do not allow pornographic or other indecent materials on site.
  5. Do not allow work on Project Site on Sundays except for emergency work.
  6. Refrain from using profanity or being discourteous or uncivil to others on Project Site or while performing The Work.

7. Wear shirts with sleeves, wear shoes, and refrain from wearing immodest, offensive, or obnoxious clothing, while on Project Site.
8. Do not allow playing of obnoxious and loud music on Project Site. Do not allow playing of any music within existing facilities.
9. Do not build fires on Project Site.
10. Do not allow weapons on Project Site, except those carried by law enforcement officers and/or other uniformed security personnel who have been retained by Owner or Contractor to provide security services.

B. Existing Facilities:

1. If Owner will occupy existing building, reasonably accommodate use of existing facilities by Owner.

### **SECTION 01 3000 ADMINISTRATIVE REQUIREMENTS**

- A. Coordinate construction activities to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations that are dependent upon each other for proper installation, connection, and operation. Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

### **SECTION 01 3100 PROJECT MANAGEMENT AND COORDINATION**

A. Multiple Contract Coordination:

1. Contractor shall be responsible for coordination of Temporary Facilities and Controls, Construction Waste Management and Disposal services, and Final Cleaning for entire Project unless directed otherwise by Owner's Representative for those who perform work on Project from Notice to Proceed to date of Substantial Completion.

B. Preconstruction Conference:

1. Attend preconstruction conference and organizational meeting scheduled by Architect or Owner Representative at Project site or other convenient location.
2. Be prepared to discuss items of significance that could affect progress, including such topics as:
  - a. Construction schedule, equipment deliveries, general inspection of tests, preparation of record documents and O&M manuals, project cleanup, security, shop drawings, samples, use of premises, work restrictions, and working hours.

### **SECTION 01 3300 SUBMITTAL PROCEDURES**

- A. Coordination preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently before performance of related construction activities to avoid delay.
- B. Allow sufficient review time so installation will not be delayed by time required to process submittals.
- C. Place permanent label or title block on each submittal for identification. Include name of entity that prepared each submittal on label or title block.
- D. Package each submittal appropriately for transmittal and handling.

### **SECTION 01 3500 SPECIAL PROCEDURES**

A. Hot Work Permit (Available from Owner's Representative):

1. Required for doing hot work involving open flames or producing heat or sparks such as:
  - a. Brazing.
  - b. Cutting.
  - c. Grinding.
  - d. Soldering.
  - e. Thawing pipe
  - f. Torch applied roofing.
  - g. Welding.

**SECTION 01 4000 QUALITY REQUIREMENTS**

- A. Testing and inspecting services are used to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.
- B. Conflicting Requirements: If compliance with two or more standards is specified and standards establish different or conflicting requirements for minimum quantities or quality levels, comply with most stringent requirement.
- C. Minimum Quantity or Quality Levels: Quantity or quality level shown or specified shall be the minimum provided or performed. Actual installation may comply exactly with minimum quantity or quality specified, or it may exceed minimum within reasonable limits.
- D. Quality Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to verify compliance and guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- E. Quality Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements performed by Contractor. They do not include inspections, tests or related actions performed by Architect or Owner Representative, governing authorities or independent agencies hired by Owner or Architect.
  - 1. Where services are indicated as Contractor's responsibility, engage qualified Testing Agency to perform these quality control services.
    - a. Contractor will not employ same testing entity engaged by Owner, without Owner's written approval.
- F. Notify Owner immediately if asbestos-containing materials or other hazardous materials are encountered while performing the Work.
- G. Submit to Owner permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence, and records establishing compliance with standards and regulations bearing upon performance of the Work.
- H. Repair And Protection:
  - 1. On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
  - 2. Protect construction exposed by or for Quality Assurance and Quality Control activities.
  - 3. Repair and protection are Contractor's responsibility, regardless of assignment of responsibility for Quality Assurance and Quality Control Services.

**SECTION 01 4301 QUALITY ASSURANCE - QUALIFICATIONS**

- A. Qualifications: Qualifications in this Section establish minimum qualification levels required; individual Specification Sections specify additional requirements:
  - 1. Fabricator / Supplier / Installer Qualifications.
    - a. Firm experienced in producing products similar to those indicated for this Project and with record of successful in-service performance, as well as sufficient production capacity to produce required units:
      - 1) Where heading '*VMR (Value Managed Relationship) Suppliers / Installers*' is used to identify list of specified suppliers or installers, Owner has established relationships that extend beyond requirements of this Project. No other suppliers / installers will be acceptable. Follow specified procedures to preserve relationships between Owner and specified suppliers / installers and advantages that accrue to Owner from those relationships.
      - 2) Where heading '*Acceptable or Approved Suppliers / Installers / Fabricators*' is used to identify list of specified suppliers / installers / fabricators, use only one of listed suppliers / installers / fabricators. No others will be acceptable.
  - 2. Factory-Authorized Service Representative Qualifications:

- a. Authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
3. Installer Qualifications:
  - a. Firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with record of successful in-service performance.
4. Manufacturer Qualifications:
  - a. Firm experienced in manufacturing products or systems similar to those indicated for this Project and with record of successful in-service performance, as well as sufficient production capacity to produce required units.
5. Manufacturer's Field Services Qualifications:
  - a. Experienced authorized representative of manufacturer to inspect field-assembled components and equipment installation, including service connections.
6. Professional Engineer Qualifications:
  - a. Professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of kind indicated. Engineering services are defined as those performed for installations of system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.
7. Specialists:
  - a. Certain sections of Specifications require that specific construction activities will be performed by entities who are recognized experts in those operations. Specialists will satisfy qualification requirements indicated and will be engaged for activities indicated. Requirement for special will not supersede building codes and regulations governing the Work.
8. Testing Agency Qualifications:
  - a. Independent Testing Agency with experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
  - b. Testing Laboratory:
    - 1) AASHTO Materials Reference Laboratory (AMRL) Accreditation Program.
    - 2) Cement and Concrete Reference Laboratory (CCRL).
    - 3) Nationally Recognized Testing Laboratory (NRTL): Nationally recognized testing laboratory according to 29 CFR 1910.7.
    - 4) National Voluntary Laboratory (NVLAP): Testing Agency accredited according to National Institute of Standards and Technology (NIST) Technology Administration, U. S. Department of Commerce Accreditation Program.

## **SECTION 01 4523 TESTING AND INSPECTION SERVICES**

- A. Submittals:
  1. Certificates: Testing Agency will submit certified written report of each inspection, test, or similar service.
  2. Tests and Evaluation Reports:
    - a. Testing Agency or Agencies will prepare logs, test reports, and certificates applicable to specific tests and inspections and deliver copies to Owner's Representative and to each of following if involved on project: Architect, Consulting Engineers (Engineer of Record), General Contractor, Authorities Having Jurisdiction (if required).
  3. Testing Agency:
    - a. Qualifications of Testing Agency management, personnel, inspector and technicians designated to project.
    - b. Provide procedures for non-destructive testing, equipment calibration records, personnel training records, welding inspection, bolting inspection, shear connector stud inspection, and seismic connection inspections.
- B. Quality Assurance:
  1. Owner or Owner's designated representative(s) will perform quality assurance. Owner's quality assurance procedures may include observations, inspections, testing, verification, monitoring and any other procedures deemed necessary by Owner to verify compliance with Contract Documents.
  2. Owner will employ independent Testing Agencies to perform certain specified testing, as Owner deems necessary. Owner's employment of an independent Testing Agency does not relieve Contractor of

Contractor's obligation to perform the Work in strict accordance with requirements of Contract Documents.

3. Certification:

- a. Product producers and associations, which have instituted approved systems of quality control and which have been approved by document approval agencies, are not required to have further testing.
- b. Concrete mixing plants, plants producing fabricated concrete and wood or plywood products certified by agency, lumber, plywood grade marked by approved associates, and materials or equipment bearing underwriters' laboratory labels require no further testing and inspection.

4. Written Practice for Quality Assurance:

- a. Testing Agency will maintain written practice for selection and administration of inspection personnel, describing training, experience, and examination requirements for qualification and certification of inspection personnel.
- b. Written practice will describe testing agency procedures for determining acceptability of structure in accordance with applicable codes, standards, and specifications.
- c. Written practice will describe Testing Agency inspection procedures, including general inspection, material controls, visual welding inspection, and bolting inspection.

C. Quality Control:

1. Quality Control will be sole responsibility of Contractor. Contractor will be responsible for testing, coordination, start-up, operational checkout, and commissioning of all items of the Work included in Project. All costs for these services will be included in Contractor's cost of the Work:
  - a. Notify results of all Testing and Inspection performed by Contractor's independent Testing Agencies to Architect and/or Owner's Representative within 24 hours of test or inspection having been performed.
  - b. Testing Laboratory:
    - 1) Testing and Inspection Reports will be distributed as follows:
      - a) 1 copy to Owner's Representative.
      - b) 1 copy to Architect.
      - c) 1 copy to Consulting Engineer(s) (Engineer of Record).
      - d) 1 copy to Authorities Having Jurisdiction (if required).

D. Tests And Inspections - General:

1. Testing specifically identified to be conducted by Owner, will be performed by an independent entity and will be arranged and paid for by Owner.
2. Individual Sections in Division 01 through Division 50 indicate if Owner will provide testing and inspection of the Work of that Section.
3. Owner may engage additional consultants for testing, air balancing, commissioning, or other special services. Activities of any such Owner consultants are in addition to Contractor testing of materials or systems necessary to prove that performance is in compliance with Contract requirements. Contractor must cooperate with persons and firms engaged in these activities.
4. Tests include but not limited to those described in detail in 'Field Quality Control' in Part 3 of Individual Sections in Divisions 01 through Division 50.
5. Taking Specimens:
  - a. Only testing laboratory shall secure, handle, transport, or store any samples and specimens for testing
6. Scheduling Testing Agency:
  - a. Contractor will coordinate the Work and facilitate timeliness of such testing and inspecting services so as not to delay the Work:
  - b. Contractor will notify Testing Agency and Architect or Owner Representative to schedule tests and / or inspections:
    - 1) Architect will notify Owner's Representative before each test and / or inspection.

E. Architect's Responsibility:

1. Architect Duties:
  - a. Notify Owner's Representative before each test and/or inspection.

F. Contractor's Responsibility:

1. Owner's employment of an independent Testing Agency does not relieve Contractor of Contractor's obligation to perform the Work in strict accordance with requirements of Contract Documents.
2. Tests and inspections that are not explicitly assigned to Owner are responsibility of Contractor.

3. Cooperate with Testing Agency(s) performing required inspections, tests, and similar services and provide reasonable auxiliary services as requested. Notify Testing Agency before operations to allow assignment of personnel. Auxiliary services required include but are not limited to:
  - a. Providing access to the Work and furnishing incidental labor, equipment, and facilities deemed necessary by Testing Agency to facilitate inspections and tests at no additional cost to Owner.
  - b. Taking adequate quantities of representative samples of materials that require testing or helping Testing Agency in taking samples.
  - c. Providing facilities for storage and curing of test samples, and delivery of samples to testing laboratories.
  - d. Providing Testing Agency with preliminary design mix proposed for use for materials mixes that require control by Testing Agency.
4. For any requested inspection, Contractor will complete prior inspections to ensure that items are ready for inspection.
5. All Work is subject to testing and inspection and verification of correct operation.
6. Comply:
  - a. Upon completion of Testing Agency's 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. Comply with Contract Documents in making such repairs.
7. Data:
  - a. Furnish records, drawings, certificates, and similar data as may be required by testing and inspection personnel to assure compliance with Contract Documents.
8. Defective Work (Non-Conforming Work): Non-conforming Work as covered in General Conditions applies, but is not limited to following requirements:
  - a. Where results of inspections, tests, or similar services show that the Work does not comply with Contract Document requirements, correct deficiencies in the Work promptly to avoid work delays.
  - b. Where testing personnel take cores or cut-outs to verify compliance, repair prior to acceptance.
  - c. Contractor will be responsible for any and all costs incurred resulting from inspection that was scheduled prematurely or retesting due to failed tests.
  - d. Remove and replace any Work found defective or not complying with contract document requirements at no additional cost to Owner.
  - e. Should test return unacceptable results, Contractor will bear all costs of retesting and re-inspection as well as cost of all material consumed by testing, and replacement of unsatisfactory material and/or workmanship.
9. Protection:
  - a. Protect construction exposed by or for quality assurance and quality control service activities, and protect repaired construction.
10. Scheduling: Contractor is responsible for scheduling times for inspections, tests, taking samples, and similar activities:
  - a. Schedule testing and inspections in advance so as not to delay the Work and to eliminate any need to uncover the Work for testing or inspection.
  - b. Notify Testing Agency and Architect or Owner as noted in Sections in Division 01 thru Division 50 prior to any time required for such services.
  - c. Incorporate adequate time for performance of all inspections and correction of noted deficiencies.
  - d. Schedule sequence of activities to accommodate required services with minimum of delay.
  - e. Schedule sequence of activities to avoid necessity of removing and replacing construction to accommodate testing and inspections.
11. Test and Inspection Log:
  - a. Provide system of tracking all field reports, describing items noted, and resolution of each item. Prepare record of tests and inspections. Include following requirements:
    - 1) Date test or inspection was conducted.
    - 2) Description of the Work tested or inspected.
    - 3) Date test or inspection results were transmitted to Architect or Owner Representative.
    - 4) Identification of Testing Agency or inspector conducting test or inspection.
  - b. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's or Owner's reference during normal working hours.

G. Testing Agency Services And Responsibility:

1. Testing Agency, including independent testing laboratories, will be licensed and authorized to operate in jurisdiction in which Project is located.

- a. Approved Testing Agency Qualifications: Requirements of Section 01 4301 apply.
- 2. Testing and Inspection Services:
  - a. Testing Agency will not release, revoke, alter, or increase Contract Document requirements or approve or accept any portion of the Work.
  - b. Testing Agency will not give direction or instruction to Contractor.
  - c. Testing Agency will have full authority to see that the Work is performed in strict accordance with requirements of Contract Documents and directions of Owner's Representative and/or Architect.
  - d. Testing Agency will not provide additional testing and inspection services beyond scope of the Work without prior approval of Owner's Representative and/or Architect.
- 3. Testing Agency Duties:
  - a. Independent Testing Agency engaged to perform inspections, sampling, and testing of materials and construction specified in individual specification Sections will cooperate with Architect or Owner Representative and Contractor in performance of its duties and will provide qualified personnel to perform required inspections and tests.
  - b. Testing Agency will test or obtain certificates of tests of materials and methods of construction, as described herein or elsewhere in technical specification.
  - c. Testing Agency will provide management, personnel, equipment, and services necessary to perform testing functions as outlined in this section.
  - d. Testing Agency must have experience and capability to conduct testing and inspecting indicated by ASTM standards and that specializes in types of tests and inspections to be performed.
  - e. Testing Agency will comply with requirements of ASTM E329, ASTM E543, ASTM C1021, ASTM C1077, ASTM C1093, ASTM D3666, ASTM D3740, and other relevant ASTM standards.
  - f. Testing Agency must calibrate all testing equipment at reasonable intervals (minimum yearly) with accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.
  - g. Welding Procedure Review: Testing Agency will provide review and approval or rejection of all welding procedures to be used and verify compliance with all reference standard requirements.
- 4. Testing and Inspection Reports:
  - a. Conduct and interpret tests and inspections and state in each report whether tested and inspected Work complies with or deviates from requirements.
  - b. Laboratory Reports: Testing Agency will furnish reports of materials and construction as required, including:
    - 1) Description of method of test.
    - 2) Identification of sample and portion of the Work tested.
      - a) Description of location in the Work of sample.
      - b) Time and date when sample was obtained.
      - c) Weather and climatic conditions at time when sample was obtained.
    - 3) Evaluation of results of tests including recommendations for action.
  - c. Inspection Reports: Testing Agency will furnish "Inspection at Site" reports for each site visit documenting activities, observations, and inspections. Include notation of weather and climatic conditions, time and date conditions and status of the Work, actions taken, and recommendations or evaluation of the Work.
  - d. Reporting Testing and Inspection (Conforming Work):
    - 1) Submit testing and inspection reports as required within twenty four (24) hours of test or inspection having been performed.
  - e. Reporting Testing and Inspection Defective Work (Non-Conforming Work):
    - 1) Testing Agency, upon determination of irregularities, deficiencies observed or test failure(s) observed in the Work during performance of its services of test or inspection having been performed, will:
      - a) Verbally notify results to Architect, Contractor, and Owner's Representative within one hour of test or inspection having been performed (if Defective Work (Non-Conforming Work) is incorporated into project).
      - b) Submit written inspection report and test results as required within twenty four (24) hours of test or inspection having been performed.
  - f. Final Report:
    - 1) Submit final report of tests and inspections at Substantial Completion, which identify unresolved deficiencies.

H. Field Tests and Inspections requirements are described in 'Field Quality Control' in Division 01 thru Division 50 Sections.



**SECTION 01 5000 TEMPORARY FACILITIES AND CONTROLS**

- A. Owner will provide electric power for construction activities within limits available at existing facility.
- B. Exercise caution to avoid fire damage. Do not build fires on site.
- C. Permanent mechanical system may be operated upon following conditions:
  - 1. Do not interfere with normal set-back temperature patterns except as approved by Project Manager.
  - 2. Do not operate system when the Work causing airborne dust is occurring or when dust caused by such Work is present without first installing temporary filtering system.
- D. Existing lighting system may be used by Contractor.
- E. Contractor will use existing water supply for construction purposes to extent of existing facilities.
- F. Existing restroom facilities may be used by Contractor. Clean restrooms and portions of existing building used in accessing restrooms daily. If existing facilities are not usable, provide and maintain temporary sanitary toilet.
- G. Erect adequate barricades, warning signs, and lights necessary to protect persons from injury or harm.
- H. Contractor is responsible for security of materials, tools, and equipment. Do not permit others to use building keys provided by Owner. Safeguard building and contents while the Work is being performed and secure building when the Work is finished for day.
- I. Protect existing trees and plants. Remove and replace vegetation that dies or is damaged beyond repair due to construction activities.
- J. Provide temporary enclosures at exterior building openings for security and protection from weather, theft, and vandalism. Erect and maintain dust-proof partitions and enclosures as required to prevent spread of dust and fumes to occupied portions of building.
- K. Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and reduce possibility that air, waterways, and subsoil might be contaminated or polluted, or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near site. Protect the Work, materials, apparatus, and fixtures from injury due to weather, theft, and vandalism.

**SECTION 01 6100 PRODUCT REQUIREMENTS**

- A. Provide products that comply with Contract Documents, are undamaged, and, unless otherwise indicated, are new and unused at time of installation. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for complete installation and for intended use and effect:

**SECTION 01 6200 PRODUCT OPTIONS**

- A. Product selection is governed by Contract Documents and governing regulations, not by previous Project experience. Procedures governing product selection include:
  - 1. Substitutions And Equal Products:
    - a. Generally speaking, substitutions for specified products and systems, as defined in Uniform Commercial Code, are not acceptable. However, equal products may be approved upon compliance with Contract Document requirements.
    - b. Approved Products / Manufacturers / Suppliers / Installers:
      - 1) Category One:
        - a) Owner has established 'Value Managed Relationships' that extend beyond requirements of this Project. No substitutions or equal products will be allowed on this Project.
        - b) Follow specified procedures to preserve relationships between Owner and specified manufacturers / suppliers and advantages that accrue to Owner from those relationships.

- 2) Category Two:
  - a) Owner has established National Contracts that contain provisions extending beyond requirements of this Project. No substitutions or equal products will be allowed on this Project.
  - b) Follow specified procedures to preserve relationships between Owner and specified manufacturers / suppliers and advantages that accrue to Owner from those relationships.
- 3) Category Three:
  - a) Specified products are provided to Church Projects under a National Account Program. Use these products to preserve advantages that accrue to Owner from those programs. No substitutions or equal products will be allowed on this Project.
- 4) Category Four:
  - a) Provide only specified products available from manufacturers listed. No substitutions, private-labeled, or equal products, or mixing of manufacturers' products is allowed on this Project.
  - b) In Sections where lists recapitulating Manufacturers previously mentioned in Section are included under heading '*Manufacturers*' or '*Approved Manufacturers*', this is intended as convenience to Contractor as listing of contact information only. It is not intended that all manufacturers in list may provide products where specific products and manufacturers are listed elsewhere in Section.
- c. Acceptable Products / Manufacturers / Suppliers / Installers:
  - 1) Type One: Use specified products / manufacturers unless approval to use other products / manufacturers has been obtained from Architect or Owner Representative by Addendum.
  - 2) Type Two: Use specified products / manufacturers unless approval to use other products and manufacturers has been obtained from Architect or Owner Representative in writing before installing or applying unlisted or private-labeled products.
  - 3) Use 'Equal Product Approval Request Form' to request approval of equal products, manufacturers, or suppliers before bidding or before installation, as noted in individual Sections.
- d. Quality / Performance Standard Products / Manufacturers:
  - 1) Class One: Use specified product / manufacturer or equal product from specified manufacturers only.
  - 2) Class Two: Use specified product / manufacturer or equal product from any manufacturer.
  - 3) Products / manufacturers used will conform to Contract Document requirements.

#### **SECTION 01 6400 OWNER-FURNISHED PRODUCTS**

- A. Install items furnished by Owner or receive and store in safe condition items purchased directly by Owner according to requirements of Contract Documents.

#### **SECTION 01 6600 DELIVERY, STORAGE, AND HANDLING REQUIREMENTS**

- A. Deliver, store, and handle products according to manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.
- B. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
- C. Deliver products to site in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
- D. Inspect products upon delivery to ensure compliance with Contract Documents, and to ensure that products are undamaged and properly protected.
- E. Store products at site in manner that will simplify inspection and measurement of quantity or counting of units.
- F. Store heavy materials away from Project structure so supporting construction will not be endangered.
- G. Store products subject to damage by elements above ground, under cover in weather tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

**SECTION 01 7000 EXECUTION REQUIREMENTS**

- A. Design, furnish, and install all shoring, bracing, and sheathing as required for safety and for proper execution of the Work and, unless otherwise required, remove same when the Work is completed.
- B. Require installer of each major component to inspect both substrate and conditions under which the Work is to be done. Notify Owner in writing of unsatisfactory conditions. Do not proceed until unsatisfactory conditions have been corrected.
- C. Provide attachment and connection devices and methods necessary for securing the Work. Secure the Work true to line and level. Allow for expansion and building movement.
- D. Recheck measurements and dimensions before starting each installation.
- E. Where mounting heights are not shown, install individual components at standard mounting heights recognized within industry or local codes for that application. Refer questionable mounting height decisions to Owner for final decision.
- F. Cover and protect furniture, equipment, and fixtures from soiling and damage when demolition the Work is performed in rooms and areas from which such items have not been removed.
- G. Completion Inspection:
  - 1. Upon 100 percent completion of Project, Contractor will request Substantial Completion Inspection.
  - 2. Owner will conduct Substantial Completion Inspection in presence of Contractor and furnish list of items to be corrected.
  - 3. Contractor will notify Owner in writing when items have been corrected.

**SECTION 01 7400 CLEANING AND WASTE MANAGEMENT**

- A. Disposal Of Waste:
  - 1. Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in landfill or incinerator acceptable to authorities having jurisdiction:
    - a. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site
    - b. Remove and transport debris in manner that will prevent spillage on adjacent surfaces and areas.
  - 2. Burning: Do not burn waste materials.
  - 3. Disposal: Transport waste materials off Owner's property and legally dispose of them.
- B. Progress Cleaning:
  - 1. Keep premises broom-clean during progress of the Work. Vacuum carpeted hallways used for access to the work area as needed to maintain a clean appearance.
  - 2. During handling and installation, protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from soiling, damage, or deterioration until Substantial Completion.
  - 3. Clean and maintain completed construction as frequently as necessary throughout construction period.
  - 4. Remove waste materials and rubbish caused by employees, subcontractors, and contractors under separate contract with Owner and dispose of legally.
- C. Final Cleaning:
  - 1. Clean each surface or unit to condition expected in normal, commercial-building cleaning and maintenance program. Comply with manufacturer's instructions. Remove all rubbish from under and about building and leave building clean and habitable.
  - 2. In addition to general cleaning noted above, perform cleaning for all trades at completion of the Work in areas where construction activities have occurred.
  - 3. If Contractor fails to clean up, Owner may do so and charge cost to Contractor.

**SECTION 01 7700 CLOSEOUT PROCEDURES**

## A. General:

1. Closeout process consists of three specific project closeout inspections. Contractor shall plan sufficient time in construction schedule to allow for required inspections before expiration of Contract Time.
2. Contractor shall conduct his own inspections of The Work and shall not request closeout inspections until The Work of the contract is reasonably complete and correction of obvious defects or omissions are complete or imminent.
3. Date of Substantial Completion shall not occur until completion of construction work, unless agreed to by Architect / Owner's Representative and included on Certificate of Substantial Completion.

## B. Preliminary Closeout Review:

1. When Architect, Owner and Contractor agree that project is ready for closeout, Pre-Substantial Inspection shall be scheduled.
2. Architect and his appropriate consultants, together with Contractor and mechanical, plumbing, fire protection, and electrical sub-contractors shall conduct a space by space inspection to review materials and workmanship and to demonstrate that systems and equipment are operational.
  - a. Punch list of items requiring completion and correction will be created.
  - b. Time frame for completion of punch list items will be established, and date for Substantial Completion Inspection shall be set.

## C. Substantial Completion Inspection:

1. When Architect, Owner and Contractor agree that project is ready for Substantial Completion, an inspection is held. Punch list created at Pre-Substantial Inspection is to be substantially complete.
2. Prior to this inspection, Contractor shall discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups and similar elements.
3. Architect, Owner and Contractor review completion of punch list items. When Owner and Architect confirm that Contractor has achieved Substantial Completion of The Work, Owner, Architect and Contractor will execute Certificate of Substantial Completion that contains:
  - a. Date of Substantial Completion.
  - b. Punch List Work not yet completed, including seasonal and long lead items.
  - c. Amount to be withheld for completion of Punch List Work.
  - d. Time period for completion of Punch List Work.
  - e. Amount of liquidated damages set forth in Supplementary Conditions to be assessed if Contractor fails to complete Punch List Work within time set forth in Certificate.
4. Contractor shall present Closeout Submittals to Architect and place tools, spare parts, extra stock, and similar items required by Contract Documents in locations as directed by Facilities Manager.

## D. Final Acceptance Meeting:

1. When punch list items except for any seasonal items or long lead items which will not prohibit occupancy are completed, Final Acceptance Meeting is held.
2. Owner, Architect and Contractor execute Owner's Project Closeout - Final Acceptance form, and verify:
  - a. All seasonal and long lead items not prohibiting occupancy, if any, are identified, with committed to completion date and amount to be withheld until completion.
  - b. Owner's maintenance personnel have been instructed on all system operation and maintenance as required by the Contract Documents.
  - c. Final cleaning requirements have been completed.
3. If applicable, once any seasonal and long lead items are completed, Closeout Inspection is held where Owner and Architect verify that The Work has been satisfactorily completed, and Owner, Architect and Contractor execute Closeout portion of the Project Closeout - Final Acceptance form.
4. When Owner and Architect confirm that The Work is satisfactorily completed, Architect will authorize final payment.

**SECTION 01 7800 CLOSEOUT SUBMITTALS**

## E. Operations And Maintenance Data:

1. Certifications required by Contract Documents.
2. Copies of warranties required by Contract Documents.
3. Copy of complete Project Manual including Addenda, Modifications as defined in General Conditions, and other interpretations issued during construction.

- a. Mark these documents to show variations in actual Work performed in comparison with text of specifications and Modifications. Show substitutions, selection of options, and similar information, particularly on elements that are concealed or cannot otherwise be readily discerned later by direct observation.
  - b. Note related record drawing information and Product Data.
4. Testing and Inspection Reports required by Contract Documents.
- F. Warranties:
1. When written guarantees beyond one (1) year after substantial completion are required by Contract Documents, secure such guarantees and warranties properly addressed and signed in favor of Owner. Include these documents in Operations & Maintenance Manual(s) specified above.
  2. Delivery of guarantees and warranties will not relieve Contractor from obligations assumed under other provisions of Contract Documents.
- G. Project Record Documents:
1. Do not use record documents for construction purposes. Protect from deterioration and loss in secure, fire-resistive location. Provide access to record documents for reference during normal Working hours.
  2. Maintain clean, undamaged set of Drawings. Mark set to show actual installation where installation varies from the Work as originally shown. Give particular attention to concealed elements that would be difficult to measure and record at later date:
    - a. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
    - b. Mark new information that is important to Owner, but was not shown on Drawings.
    - c. Note related Change Order numbers where applicable.

**END OF SECTION**

**SECTION 01 1100**  
**SUMMARY OF WORK**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements Summary of Work requirements.

**1.2 WORK COVERED BY CONTRACT DOCUMENTS**

- A. Provisions contained in Division 01 apply to Sections of Divisions 02 through 49 of Specifications. Instructions contained in Specifications are directed to Contractor. Unless specifically provided otherwise, obligations set forth in Contract Documents are obligations of Contractor.
- B. Contractor shall furnish total labor, materials, equipment, and services necessary to perform The Work in accordance with Contract Documents.

**PART 2 - PRODUCTS Not Used**

**PART 3 - EXECUTION Not Used**

**END OF SECTION**

**SECTION 01 1400**  
**WORK RESTRICTIONS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements for Work Restrictions.

**1.2 PROJECT CONDITIONS**

- A. During construction period, Contractor will have use of premises for construction operations. Contractor will ensure that Contractor, its employees, subcontractors, and their employees comply with following requirements:
1. Confine operations to areas within Contract limits shown on Drawings. Do not disturb portions of site beyond Contract limits.
  2. Do not allow alcoholic beverages, illegal drugs, or persons under their influence on Project site.
  3. Do not allow use of tobacco in any form on Project Site.
  4. Do not allow pornographic or other indecent materials on site.
  5. Do not allow work on Project site on Sundays except for emergency work.
  6. Refrain from using profanity or being discourteous or uncivil to others on Project Site or while performing The Work.
  7. Wear shirts with sleeves, wear shoes, and refrain from wearing immodest, offensive, or obnoxious clothing, while on Project Site.
  8. Do not allow playing of obnoxious and loud music on Project Site. Do not allow playing of any music within existing facilities.
  9. Do not build fires on Project Site.
  10. Do not allow weapons on Project Site, except those carried by law enforcement officers or other uniformed security personnel who have been retained by Owner or Contractor to provide security services.
- B. Existing Facilities:
1. Reasonably accommodate use of existing facilities by Owner.
- C. Do not load or permit any part of the structure to be loaded with a weight that will endanger its safety. Questions of structural loading as part of construction means and methods shall be addressed by a licensed structural engineer engaged by Contractor, subject to the review by Engineer.

**PART 2 - PRODUCTS Not Used**

**PART 3 - EXECUTION Not Used**

**END OF SECTION**

**SECTION 01 2100****ALLOWANCES****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
  - 1. Administrative and procedural requirements to prepare and process Allowances.

**1.2 CASH ALLOWANCES**

- A. Include following Allowances in bid:
  - 1. Division 01 1100 – Summary of Work
    - Allow One Thousand Dollars (\$1000.00) for building permit and inspection fees.
- B. If actual purchase price differs from Allowance, change order will be issued adjusting Contract Sum by amount of difference.
- C. Actual purchase price is actual amount paid by Contractor, including applicable sales and use taxes, before taking into account cash discounts for prompt payment.

**PART 2 - PRODUCTS Not Used****PART 3 - EXECUTION Not Used****END OF SECTION**



**SECTION 01 2600**  
**CONTRACT MODIFICATION PROCEDURES**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
  - 1. Administrative and procedural requirements for handling and processing Contract Modifications.

**1.2 REQUESTS FOR INTERPRETATIONS (RFI's)**

- A. Contact the Engineer for clarification.

**1.3 CLARIFICATION NOTICES**

- A. Clarification notices will be emailed to the contractor and/or subcontractors at the Engineers discretion.

**1.4 MINOR CHANGES IN THE WORK**

- A. Minor changes will be confirmed verbally followed by a confirmation email, or via email only.  
Contractor to note changes on the record drawings.

**1.5 SUPPLEMENTAL INSTRUCTIONS**

- A. Supplemental instructions will be given verbally, followed by a confirmation email, or via email only.

**1.6 FIELD ORDERS**

- A. Field orders will be given verbally and confirmed via written field report. Field reports will be sent via email to the contractor, Facilities Manager, and the Project Manager.

**1.7 AMENDMENTS**

- A. Amendments will be confirmed via written notice sent via email to the Contractor, Facilities Manager and Project Manager.

**1.8 CONSTRUCTION CHANGE DIRECTIVES**

- A. Construction Change Directives will be given verbally and confirmed via written field report. Field reports will be sent via email to the contractor, Facilities Manager, and the Project Manager

**1.9 WORK CHANGE DIRECTIVES**

- A. Field orders will be given verbally and confirmed via written field report. Field reports will be sent via email to the contractor, Facilities Manager, and the Project Manager

**1.10 PROPOSAL REQUESTS**

- A. Proposal requests are to be submitted by the Contractor on forms approved by the owner and sent via email. Confirmation will be returned via email.

**1.11 PROPOSAL WORKSHEET SUMMARIES**

- A. Proposal Worksheet Summaries are to be submitted by the Contractor on forms approved by the owner and sent via email. Confirmation will be returned via email

**1.12 CHANGE ORDER REQUESTS**

- A. Change Order Requests are to be submitted by the Contractor on forms approved by the owner and sent via email to the Engineer. The engineer will review and send on to the Project Manager for approval. Return confirmation will be via email.

**1.13 CHANGE ORDERS**

- A. Change Order Requests are to be submitted by the Contractor on forms approved by the owner and sent via email to the Engineer. The engineer will review and send on to the Project Manager for approval. Return confirmation will be via email

**PART 2 - PRODUCTS Not Used****PART 3 - EXECUTION Not Used**

**END OF SECTION**

**SECTION 01 2900**  
**PAYMENT PROCEDURES**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements to prepare and process Applications for Payments.

**1.2 PAYMENT REQUESTS**

- A. Use Payment Request forms provided by Owner.
- B. Each Payment Request will be consistent with previous requests and payments certified by Architect and paid for by Owner.
- C. Request Preparation:
1. Complete every entry on Payment Request form.
  2. Entries will match data on approved schedule of values and Contractor's Construction Schedule. Use updated schedules if revisions have been made.
  3. Submit signed Payment Request to Architect with current Construction Schedule.
- D. Provide following submittals before or with submittal of Initial Payment Request:
1. List of Subcontractors.
  2. Initial progress report.
  3. Contractor's Construction Schedule.
  4. Submittal Schedule.
- E. Provide Affidavit of Contractor and Consent of Surety with Payment Request following Substantial Completion.

**1.3 SCHEDULE OF VALUES**

- A. Submit schedule of values on Owner's standard form to Architect 20 days minimum before submission of Initial Payment Request as a necessary condition before payment will be processed. Coordinate preparation of schedule of values with preparation of Contractor's Construction Schedule. Correlate line items in Schedule of Values with other required administrative schedules and forms, including:
1. Payment Request form.
  2. Schedule of Allowances.
  3. Schedule of Alternates.

**PART 2 - PRODUCTS Not Used**

**PART 3 - EXECUTION Not Used**

**END OF SECTION**

**SECTION 01 3100****PROJECT MANAGEMENT AND COORDINATION****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
  - 1. Administrative and procedural requirements for Project Management and Coordination on Projects.

**1.2 PROJECT COORDINATION**

- A. Project designation for this Project is 518593915030101 Canyon View 3, 4, 10 Trusses.
- B. This Project designation will be included on documents generated for Project by Contractor and Subcontractors, or be present on a cover letter accompanying such documents.

**1.3 MULTIPLE CONTRACT COORDINATION**

- A. Contractor shall be responsible for accurately maintaining and reporting schedule of The Work from Notice to Proceed to date of Substantial Completion.
- B. Contractor shall be responsible for providing Temporary Facilities And Controls for those who perform work on Project from Notice to Proceed to date of Substantial Completion.
- C. Contractor shall be responsible for providing Construction Waste Management And Disposal services for those who perform work on Project from Notice to Proceed to date of Substantial Completion.
- D. Contractor shall be responsible for Final Cleaning for entire Project.

**1.4 PROJECT MEETINGS AND CONFERENCES**

- A. Preconstruction Conference:
  - 1. Attend preconstruction conference and organizational meeting scheduled by Architect at Project site or other convenient location.
  - 2. Be prepared to discuss items of significance that could affect progress, including such topics as:
    - a. Construction schedule.
    - b. Critical Work sequencing.
    - c. Current problems.
    - d. Designation of responsible personnel.
    - e. Distribution of Contract Documents.
    - f. Equipment deliveries and priorities.
    - g. General schedule of inspections by Architect and its consultants.
    - h. General inspection of tests.
    - i. Office, work, and storage areas.
    - j. Preparation of record documents and O & M manuals.
    - k. Procedures for processing interpretations and Modifications.
    - l. Procedures for processing Payment Requests.
    - m. Project cleanup.
    - n. Security.
    - o. Status of permits.

- p. Submittal of Product Data, Shop Drawings, Samples, Quality Assurance / Control submittals.
  - q. Use of the premises.
  - r. Work restrictions.
  - s. Working hours.
3. Architect will record minutes of meetings and distribute copies to Owner and Contractor within three (3) working days.
- B. Progress Meetings:
- 1. Attend progress meetings at Project site at regularly scheduled intervals determined by Architect, at least once a month.
  - 2. Progress meetings will be open to Owner, Architect, Subcontractors, and anyone invited by Owner, Architect, and Contractor.
  - 3. Be prepared to discuss items of significance that could affect progress, including following:
    - a. Progress since last meeting.
    - b. Whether Contractor is on schedule.
    - c. Activities required to complete Project within Contract Time.
    - d. Labor and materials provided under separate contracts.
    - e. Off-site fabrication problems.
    - f. Access.
    - g. Site use.
    - h. Temporary facilities and services.
    - i. Hours of work.
    - j. Hazards and risks.
    - k. Project cleanup.
    - l. Quality and Work standards.
    - m. Status of pending modifications.
    - n. Documentation of information for Payment Requests.
    - o. Maintenance of Project records.
  - 4. Architect will prepare minutes of progress meetings and distribute copies of minutes to Owner and Contractor within three (3) working days.
- C. Pre-Installation Conferences:
- 1. Attend pre-installation conferences specified in Contract Document.
    - a. If possible, schedule these conferences on same day as regularly scheduled Progress Meetings. If this is not possible, coordinate scheduling with Architect.
    - b. Request input from attendees in preparing agenda.
  - 2. Be prepared to discuss following items:
    - a. Requirements of Contract Documents.
    - b. Completed work necessary for installation of items or systems.
    - c. Conditions not in compliance with installation requirements.
    - d. Installation and inspection schedule.
    - e. Coordination between trades.
    - f. Space and access limitations.
    - g. Testing.
  - 3. Architect will prepare meeting minutes and distribute minutes to Owner and Contractor within three (3) working days.

## **PART 2 - PRODUCTS Not Used**

## **PART 3 - EXECUTION Not Used**

**END OF SECTION**

**SECTION 01 3300****SUBMITTAL PROCEDURES****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements for Submittal Procedures.

**1.2 SUBMITTAL SCHEDULE**

- A. Furnish submittal schedule within 20 days after receipt of Notice to Proceed, listing items specified to be furnished for review to Architect including product data, shop drawings, samples, and Informational submittals.
1. Coordinate submittal schedule with Contractor's construction schedule.
  2. Enclose the following information for each item:
    - a. Scheduled date for first submittal.
    - b. Related Section number.
    - c. Submittal category.
    - d. Name of Subcontractor.
    - e. Description of part of the Work covered.
    - f. Scheduled date for resubmittal.
    - g. Scheduled date for Architect's final release or approval.
- B. Print and distribute copies to Architect and Owner and post copy in field office. When revisions are made, distribute to same parties and post in same location.
- C. Revise schedule monthly. Send copy of revised schedule to Owner and Architect and post copy in field office.

**1.3 SUBMITTAL PROCEDURES**

- A. Coordination:
1. Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently before performance of related construction activities to avoid delay.
    - a. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
    - b. Coordinate transmittal of different types of submittals required for related elements of The Work so processing will not be delayed by need to review submittals concurrently for coordination. Architect reserves right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
  2. Processing Time:
    - a. Allow sufficient review time so installation will not be delayed by time required to process submittals, including time for resubmittals.
      - 1) Allow 21 days for initial review. Allow additional time if processing must be delayed to allow coordination with subsequent submittals. Architect will promptly advise Contractor when submittal being processed must be delayed for coordination.
      - 2) If an intermediate submittal is necessary, process same as initial submittal.
      - 3) Allow 10 days for reprocessing each submittal.

- 4) No extension of Contract Time will be authorized because of failure to transmit submittals to Architect in sufficient time before work is to be performed to allow processing.
3. Identification:
  - a. Place permanent label or title block on each submittal for identification. Include name of entity that prepared each submittal on label or title block.
    - 1) Provide space approximately 4 by 5 inches on label or beside title block on Shop Drawings to record Contractor's review and approval markings and action taken.
    - 2) Include following information on label for processing and recording action taken:
      - a) Project name.
      - b) Date.
      - c) Name and address of Architect.
      - d) Name and address of Contractor.
      - e) Name and address of Subcontractor.
      - f) Name and address of supplier.
      - g) Name of manufacturer.
      - h) Number and title of appropriate Specification Section.
      - i) Drawing number and detail references, as appropriate.
4. Transmittal:
  - a. Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using transmittal letter. On transmittal, record relevant information and requests for data. Include Contractor's certification that information complies with Contract Document requirements, or, on form or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations.
  - b. Submittals received from sources other than Contractor or not marked with Contractor's approval will be returned without action.

#### 1.4 ACTION SUBMITTALS

- A. Product Data:
  1. Submit Product Data, as required by individual Sections of Specifications.
  2. Mark each copy of each set of submittals to show choices and options used on Project. Where printed Product Data includes information on products that are not required for Project, mark copies to indicate information relating to Project.
  3. Certify that proposed product complies with requirements of Contract Documents. List any deviations from those requirements on form or separate sheet.
  4. Submit five copies of each required submittal unless otherwise required. Architect will return three copies marked with action taken and with corrections or modifications required.
  5. Submit electronic files PDF: Architect will return a PDF copy marked with action taken and with corrections or modifications required. Electronic submittals are an acceptable substitution for the five copies mentioned in Paragraph 4.

#### 1.5 CLOSEOUT SUBMITTALS

- A. This title groups submittals that occur during project closeout. Coordinate with section 01 7800 Closeout Submittals.
  1. Warranty Documentation: Describe submittal of final executed warranty document.
  2. Record Documentation: Describe submittal of record documentation specific to this Section.

#### 1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. This title groups maintenance material submittals required by Section.
  1. Extra Stock Materials: Describe extra stock materials to be provided for Owner's use in facility operation and maintenance. Extra stock materials are generally understood to be items such as ceiling tiles, flooring, paint etc.

**PART 2 - PRODUCTS Not Used**

**PART 3 - EXECUTION Not Used**

**END OF SECTION**



**SECTION 01 3500**  
**SPECIAL PROCEDURES**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements for Special Procedures.

**1.2 ACCELERATION OF WORK**

- A. Complete The Work in accordance with Construction Schedule. If Contractor falls behind schedule, take such actions as are necessary, at no additional expense to Owner, to bring progress of The Work back in accordance with schedule.
- B. Owner may request proposal for completion of The Work at date earlier than expiration of Contract Time. Promptly provide requested proposal showing cost of such acceleration of The Work. Consult with Owner and Architect regarding possible options to decrease cost of such acceleration. If Owner determines to order acceleration of The Work, change in Contract Sum and Contract Time resulting from acceleration will be included in a Change Order.

**1.3 OWNER'S SAFETY REQUIREMENTS**

- A. Personal Protection:
1. Contractor shall ensure:
    - a. Positive means of fall protection, such as guardrails system, safety net system, personal fall arrest system, etc, is provided to employees whenever exposed to a fall six feet or more above a lower level.
    - b. Personnel working on Project shall wear hard hats and safety glasses as required by regulation and hazard.
    - c. Personnel working on Project shall wear long or short sleeve shirts, long pants, and hard-toed boots or other sturdy shoes appropriate to type and phase of work being performed.
- B. Contractor Tools And Equipment:
1. Contractor shall ensure:
    - a. Tools and equipment are in good working condition, well maintained, and have necessary guards in place.
    - b. Ground Fault Circuit Interrupters (GFCI) is utilized on power cords and tools.
    - c. Scaffolding and man lifts are in good working condition, erected and maintained as required by governmental regulations.
    - d. Ladders are in good condition, well maintained, used as specified by Manufacturer, and secured as required.
- C. Miscellaneous:
1. Contractor shall ensure:
    - a. Protection is provided on protruding rebar and other similar objects.
    - b. General Contractor Superintendent has completed the OSHA 10-hour construction outreach training course or equivalent.
    - c. Implementation and administration of safety program on Project.
    - d. Material Safety Data Sheets (MSDS) are provided for substances or materials for which an MSDS is required by governmental regulations before bringing on site.
    - e. Consistent safety training is provided to employees on Project.

- f. Implement and coordinate Lockout / Tagout procedures with Owner's Representative as required.
- 2. Report accidents involving injury to employees on Project that require off-site medical treatment to Owner's designated representative.

**PART 2 - PRODUCTS Not Used**

**PART 3 - EXECUTION Not Used**

**END OF SECTION**

**SECTION 01 4100**  
**REGULATORY REQUIREMENTS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements for Regulatory Requirements.

**1.2 ASBESTOS**

- A. Contract Documents for this Project have been prepared in accordance with generally accepted professional architectural and engineering practices. Accordingly, no asbestos or products containing asbestos have been knowingly specified for this Project. Notify Architect immediately for instructions if materials containing asbestos are brought to site for inclusion in the Work.
- B. At Architect's direction and with Owner's approval, a certified asbestos inspector will collect samples and an independent testing laboratory will perform testing procedures on suspect materials.
- C. Certify that based upon best knowledge, information, inspection, and belief no building materials containing asbestos were used in construction of Project. Submit certification on form provided by Owner.

**PART 2 - PRODUCTS Not Used**

**PART 3 - EXECUTION Not Used**

**END OF SECTION**

**SECTION 01 4200****REFERENCES****PART 1 - GENERAL****1.1 SUMMARY****A. Section Includes But is Not Limited To:**

1. Reference standards, definitions, specification format, and industry standards.

**1.2 REFERENCES****A. Definitions:**

1. **Approved:** The term "approved," when used to convey Architect's action on Contractor's submittals, applications, and requests, is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
2. **Directed:** The term "directed" is a command or instruction by Architect. Other terms including "requested," "authorized," "selected," "approved," and "permitted" have the same meaning as "directed."
3. **Experienced:** The term "experienced," when used with an entity, means having successfully completed a minimum often previous projects similar in size and scope to this Project; being familiar with the special requirements indicated, and having complied with requirements of authority having jurisdiction.
4. **Furnish:** The term "furnish" means supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
5. **General:** Basic Contract definitions are included in the Conditions of the Contract.
6. **Indicated:** The term "indicated" refers to requirements expressed by graphic representations, or in written form on Drawings, in Specifications, and in other Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference.
7. **Install:** The term "install" describes operations at Project site including unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
8. **Installer:** An "Installer" is the Contractor or another entity engaged by the Contractor, as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
9. **Project Site:** The term "Project site" means the space available for performing construction activities. The extent of the Project site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.
10. **Provide:** The term "provide" means to furnish and install, complete and ready for the intended use.
11. **Regulations:** The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
12. **Submitted:** The terms "submitted," "reported," "satisfactory" and similar words and phrases means submitted to Architect, reported to Architect and similar phrases.
13. **Testing Agencies:** A "testing agency" is an independent entity engaged to perform specific inspections or tests, either at the Project site or elsewhere, or to report on and, if required, to interpret results of those inspections or tests.
14. **Trades:** Using terms such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

**B. References Standards:**

1. Specification Format: Specifications will follow MasterFormat™ 2004 for organizing numbers and titles. (The Construction Specifications Institute, Project Resource Manual/CSI Manual of Practice, 5<sup>th</sup> Edition. New York, McGraw-Hill, 2005).
  - a. Specification Identifications:
    - 1) The Specifications use section numbers and titles to help cross referencing in the Contract Documents.
    - 2) Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of sections in the Contract Documents.
  - b. Specification Language:
    - 1) Specifications should be prepared, with concern and respect for their legal status. Specifications should be Clear, Concise, Correct and Complete.
    - 2) Streamlining: Streamlining is used to list products, materials, reference standards, and other itemized specifications. This technique places the subject first and provides keywords for quick reference
  - c. Sentence Structure:
    - 1) Specifications to be written in the “Imperative Mood”.
      - a) The verb that clearly defines the action becomes the first word in the sentence.
      - b) The imperative sentence is concise and readily understandable.
    - 2) Streamlining is used to list products, materials, reference standards, and other itemized specifications. This technique places the subject first and provides keywords for quick reference.
  - d. Abbreviated Language:
    - 1) Abbreviations should be used only on drawings and schedules where space is limited.
    - 2) Abbreviations with multiple meanings should be avoided, unless used in different disciplines where their meaning is clear from the context in which they are used.
    - 3) Abbreviations should be limited to five or fewer letters
      - a) The verb that clearly defines the action becomes the first word in the sentence.
  - e. Symbols:
    - 1) Caution should apply to symbols substituted for words or terms.
  - f. Numbers:
    - 1) The use of Arabic numerals rather than words for numbers is recommended.

C. Industry Standards:

1. Except where Contract Documents specify otherwise, construction industry standards will apply and are made a part of Contract Documents by reference.
2. Where compliance with two or more standards is specified and standards apparently establish different or conflicting requirements for minimum quantities or quality levels, refer to Architect for decision before proceeding. Quantity or quality level shown or specified will be minimum provided or performed. Actual installation may comply exactly with minimum quantity or quality specified, or it may exceed minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum, as appropriate for context of requirements. Refer uncertainties to Architect for decision before proceeding.
3. Each entity engaged in construction on Project is required to be familiar with industry standards applicable to that entity's construction activity. Copies of applicable standards are not bound with Contract Documents. Where copies of standards are needed for performance of a required construction activity, Contractor will obtain copies directly from publication source.
4. Trade Association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations, as referenced in Contract Documents, are defined to mean association names. Names and addresses are subject to change and are believed to be, but are not assured to be, accurate and up to date as of date of Contract Documents.

|        |  |            |    |                |  |
|--------|--|------------|----|----------------|--|
| AABC   | Associated Air Balance Council                                   | Washington | DC | (202) 737-0202 | <a href="http://www.aabchq.com">www.aabchq.com</a>   |
| AAMA   | American Architectural Manufacturers Association                 | Schaumburg | IL | (847) 303-5664 | <a href="http://www.aamanet.org">www.aamanet.org</a> |
| AASHTO | American Association of State Highway & Transportation Officials | Washington | DC | (202) 624-5800 | <a href="http://www.aashto.org">www.aashto.org</a>   |

|        |  |                   |    |                 |  |
|--------|--|-------------------|----|-----------------|--|
| AAMA   | American Architectural Manufacturers Association                         | Schamamburg       | IL | (847) 303-5774  | <a href="http://www.aamanet.org">www.aamanet.org</a>   |
| AASHTO | American association of State Highways and Transportation Officials      | Washington        | DC |                 | <a href="http://www.transportation.org">www.transportation.org</a><br><a href="http://www.aashto.org">www.aashto.org</a> |
| ACI    | American Concrete Institute International                                | Farmington Hills  | MI | (248) 848-3700  | <a href="http://www.aci-int.org">www.aci-int.org</a>   |
| AGA    | American Gas Association   | Washington        | DC | (202) 824-7000  | <a href="http://www.aga.org">www.aga.org</a>   |
| AHRI   | Air Conditioning Heating & Refrigeration Institute                       | Arlington         | VA | (703) 524-8800  | <a href="http://www.ari.org">www.ari.org</a>   |
| AIA    | American Institution of Architects                                       | Washington        | DC | (202) 626-7300  | <a href="http://www.aia.org">www.aia.org</a>   |
| AISC   | American Institute of Steel Construction                                 | Chicago           | IL | (312) 670-2400  | <a href="http://www.aisc.org">www.aisc.org</a>   |
| AISI   | American Iron & Steel Institute  | Washington        | DC | (202) 452-7100  | <a href="http://www.steel.org">www.steel.org</a>   |
| AITC   | American Institution of Timber Construction                              | Englewood         | CO | (303) 792-9559  | <a href="http://www.aitc-glulam.org">www.aitc-glulam.org</a>   |
| AMCA   | Air Movement & Control Association International                         | Arlington Heights | IL | (847) 394-0150  | <a href="http://www.amca.org">www.amca.org</a>   |
| ANSI   | American National Standards Institute                                    | New York          | NY | (212) 642-4900  | <a href="http://www.ansi.org">www.ansi.org</a>   |
| APA    | APA-Engineered Wood Association  | Tacoma            | WA | (253) 565-6600  | <a href="http://www.apawood.org">www.apawood.org</a>   |
| API    | American Petroleum Institute   | Washington        | DC | (202) 682-8000  | <a href="http://www.api.org">www.api.org</a>   |
| AQMD   | South Coast Air Quality Management District                              | Diamond Bar       | CA | (909) 396-2000  | <a href="http://www.aqmd.gov">www.aqmd.gov</a>   |
| ASHRAE | American Society of Heating, Refrigerating, & Air-Conditioning Engineers | Atlanta           | GA | (404) 636-8400  | <a href="http://www.ashrae.org">www.ashrae.org</a>   |
| ASME   | American Society of Mechanical Engineers International                   | New York          | NY | (800) 843-2763  | <a href="http://www.asme.org">www.asme.org</a>   |
| ASTM   | ASTM International   | West Conshohocken | PA | (610) 832-9500  | <a href="http://www.astm.org">www.astm.org</a>   |
| AWI    | Architectural Woodwork Institute   | Potomac Falls     | VA | (571) 323-3636  | <a href="http://www.awinet.org">www.awinet.org</a>   |
| AWPA   | American Wood Protection Association                                     | Birmingham        | AL | (205) 733-4077  | <a href="http://www.awpa.com">www.awpa.com</a>   |
| AWS    | American Welding Society   | Miami             | FL | (800) 443-9353  | <a href="http://www.aws.org">www.aws.org</a>   |
| AWWA   | American Water Works Assoc   | Denver            | CO | (303) 794-7711  | <a href="http://www.awwa.org">www.awwa.org</a>   |
| BHMA   | Builders Hardware Manufacturers Association                              | New York          | NY | (212) 297-2122  | <a href="http://www.buildershardware.com">www.buildershardware.com</a>   |
| BIA    | Brick Industry Association   | Reston            | VA | (703) 620-0010  | <a href="http://www.bia.org">www.bia.org</a>   |
| CFI    | International Certified Floor-covering Installers, Inc.                  | Kansas City       | MO | (816) 231-4646  | <a href="http://www.cfi-installers.org">www.cfi-installers.org</a>   |
| CRI    | Carpet & Rug Institution   | Dalton            | GA | (706) 278-3176  | <a href="http://www.carpet-rug.com">www.carpet-rug.com</a>   |
| CRSI   | Concrete Reinforcing Steel Institute                                     | Schaumburg        | IL | (847) 517-1200  | <a href="http://www.crsi.org">www.crsi.org</a>   |
| CISPI  | Cast Iron Soil Pipe Institute  | Chattanooga       | TN | (423) 892-0137  | <a href="http://www.cispi.org">www.cispi.org</a>   |
| DHI    | Door & Hardware Institute  | Chantilly         | VA | (703) 222-2010  | <a href="http://www.dhi.org">www.dhi.org</a>   |
| DIPRA  | Ductile Iron Pipe Research Association.                                  | Birmingham        | AL | (205) 402-8700  | <a href="http://www.dipra.org">www.dipra.org</a>   |
| EIMA   | EIFS Industry Members Association  | Morrow            | GA | (800) 294-3462  | <a href="http://www.eima.com">www.eima.com</a>   |
| FM     | FM Global  | Johnston          | RI | (401) 275-3000  | <a href="http://www.fmglobal.com">www.fmglobal.com</a>   |
| FSC    | Forest Stewardship Council   | Bonn, Germa-      |    | +49 (0) 228 367 | <a href="http://www.fsc.org">www.fsc.org</a>   |

|        |   |                     |    |                |  |
|--------|---|---------------------|----|----------------|--|
|        |   | ny                  |    | 66 0           |  |
| GA     | Gypsum Association  | Hyattsville         | MD | (301) 277-8686 | <a href="http://www.gypsum.org">www.gypsum.org</a>                   |
| GS     | Green Seal  | Washington          | DC | (202) 872-6400 | <a href="http://www.greenseal.org">www.greenseal.org</a>             |
| HPVA   | Hardwood Plywood & Veneer Association                                     | Reston              | VA | (703) 435-2900 | <a href="http://www.hpva.org">www.hpva.org</a>                       |
| ICC    | International Code Council  | Washington          | DC | (888) 422-7233 | <a href="http://www.iccsafe.org">www.iccsafe.org</a>                 |
| ICC-ES | ICC Evaluation Service  | Whittier            | CA | (562) 699-0543 | <a href="http://www.icc-es.org">www.icc-es.org</a>                   |
| ICBO   | International Conference of Building Officials                            |                     |    |                | (See ICC)  |
| ISO    | International Organization for Standardization                            | Geneva, Switzerland |    |                | <a href="http://www.iso.org">www.iso.org</a>                         |
| ISSA   | International Slurry Surfacing Association                                | Annapolis           | MD | (410) 267-0023 | <a href="http://www.slurry.org">www.slurry.org</a>                   |
| KCMA   | Kitchen Cabinet Manufacturers Association                                 | Reston              | VA | (703) 264-1690 | <a href="http://www.kcma.org">www.kcma.org</a>                       |
| LPI    | Lightning Protection Institute  | Maryville           | MO | (800) 488-6864 | <a href="http://www.lightning.org">www.lightning.org</a>             |
| MFMA   | Maple Flooring Manufacturers' Association                                 | Deerfield           | IL | (888) 480-9138 | <a href="http://www.maplefloor.org">www.maplefloor.org</a>           |
| MSS    | Manufacturer's Standardization Society of The Valve and Fittings Industry | Vienna              | VA | (703) 281-6613 | <a href="http://www.mss-hq.com">www.mss-hq.com</a>                   |
| NAAMM  | National Association of Architectural Metal Manufacturers                 | Glen Ellyn          | IL | (630) 942-6591 | <a href="http://www.naamm.org">www.naamm.org</a>                     |
| NEC    | National Electric Code  | (from NFPA).        |    |                |  |
| NEMA   | National Electrical Manufacturer's Association                            | Rosslyn             | VA | (703) 841-3200 | <a href="http://www.nema.org">www.nema.org</a>                       |
| NFPA   | National Fire Protection Association                                      | Quincy              | MA | (800) 344-3555 | <a href="http://www.nfpa.org">www.nfpa.org</a>                       |
| NFRC   | National Fenestration Rating Council                                      | Greenbelt           | MD | (301) 589-1776 | <a href="http://www.nfrc.org">www.nfrc.org</a>                       |
| NSF    | NSF International   | Ann Arbor           | MI | (734) 769-8010 | <a href="http://www.nsf.org">www.nsf.org</a>                         |
| PCA    | Portland Cement Association   | Skokie              | IL | (847) 966-6200 | <a href="http://www.cement.org">www.cement.org</a>                   |
| PCI    | Precast / Prestressed Concrete Institute                                  | Chicago             | IL | (312) 786-0300 | <a href="http://www.pci.org">www.pci.org</a>                         |
| PEI    | Porcelain Enamel Institute  | Norcross            | GA | (770) 676-9366 | <a href="http://www.porcelainenamel.com">www.porcelainenamel.com</a> |
| RFCI   | Resilient Floor Covering Institute  | LaGrange            | GA | (706) 882-3833 | <a href="http://www.rfci.com">www.rfci.com</a>                       |
| SCTE   | Society of Cable Telecommunications Engineers                             | Exton               | PA | (800) 542-5040 | <a href="http://www.scte.org">www.scte.org</a>                       |
| SDI    | Steel Deck Institute  | Fox River Grove     | IL | (847) 458-4647 | <a href="http://www.sdi.org">www.sdi.org</a>                         |
| SDI    | Steel Door Institute  | Westlake            | OH | (440) 899-0010 | <a href="http://www.steeldoor.org">www.steeldoor.org</a>             |
| SIGMA  | Sealed Insulating Glass Manufacturer's Association                        | Chicago             | IL | (312) 644-6610 | <a href="http://www.arcat.com">www.arcat.com</a>                     |
| SJI    | Steel Joist Institute   | Myrtle Beach        | SC | (843) 293-1995 | <a href="http://www.steeljoist.org">www.steeljoist.org</a>           |
| SMACNA | Sheet Metal & Air Conditioning Contractors National Association           | Chantilly           | VA | (703) 803-2980 | <a href="http://www.smacna.org">www.smacna.org</a>                   |
| SPIB   | Southern Pine Inspection Bureau   | Pensacola           | FL | (850) 434-2611 | <a href="http://www.spib.org">www.spib.org</a>                       |
| SSMA   | Steel Stud Manufacturer's Association                                     | Glen Ellyn          | IL | (630) 942-6592 | <a href="http://www.ssma.com">www.ssma.com</a>                       |
| TCNA   | Tile Council of North America   | Anderson            | SC | (864) 646-8453 | <a href="http://www.tileusa.com">www.tileusa.com</a>                 |
| TPI    | Truss Plate Institute   | Alexandria          | VA | (703) 683-1010 | <a href="http://www.tpinst.org">www.tpinst.org</a>                   |
| TPI    | Turfgrass Producers Interna-  | East Dundee         | IL | (847) 649-5555 | <a href="http://www.turfgrassod.org">www.turfgrassod.org</a>         |

|      |  |          |    |                |  |
|------|--|----------|----|----------------|--|
|      | tional (formally American Sod Producers Association) |          |    |                |  |
| UL   | Underwriters Laboratories                            | Camas    | WA | (877) 854-3577 | <a href="http://www.ul.com">www.ul.com</a>       |
| WDMA | Window and Door Manufacturer's Association           | Chicago  | IL | (312) 321-6802 | <a href="http://www.nwwda.org">www.nwwda.org</a> |
| WWPA | Western Wood Products Association                    | Portland | OR | (503) 224-3930 | <a href="http://www.wwpa.org">www.wwpa.org</a>   |

D. Federal Government Agencies:

- Names and titles of federal government standard or specification producing agencies are often abbreviated. Following acronyms or abbreviations referenced in Contract Documents represent names of standard or specification producing agencies of federal government. Names and addresses are subject to change but are believed to be, but are not assured to be, accurate and up to date as of date of Contract Documents.

|      |   |              |    |                |  |
|------|---|--------------|----|----------------|--|
| CS   | Commercial Standard (U S Department of Commerce)  | Washington   | DC | (202) 512-0000 | <a href="http://www.doc.gov">www.doc.gov</a>         |
| EPA  | Environmental Protection Agency   | Washington   | DC | (202) 272-0167 | <a href="http://www.epa.gov">www.epa.gov</a>         |
| FCC  | Federal Communications Commission   | Washington   | DC | (888) 225-5322 | <a href="http://www.fcc.gov">www.fcc.gov</a>         |
| FS   | Federal Specifications Unit (Available from GSA)  | Washington   | DC | (202) 619-8925 | <a href="http://www.gsa.gov">www.gsa.gov</a>         |
| MIL  | Military Standardization Documents (U S Department of Defense)  | Philadelphia | PA | (215) 697-2179 | <a href="http://www.dod.gov">www.dod.gov</a>         |
| NIST | National Institute of Standards and Technology, technology Administration (US Department of Commerce) | Gaithersburg | MD | (301) 975-4500 | <a href="http://www.ts.nist.gov">www.ts.nist.gov</a> |
| OSHA | Occupational Safety & Health Administration (U S Department of Labor)                                 | Washington   | DC | 202) 219-8148  | <a href="http://www.osha.gov">www.osha.gov</a>       |
| PS   | Product Standard of NBS (U S Department of Commerce)  | Washington   | DC | (202) 512-1800 | <a href="http://www.doc.gov">www.doc.gov</a>         |

E. Governing Regulations / Authorities:

- Contact authorities having jurisdiction directly for information and decisions having a bearing on the Work.
- Obtain copies of regulations required to be retained at Project Site, available for reference by parties who have a reasonable need for such reference.

**PART 2 - PRODUCTS Not Used**

**PART 3 - EXECUTION Not Used**

**END OF SECTION**



**SECTION 01 6200**  
**PRODUCT OPTIONS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements for Product Options.

**1.2 GENERAL**

- A. Product Selection:
1. When option of selecting between two or more products is given, product selected will be compatible with products previously selected, even if previously selected products were also options.
- B. Non-Conforming Work:
1. Non-conforming work as covered in Article 12.3 of General Conditions applies, but is not limited, to use of non-specified products or manufacturers.
- C. Product selection is governed by Contract Documents and governing regulations, not by previous Project experience. Procedures governing product selection include:
1. Substitutions And Equal Products:
    - a. Generally speaking, substitutions for specified products and systems, as defined in the Uniform Commercial Code, are not acceptable. However, equal products may be approved upon compliance with Contract Document requirements.
    - b. Approved Products / Manufacturers / Suppliers / Installers:
      - 1) Category One:
        - a) Owner has established 'Value Managed Relationships' that extend beyond requirements of this Project. No substitutions or equal products will be allowed on this Project.
        - b) Follow specified procedures to preserve relationships between Owner and specified manufacturers / suppliers and advantages that accrue to Owner from those relationships.
      - 2) Category Two:
        - a) Owner has established National Contracts that contain provisions extending beyond requirements of this Project. No substitutions or equal products will be allowed on this Project.
        - b) Follow specified procedures to preserve relationships between Owner and specified manufacturers / suppliers and advantages that accrue to Owner from those relationships.
      - 3) Category Three:
        - a) Specified products are provided to Church Projects under a National Account Program. Use these products to preserve advantages that accrue to Owner from those programs. No substitutions or equal products will be allowed on this Project.
      - 4) Category Four:
        - a) Provide only specified products available from manufacturers listed. No substitutions, private-labeled, or equal products, or mixing of manufacturers' products is allowed on this Project.
        - b) In Sections where lists recapitulating Manufacturers previously mentioned in Section are included under heading '*Manufacturers*' or '*Approved Manufacturers*', this is intended as a convenience to Contractor as a listing of contact information

- only. It is not intended that all manufacturers in list may provide products where specific products and manufacturers are listed elsewhere in Section.
- c. Acceptable Products / Manufacturers / Suppliers / Installers:
    - 1) Type One: Use specified products / manufacturers unless approval to use other products / manufacturers has been obtained from Architect by Addendum.
    - 2) Type Two: Use specified products / manufacturers unless approval to use other products and manufacturers has been obtained from Architect in writing before installing or applying unlisted or private-labeled products.
    - 3) Use 'Equal Product Approval Request Form' to request approval of equal products, manufacturers, or suppliers before bidding or before installation, as noted in individual Sections.
  - d. Quality / Performance Standard Products / Manufacturers:
    - 1) Class One: Use specified product / manufacturer or equal product from specified manufacturers only.
    - 2) Class Two: Use specified product / manufacturer or equal product from any manufacturer.
    - 3) Products / manufacturers used shall conform to Contract Document requirements.

**PART 2 - PRODUCTS Not Used**

**PART 3 - EXECUTION Not Used**

**END OF SECTION**

**SECTION 01 6400****OWNER - FURNISHED PRODUCTS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Administrative and procedural requirements for Owner-Furnished Products. Install items furnished by Owner or receive and store in safe condition items purchased directly by Owner according to requirements of Contract Documents:
1. Projection Screens. See Section 11 5213.

**1.2 ADMINISTRATIVE REQUIREMENTS**

- A. General:
1. Review 'Contractor Notification Report' listing Owner-furnished products to be delivered for Project:
    - a. Review delivery dates and vendor lead times for each item and coordinate with construction schedule. Immediately report recommended changes to Owner's Purchasing Coordinator listed in 'Contractor Notification Report.' Contact vendors directly if changes to delivery dates become necessary during construction.
    - b. Report problems in coordinating delivery dates with construction schedule to Architect and Owner's Purchasing Coordinator.
  2. Receive and unload Owner-furnished materials and products.
    - a. Provide labor and equipment necessary to receive, unload, and store materials and products.
    - b. Verify that number of packages received matches number listed on bill of lading.
    - c. Check for external damage.
    - d. Note discrepancies between pieces received and pieces listed on bill of lading as well as instances of visible damage on bill of lading before signing. Include Project Name and Project Number on bill of lading
    - e. Store and protect deliveries. Report deliveries made outside of delivery schedule to Owner's Purchasing Coordinator.
  3. Within twenty four (24) hours of delivery:
    - a. Open and inspect each piece of freight delivered. Note concealed damage not observed at time of delivery.
    - b. Compare 'Contractor Notification Report' with packing slips. Note discrepancies in number, size, color, model numbers, etc.
    - c. Deliver bills of lading on which loss or damage is recorded, or copy, to Owner's Purchasing Coordinator together with report of concealed damage and discrepancies.
    - d. Notify Owner's Purchasing Coordinator immediately of damage and discrepancies.
  4. As directed by Owner, either repair or replace shortages and damaged items not recorded and reported as specified above at no additional cost to Owner.

**PART 2 - PRODUCTS Not Used****PART 3 - EXECUTION Not Used****END OF SECTION**

**SECTION 01 6600****PRODUCT DELIVERY, STORAGE, AND HANDLING REQUIREMENTS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
  - 1. Administrative and procedural requirements for Product Delivery, Storage, and Handling Requirements.

**1.2 GENERAL**

- A. Deliver, store, and handle products according to manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.

**1.3 DELIVERY AND ACCEPTANCE REQUIREMENTS**

- A. Schedule delivery to reduce long-term storage at site and to prevent overcrowding of construction spaces.
- B. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
- C. Deliver products to site in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
- D. Inspect products upon delivery to ensure compliance with Contract Documents, and to ensure that products are undamaged and properly protected.

**1.4 STORAGE AND HANDLING REQUIREMENTS**

- A. Store products at site in manner that will simplify inspection and measurement of quantity or counting of units.
- B. Store heavy materials away from Project structure so supporting construction will not be endangered.
- C. Store products subject to damage by elements above ground, under cover in weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

**PART 2 - PRODUCTS Not Used****PART 3 - EXECUTION Not Used****END OF SECTION**

**SECTION 01 7400****CLEANING AND WASTE MANAGEMENT****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Administrative and procedural requirements for Cleaning and Waste Management as described in Contract Documents.
- B. Related Requirements:
  - 1. Section 01 1200: Coordination of responsibilities for waste management.
  - 2. Section 01 6400: Waste removal of Owner furnished products.
  - 3. In addition to standards described in this section, comply with all requirements for cleaning-up as described in various other Sections of these Specifications.

**1.2 REFERENCES**

- A. Definitions:
  - 1. Asphalt Pavement, Brick, and Concrete (ABC) Rubble: Rubble that contains only weathered (cured) asphalt pavement, clay bricks and attached mortar normally used in construction, or concrete that may contain rebar. The rubble shall not be mixed with, or contaminated by, another waster or debris.
  - 2. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
  - 3. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
  - 4. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
  - 5. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
  - 6. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
  - 7. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

**PART 2 - PRODUCTS Not Used****PART 3 - EXECUTION****3.1 PROGRESS CLEANING**

- A. Comply with regulations of authorities having jurisdiction and safety standards for cleaning.
- B. Keep premises broom clean during progress of the Work.
- C. Keep site and adjoining streets reasonably clean. If necessary, sprinkle rubbish and debris with water to suppress dust.
- D. During handling and installation, protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from soiling, damage, or deterioration until Substantial Completion.

- E. Clean and maintain completed construction as frequently as necessary throughout construction period. Adjust and lubricate operable components to ensure ability to operate without damaging effects.
- F. Supervise construction activities to ensure that no part of construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.
- G. Before and during application of painting materials, clear area where such work is in progress of debris, rubbish, and building materials that may cause dust. Sweep floors and vacuum as required and take all possible steps to keep area dust free.
- H. Clean exposed surfaces and protect as necessary to avoid damage and deterioration.
- I. Place extra materials of value remaining after completion of associated work have become Owner's property as directed by Owner or Architect.
- J. Construction Waste Management And Disposal:
  - 1. Remove waste materials and rubbish caused by employees, Subcontractors, and contractors under separate contract with Owner and dispose of legally. Remove unsuitable or damaged materials and debris from building and from property.
    - a. Provide adequate waste receptacles and dispose of materials when full.
    - b. Properly store volatile waste and remove daily.
    - c. Do not deposit waste into storm drains, sanitary sewers, streams, or waterways. Do not discharge volatile, harmful, or dangerous materials into drainage systems.
  - 2. Do not burn waste materials or build fires on site. Do not bury debris or excess materials on Owner's property.

### **3.2 FINAL CLEANING**

- A. Immediately before Substantial Completion, thoroughly clean building and area where The Work was performed. Remove all rubbish from under and about building, landscaped areas and parking lot and leave building and Project Site ready for occupancy by Owner.
- B. Comply with individual manufacturer's cleaning instructions.
- C. Clean each surface or unit to condition expected in normal, commercial building cleaning and maintenance program, including but not limited to:
  - 1. Interior Cleaning:
    - a. Remove marks, stains, fingerprints and dirt from the work area.
    - b. Clean light fixtures and lamps in the work area.
    - c. Remove temporary floor protection and clean floors.

**END OF SECTION**

**SECTION 01 7700**  
**CLOSEOUT PROCEDURES**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements for Closeout Procedures.

**1.2 GENERAL**

- A. Closeout process consists of three specific project closeout inspections. Contractor shall plan sufficient time in construction schedule to allow for required inspections before expiration of Contract Time.
- B. Contractor shall conduct his own inspections of The Work and shall not request closeout inspections until The Work of the contract is reasonably complete and correction of obvious defects or omissions are complete or imminent.
- C. Date of Substantial Completion shall not occur until completion of construction work, unless agreed to by Architect and included on Certificate of Substantial Completion.

**1.3 PRELIMINARY CLOSEOUT REVIEW**

- A. When Architect, Owner and Contractor agree that project is ready for closeout, Pre-Substantial Inspection shall be scheduled.
- B. Architect and his appropriate consultants, together with Contractor and mechanical, plumbing, fire protection, and electrical sub-contractors (if any) shall conduct a space by space inspection to review materials and workmanship and to demonstrate that systems and equipment are operational.
1. Punch list of items requiring completion and correction will be created.
  2. Time frame for completion of punch list items will be established, and date for Substantial Completion Inspection shall be set.

**1.4 SUBSTANTIAL COMPLETION INSPECTION**

- A. When Architect, Owner and Contractor agree that project is ready for Substantial Completion, an inspection is held. Punch list created at Pre-Substantial Inspection is to be substantially complete.
- B. Prior to this inspection, Contractor shall discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups and similar elements.
- C. Architect, Owner and Contractor review completion of punch list items. When Owner and Architect confirm that Contractor has achieved Substantial Completion of The Work, Owner, Architect and Contractor will execute Certificate of Substantial Completion that contains:
1. Date of Substantial Completion.
  2. Punch List Work not yet completed, including seasonal and long lead items.
  3. Amount to be withheld for completion of Punch List Work.
  4. Time period for completion of Punch List Work.
  5. Amount of liquidated damages set forth in Supplementary Conditions to be assessed if Contractor fails to complete Punch List Work within time set forth in Certificate.

- D. Contractor shall present Closeout Submittals to Architect and place tools, spare parts, extra stock, and similar items required by Contract Documents in locations as directed by Facilities Manager.

### **1.5 FINAL ACCEPTANCE MEETING**

- A. When punch list items except for any seasonal items or long lead items which will not prohibit occupancy are completed, Final Acceptance Meeting is held.
- B. Owner, Architect and Contractor execute Owner's Project Closeout - Final Acceptance form, and verify:
  - 1. All seasonal and long lead items not prohibiting occupancy, if any, are identified, with committed to completion date and amount to be withheld until completion.
  - 2. Owner's maintenance personnel have been instructed on all system operation and maintenance as required by the Contract Documents.
  - 3. Final cleaning requirements have been completed.
- C. If applicable, once any seasonal and long lead items are completed, Closeout Inspection is held where Owner and Architect verify that The Work has been satisfactorily completed, and Owner, Architect and Contractor execute Closeout portion of the Project Closeout - Final Acceptance form.
- D. When Owner and Architect confirm that The Work is satisfactorily completed, Architect will authorize final payment.

### **PART 2 - PRODUCTS Not Used**

### **PART 3 - EXECUTION Not Used**

**END OF SECTION**



**SECTION 01 7800**  
**CLOSEOUT SUBMITTALS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes But is Not Limited To:
1. Administrative and procedural requirements for Closeout Submittals.

**1.2 GENERAL**

- A. Workmanship bonds, final certifications, equipment check-out sheets, and similar documents.
- B. Releases enabling Owner unrestricted use of The Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases if required.
- C. Project photographs, damage or settlement survey, and similar record information required by Contract Documents.

**1.3 OPERATIONS AND MAINTENANCE DATA**

- A. Operations And Maintenance Manual(s) that include:
1. Certifications required by Contract Documents.
  2. Copies of warranties required by Contract Documents.
  3. Copy of complete Project Manual including Addenda, Modifications as defined in General Conditions, and other interpretations issued during construction.
    - a. Mark these documents to show variations in actual Work performed in comparison with text of specifications and Modifications. Show substitutions, selection of options, and similar information, particularly on elements that are concealed or cannot otherwise be readily discerned later by direct observation.
    - b. Note related record drawing information and Product Data.
  4. Testing and Inspection Reports required by Contract Documents.

**1.4 WARRANTIES**

- A. When written guarantees beyond one (1) year after substantial completion are required by Contract Documents, secure such guarantees and warranties properly addressed and signed in favor of Owner. Include these documents in Operations & Maintenance Manual(s) specified above.
- B. Delivery of guarantees and warranties will not relieve Contractor from obligations assumed under other provisions of Contract Documents.

**1.5 PROJECT RECORD DOCUMENTS**

- A. Do not use record documents for construction purposes. Protect from deterioration and loss in secure, fire-resistive location. Provide access to record documents for Architect's reference during normal working hours.

- B. Maintain clean, undamaged set of Drawings. Mark set to show actual installation where installation varies from the Work as originally shown. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
  2. Mark new information that is important to Owner, but was not shown on Drawings.
  3. Note related Change Order numbers where applicable.

**PART 2 - PRODUCTS Not Used**

**PART 3 - EXECUTION Not Used**

**END OF SECTION**

**SECTION 06 1011****WOOD FASTENINGS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Quality of wood fastening methods and materials used for Rough Carpentry unless specified otherwise.
- B. Related Requirements:
  - 1. Furnishing and installing of other fasteners are specified in individual Sections where installed.

**1.2 REFERENCES**

- A. Reference Standards;
  - 1. APA-The Engineered Wood Association:
    - a. APA AFG-01: Adhesives for Field-Gluing Plywood to Wood Framing (September 1974).
  - 2. ASTM International:
    - a. ASTM A153/A153M-09, 'Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware'.
    - b. ASTM D3498-03(2011), 'Standard Specification for Adhesives for Field-Gluing Plywood to Lumber Framing for Floor Systems'.
    - c. ASTM F1667-11a, 'Standard Specification for Driven Fasteners: Nails, Spikes, and Staples'.

**1.3 SUBMITTALS**

- A. Action Submittals:
  - 1. Product Data:
    - a. Manufacturer's literature on framing anchors and powder actuated fasteners.
  - 2. Shop Drawings:
    - a. Submit diameter and lengths of fasteners proposed for use on Project. If length or diameter of proposed fasteners differ from specified fasteners, also include technical and engineering data for proposed fasteners including, but not limited to:
      - 1) Adjusted fastener spacing where using proposed fasteners and,
      - 2) Adjusted number of fasteners necessary to provide connection capacity equivalent to specified fasteners.
    - b. Submit on powder-actuated fasteners other than those specified in Contract Documents showing design criteria equivalents at each application.
    - c. Show type, quantity, and installation location of framing anchors. Where necessary, reference Drawing details, etc, for installation locations.

**PART 2 - PRODUCTS****2.1 MANUFACTURED UNITS**

- A. Materials:
  - 1. Fasteners:
    - a. General:

- 1) Fasteners for preservative treated and fire-retardant-treated wood shall be of hot dipped zinc-coated galvanized steel, stainless steel, silicon bronzed, or copper. Coating weights for zinc-coated fasteners shall be in accordance with ASTM A153/A153M.
- b. Wood Screws:
  - 1) Screws:
    - a) Category One Approved Products. See Section 01 6200 for definitions of categories.
      - (1) Cabinet Screws by GRK Fasteners, Schaumburg, IL, [www.grkfasteners.com](http://www.grkfasteners.com).
      - (2) SD Screw by Simpson Strongtie, Pleasanton, CA, [www.strongtie.com](http://www.strongtie.com)
    - 2) All Other: Standard type and make for job requirements.
  2. Framing Anchors:
    - a. Framing anchors and associated fasteners in contact with preservative hot dipped zinc-coated galvanized steel or stainless steel. Do not use stainless steel items with galvanized items.
    - b. Type Two Acceptable Products:
      - 1) KC Metals Inc, San Jose, CA [www.kcmetals.com](http://www.kcmetals.com).
      - 2) Simpson Strong Tie Co, Dublin, CA [www.strongtie.com](http://www.strongtie.com).
      - 3) United Steel Products Co Inc (USP), Montgomery, MN [www.uspconnectors.com](http://www.uspconnectors.com).
      - 4) Equals as approved by Architect through shop drawing submittal before installation. See Section 01 6200.

## **PART 3 - EXECUTION**

### **3.1 ERECTION**

- A. Secure one Manufacturer approved fastener in each hole of framing anchor that bears on framing member unless shown otherwise on the drawings or approved in writing by the Engineer.

**END OF SECTION**

**SECTION 06 2001****COMMON FINISH CARPENTRY REQUIREMENTS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Furnish and install sealants required for items installed under this Section, as described in Contract Documents.
  - 2. Furnish and install following items as described in Contract Documents:
- B. Products Installed But Not Furnished Under This Section:
  - 1. Architectural Woodwork.
  - 2. Hardwood Trim at light coves, speaker cabinets, etc.
  - 3. Miscellaneous Wood Trim.
  - 4. Wood Trim at ceilings.
  - 5. Miscellaneous as specified elsewhere.
- C. Related Requirements:
  - 1. Section 06 2210: 'Miscellaneous Wood Trim'.
    - a. Wood Trim.
  - 2. Sections under 06 4000 Heading: Furnishing of Architectural Woodwork.
    - a. Section 06 4001: 'Common Architectural Woodwork Requirements':
      - 1) Approved Fabricators.
      - 2) Quality of wood materials to be used in Finish Carpentry.
    - b. Section 06 4512: 'Architectural Woodwork Wood Trim'.

**1.2 REFERENCES**

- A. Association Publications:
  - 1. Architectural Woodwork Institute / Architectural Woodwork Manufacturers Association of Canada / Woodwork Institute, 46179 Westlake Drive, Suite 120, Potomac Falls, VA [www.awinet.org](http://www.awinet.org).
    - a. Architectural Woodwork Standards (AWS), 1st Edition, 2009'.
- B. Definitions:
  - 1. Grade: Unless otherwise noted, this term means Grade rules for Economy, Custom, and/or Premium Grade:
    - a. Economy Grade: The lowest acceptable grade in both material and workmanship requirements, and is for work where price outweighs quality considerations.
    - b. Custom Grade: Typically specified for and adequately covers most high-quality architectural woodwork, providing a well-defined degree of control over a project's quality of materials, workmanship, or installation.
    - c. Premium Grade: The highest Grade available in both material and workmanship where the highest level of quality, materials, workmanship, and installation is required.

**PART 2 - PRODUCTS****2.1 MATERIALS**

- A. Manufacturers:
  - 1. Manufacturer Contact List:

- a. Blum Inc, Stanley, NC [www.blum.com](http://www.blum.com).
- b. Bommer Industries, Landrum, SC [www.bommer.com](http://www.bommer.com).
- c. CompX National, Mauldin, SC [www.nclnet.com](http://www.nclnet.com).
- d. Dow Chemical, Midland, MI [www.dow.com](http://www.dow.com).
- e. Flynn & Enslow, San Francisco, CA [www.flynnenslow.com](http://www.flynnenslow.com).
- f. Grass America Inc, Kernersville, NC [www.grassusa.com](http://www.grassusa.com).
- g. Hafele America Co., Archdale, NC [hafele.com](http://hafele.com).
- h. Ives, Indianapolis, IN [www.iveshardware.com](http://www.iveshardware.com).
- i. Knappe & Vogt, Grand Rapids, MI [www.knappeandvogt.com](http://www.knappeandvogt.com) or Knappe & Vogt Canada, Mississauga, ON (905) 676-8972.
- j. Olympus Lock Co, Seattle, WA [www.olympus-lock.com](http://www.olympus-lock.com).
- k. Owens Corning, Toledo, OH [www.owens-corning.com](http://www.owens-corning.com).
- l. Salice America Inc, Charlotte, NC [www.saliceamerica.com](http://www.saliceamerica.com).
- m. SOSS Door Hardware (Division of Universal Industrial Products Company) Pioneer OH [www.soss.com](http://www.soss.com).
- n. Stanley, New Britain, CT [www.stanleyhardware.com](http://www.stanleyhardware.com) or Oakville, ON (800) 441-1759.
- o. TWP Inc., Berkley, CA [www.twpinc.com](http://www.twpinc.com).

B. Glue: Waterproof and of best quality.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Verification Of Conditions:
1. Verify walls, ceilings, floors, and openings are plumb, straight, in-line, and square before installing Architectural Woodwork.
  2. Report conditions that are not in compliance to Architect before starting installation.

### **3.2 PREPARATION**

- A. Surface Preparation:
1. Install Architectural Woodwork after wall and ceiling painting is completed in areas where Architectural Woodwork is to be installed.
- B. Items Installed But Not Furnished Under This Section: Install in accordance with requirements specified in Section furnishing item.

### **3.3 INSTALLATION**

- A. Special Techniques:
1. AWS Custom Grade is minimum acceptable standard, except where explicitly specified otherwise, for installation of architectural woodwork.
- B. General Architectural Woodwork Installation:
1. Fabricate work in accordance with measurements taken on Project site.
  2. Scribe, miter, and join accurately and neatly to conform to details.
  3. Exposed surfaces shall be machine sanded, ready for finishing.
  4. Allow for free movement of panels.
  5. Countersink nails. Countersink screws and plug those exposed to view.
  6. Attach custom casework as specified in Sections under 06 4000 Heading: 'Furnishing of Architectural Woodwork' to wall blocking with #10 x 3 inch minimum Cabinet Screws.

**END OF SECTION**

**SECTION 06 2210****MISCELLANEOUS WOOD TRIM****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Furnish and install wood trim not specified elsewhere as described in Contract Documents.
- B. Related Requirements:
  - 1. Section 06 2001: 'Common Finish Carpentry Requirements':
    - a. Installation of Wood Trim.
  - 2. Section 06 4001: 'Common Architectural Woodwork Requirements':
    - a. Approved Fabricators.
    - b. General standards for materials and fabrication of Architectural Woodwork.
  - 3. Section 06 4512: 'Architectural Woodwork Wood Trim'.
  - 4. Section 09 9324: 'Interior Clear-Finished Hardwood'.

**1.2 REFERENCES**

- A. Association Publications:
  - 1. Architectural Woodwork Institute / Architectural Woodwork Manufacturers Association of Canada / Woodwork Institute, 46179 Westlake Drive, Suite 120, Potomac Falls, VA [www.awinet.org](http://www.awinet.org).
    - a. Architectural Woodwork Standards (AWS), 1st Edition, 2009.
- B. Definitions:
  - 1. Grade: Unless otherwise noted, this term means Grade rules for Economy, Custom, and/or Premium Grade:
    - a. Custom Grade: Typically specified for and adequately covers most high-quality architectural woodwork, providing a well-defined degree of control over a project's quality of materials, workmanship, or installation.
  - 2. Plain-Sawn: A hardwood figure developed by sawing a log lengthwise at a tangent to the annual growth rings. It appears as U-shaped or straight markings in the board's face.

**1.3 SUBMITTALS**

- A. Action Submittals:
  - 1. Samples:
    - a. Interior Hardwood for Transparent Finish:
      - 1) Before performing work of this Section, prepare Control Sample, to match sample available from Owner, to be used as finishing standard for interior clear finished hardwood as specified in Section 09 9324.
      - 2) Design Criteria:
        - a) Provide 8 inch by 10 inch sample of Red Oak to match Owner provided stain color selected for Project.
        - b) Control Sample will be used as performance standard for evaluating finish provided.
- B. Informational Submittals:
  - 1. Source Quality Control Submittals:
    - a. Samples:
      - 1) Interior Hardwood for Transparent Finish:

- a) Owner will provide Control Sample for finish.

## 1.4 WARRANTY

- A. Manufacturer Extended Warranty:
  1. Approved Fabricator's written guarantee that all Goods and Services will be free from defects in materials and workmanship for a period of five (5) years from date of substantial completion.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Design Criteria:
  1. General:
    - a. Meet requirements of Section 06 4001 for general standards for materials and fabrication of Architectural Woodwork.
  2. Clear Finished Hardwood:
    - a. Match materials specified in Section 06 4512.
    - b. Match finish specified in Section 06 4512 and match existing woodwork as specified in Section 09 9324.
  3. Opaque Finished Hardwood: Hardwood allowed by AWS Custom Grade.

### 2.2 SOURCE QUALITY CONTROL

- A. Inspections:
  1. Clear Finished Hardwood:
    - a. Color and grain matches existing woodwork specified in Section 09 9324.

## PART 3 - EXECUTION: Not Used

**END OF SECTION**



**SECTION 06 4001****COMMON ARCHITECTURAL WOODWORK REQUIREMENTS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. General standards for materials and fabrication of Architectural Woodwork and for hardware associated with Architectural Woodwork.
- B. Related Requirements:
  - 1. Section 06 2001: Installation.
  - 2. Section 06 2210: 'Miscellaneous Wood Trim'.
  - 3. Section 06 4512: 'Architectural Woodwork Wood Trim'.
  - 4. Section 09 9324: 'Interior Clear-Finished Hardwood' for filling of nail holes and finishing.

**1.2 REFERENCES**

- A. Association Publications:
  - 1. Architectural Woodwork Institute / Architectural Woodwork Manufacturers Association of Canada / Woodwork Institute, 46179 Westlake Drive, Suite 120, Potomac Falls, VA [www.awinet.org](http://www.awinet.org).
    - a. Architectural Woodwork Standards (AWS), 1st Edition, 2009.
- B. Definitions:
  - 1. Grade: Unless otherwise noted, this term means Grade rules for Economy, Custom, and/or Premium Grade:
    - a. Custom Grade: Typically specified for and adequately covers most high-quality architectural woodwork, providing a well-defined degree of control over a project's quality of materials, workmanship, or installation.

**1.3 SUBMITTALS**

- A. Action Submittals:
  - 1. Product Data:
    - a. Manufacturer's literature for specialty items and hardware not manufactured by Architectural Woodwork fabricator.
  - 2. Shop Drawings:
    - a. Fabricator:
      - 1) Provide shop drawings for cabinet and casework that are included for project showing details, casework locations and layout in compliance with Contract Drawings.
- B. Informational Submittals:
  - 1. Qualification Statement:
    - a. Fabricator:
      - 1) Provide Qualification documentations as requested.

**1.4 QUALITY ASSURANCE**

- A. Qualifications: Requirements of Section 01 4301 applies, but not limited to following:
  - 1. Fabricator:
    - a. Fabricator Firm specializing in performing work of this section.

- 1) Firm experience in supplying products indicated for this Project.
  - 2) Firm with sufficient production capacity to produce required units.
  - 3) Firm will comply with specifications and Contract Documents for this Project.
  - 4) Minimum five (5) years experience in Woodwork installations.
  - 5) Minimum five (5) satisfactorily completed installations in past three (3) years of projects similar in size, scope, and installation procedures required for this project before bidding.
- b. Upon request by Architect or Owner, submit documentation.

## 1.5 DELIVERY, HANDLING, AND STORAGE

### A. Delivery And Acceptance Requirements:

1. Assemble architectural woodwork at Architectural Woodwork Fabricator's plant and deliver ready for erection insofar as possible.
2. Protect architectural woodwork from moisture and damage while in transit to job site.
3. Report damaged materials received within two (2) days from delivery at project site.

### B. Storage And Handling Requirements:

1. Unload and store in place where it will be protected from moisture and damage and convenient to use.

## 1.6 WARRANTY

### A. Manufacturer Extended Warranty:

1. Approved Fabricator's written guarantee that all Goods and Services will be free from defects in materials and workmanship for a period of five (5) years from date of substantial completion.

## PART 2 - PRODUCTS

### 2.1 FABRICATORS

#### A. Approved Fabricators. See Section 01 4301:

1. Meet Quality Assurance Fabricator Qualifications as specified in Part 1 of this specification.
2. Category One VMR Approved Fabricators. See Section 01 6200 for definitions of Categories and Section 01 4301 for Qualification Requirements.
  - a. Anderson Cabinet and Millwork, 198 North 4700 East, Rigby, ID 83442.
    - 1) Contact Information: Matt Miller phone (208) 538-7415 cell (208) 317-7412 e-mail [matt@andersoncabinet.net](mailto:matt@andersoncabinet.net).
  - b. Michael Seiter & Co., Inc., P.O. Box 315 Heber City, UT 84032.
    - 1) Contact Information: Mark Seiter phone (435) 654-0601 fax (435) 654-0613 e-mail [mark@msandcoinc.com](mailto:mark@msandcoinc.com).
  - c. Thompson and Sons Cabinets, 11834 N. 3400 West, Deweyville, UT 84309.
    - 1) Contact Information: David Thompson cell (435) 230-0876 office (435) 257-7152 e-mail [zcabinets@comcast.net](mailto:zcabinets@comcast.net).

- B. Architectural Woodwork Fabricators other than those listed above shall be pre-approved and included in Contract Documents by Addendum.

### 2.2 ASSEMBLIES

#### A. Design Criteria:

1. General:
  - a. AWS Custom Grade is minimum acceptable standard, except where explicitly specified otherwise, for materials, construction, and installation of architectural woodwork.

2. Materials:
  - a. Lumber:
    - 1) Grade:
      - a) No defects in boards smaller than 600 sq in.
      - b) One defect per additional 150 sq inches in larger boards.
      - c) Select pieces for uniformity of grain and color on exposed faces and edges.
      - d) No mineral grains accepted.
    - 2) Allowable Defects:
      - a) Tight knots not exceeding 1/8 inch in diameter. No loose knots permitted.
      - b) Patches (dutchmen) not apparent after finishing when viewed beyond 18 inches.
      - c) Checks or splits not exceeding 1/32 inch by 3 inches and not visible after finishing when viewed beyond 18 inches.
      - d) Stains, pitch pockets, streaks, worm holes, and other defects not mentioned are not permitted.
      - e) Normal grain variations, such as cats eye, bird's eye, burl, curl, and cross grain are not considered defects.
    - 3) Use maximum lengths possible, but not required to exceed 10 feet without joints. No joints shall occur closer than 72 inches (1 800 mm) in straight runs exceeding 18 feet. Runs between 18 feet and 10 feet may have no more than one joint. No joints shall occur within 72 inches of outside corners nor within 18 inches of inside corners.
    - 4) Moisture content shall be six (6) percent maximum at fabrication. No opening of joints due to shrinkage is acceptable.
  - B. Fabrication:
    1. Follow Architectural Woodwork Standards (AWS) for fabrication of Architectural Woodwork.
    2. Tolerances:
      - a. No planer marks (KCPI) allowed. Sand wood members and surfaces with 100 grit or finer.
      - b. Maximum Gap: None allowed.
      - c. Flushness Variation: 0.015 inch maximum.
      - d. Sanding Cross Scratches: 1/4 inch maximum.
      - e. Plug screw holes. Screw locations not to be visible beyond 18 inches.
    3. Fabricate work in accordance with measurements taken on job site.
    4. 'Ease' sharp corners and edges of exposed members to promote finishing and protect users from splinters. Radius of 'easing' shall be uniform throughout Project and between 1/32 and 1/16 of an inch.
    5. Fabricate so veneer grain is vertical.
    6. Joints:
      - a. Use lumber pieces with similar grain pattern when joining end to end.
      - b. Compatibility of grain and color from lumber to panel products is required.
    7. Install hardware in accordance with Manufacturer's directions. Leave operating hardware operating smoothly and quietly.
    8. Remove or repair damaged surface of or defects in exposed finished surfaces of architectural woodwork to match adjacent similar undamaged surface.

**PART 3 - EXECUTION: Not Used**

**END OF SECTION**

**SECTION 06 4512****ARCHITECTURAL WOODWORK WOOD TRIM****PART 1 - GENERAL****1.1 SUMMARY**

- A. Products Furnished But Not Installed Under This Section:
  - 1. Hardwood trim at light coves, speaker cabinets, etc,
  - 2. Wood trim at ceiling trim.
- B. Related Requirements:
  - 1. Section 06 2001: 'Common Finish Carpentry Requirements':
    - a. Installation of Wood Trim.
  - 2. Section 06 2210: Remaining Wood Trim.
  - 3. Section 06 4001: 'Common Architectural Woodwork Requirements':
    - a. Approved Fabricators.
    - b. General standards for materials and fabrication of Architectural Woodwork.
  - 4. Section 09 9324: 'Interior Clear-Finished Hardwood'.

**1.2 REFERENCES**

- A. Association Publications:
  - 1. Architectural Woodwork Institute / Architectural Woodwork Manufacturers Association of Canada / Woodwork Institute, 46179 Westlake Drive, Suite 120, Potomac Falls, VA [www.awinet.org](http://www.awinet.org).
    - a. Architectural Woodwork Standards (AWS), 1st Edition, 2009.
- B. Definitions:
  - 1. Grade: Unless otherwise noted, this term means Grade rules for Economy, Custom, and/or Premium Grade.
    - a. Custom Grade: Typically specified for and adequately covers most high-quality architectural woodwork, providing a well-defined degree of control over a project's quality of materials, workmanship, or installation.
  - 2. Plain Slicing: Most commonly used for hardwood plywood. The log is cut in half, and one half is placed onto a carriage and moved up and down past a fixed knife to produce the veneers. Veneer is sliced parallel to the pith of the log and approximately tangent to the growth rings to achieve flat-cut veneer. Each piece is generally placed in a stack and kept in order. One half log, sliced this way, is called a "flitch".
  - 3. Plain-Sawn: A hardwood figure developed by sawing a log lengthwise at a tangent to the annual growth rings. It appears as U-shaped or straight markings in the board's face.
  - 4. Running Trim: Generally combined in the term "standing and running trim" and refers to random, longer length trims delivered to the jobsite (e.g., baseboard, chair rail, crown molding).

**1.3 SUBMITTALS**

- A. Action Submittals:
  - 1. Shop Drawings:
    - a. Include materials used, standing and running trim profiles, joint details, and hardware.
  - 2. Samples:
    - a. Interior Hardwood for Transparent Finish:
      - 1) Before performing work of this Section, prepare Control Sample, to match sample available from Owner, to be used as finishing standard for interior clear finished hardwood as specified in Section 09 9324.

- 2) Design Criteria:
  - a) Provide 8 inch by 10 inch sample of Red Oak to match Owner provided stain color selected for Project.
  - b) Control Sample will be used as performance standard for evaluating finish provided.

B. Informational Submittals:

## 1.4 WARRANTY

- A. Manufacturer Extended Warranty:
  1. Approved Fabricator's written guarantee that all Goods and Services will be free from defects in materials and workmanship for a period of five (5) years from date of substantial completion.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Manufacturers:
  1. Approved Fabricators. See Section 06 4001 for Approved Fabricators.
- B. Performance / Design Criteria: Conform to requirements of Section 06 4001 'Common Architectural Woodwork Requirements'.
  1. Glue: Waterproof and of best quality.
  2. Factory-finish to match Owner selected sample as specified in Section 09 9324.
- C. Architectural Woodwork Wood Trim:
  1. Interior Hardwood For Transparent Finish:
    - a. Design Criteria:
      - 1) Solid wood shall be plain sawn Red Oak matching existing woodwork.
      - 2) Finish to match existing woodwork as specified in Section 09 9324.
    - b. Match existing Project Color Scheme:
      - a) Control Sample will be existing wood item from Project.
  2. Interior Wood For Opaque, Painted Finish:
    - a. Applies to ceiling trim only where existing trim is painted.
    - b. Solid wood shall be any species allowed by AWS Custom grade.

### 2.2 SOURCE QUALITY CONTROL

- A. Inspections:
  1. Clear Finished Hardwood:
    - a. Color matches Owner provided sample specified in Section 09 9324.

## PART 3 - EXECUTION Not Used

**END OF SECTION**

**SECTION 09 0193****REFINISHING INTERIOR CLEAR-FINISHED HARDWOOD****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Preparing and refinishing of existing interior clear finished hardwood as described in Contract Documents.
- B. Related Requirements:
  - 1. Section 08 1429: Factory-finished wood doors.
  - 2. Section 09 9001: Common Painting Requirements.

**1.2 REFERENCES**

- A. Reference Standards:
  - 1. Kitchen Cabinet Manufacturer's Association / American National Standards Institute:
    - a. ANSI / KCMA A161.1-2000 (R2005) 23-Jan-2001 'Recommended Performance and Construction Standards for Kitchen and Vanity Cabinets.'

**1.3 SUBMITTALS**

- A. Informational Submittals:
  - 1. Manufacturer Report: Before beginning finish work, submit Finish Manufacturer's literature or certification that finish material meets requirements of ANSI / KCMA A161.1.

**PART 2 - PRODUCTS****2.1 SYSTEM**

- A. Materials:
  - 1. Stain: MPI Product 90.
  - 2. Clear Finish Coats:
    - a. Field Finished:
      - 1) Chemcraft International Inc:
        - a) First, Second, And Third Coats: 20 Sheen Opticlear Pre-Catalyzed Lacquer.
      - 2) ICI Dulux / Trinity:
        - a) First Coat: ICE Vinyl Sanding Sealer.
        - b) Second And Third Coats: ICI Pre-Catalyzed Lacquer.
      - 3) Lilly / Valspar:
        - a) First, Second, And Third Coats: 20 Sheen Pre-Catalyzed Lacquer 587E208.
      - 4) Sherwin-Williams:
        - a) First Coat: T67F3 Vinyl Sealer.
        - b) Second And Third Coats: T77F38 Sherwood Pre-Catalyzed Lacquer DRE.
    - b. Mill Finished: Architectural Woodwork finished in the mill may use one coat of Vinyl Sealer and two or three coats of Conversion Varnish from an approved Finish Manufacturers, as recommended by Finish Manufacturer.
    - c. Products meeting testing requirements for finishes of ANSI / KCMA A161.1 may be used upon approval of submission by Architect before use. See Section 01 6200.

## **PART 3 - EXECUTION**

### **3.1 APPLICATORS**

- A. Acceptable Applicators:
1. Brandon's Majestic Interiors, Heber City, UT.
    - a. Contact information: Brandon, (801) 404-1825, e-mail [brandon@majesticinteriors.net](mailto:brandon@majesticinteriors.net).
  2. Church Interiors Inc., Charlotte, NC [www.churchinteriors.com](http://www.churchinteriors.com).
    - a. Contact information: phone (800) 289-7397.
  3. Church Specialties Inc., Pleasant Grove, UT:
    - a. Contact information: Nathan Bishop, phone (801) 830-0376, fax (866) 430-0650, e-mail [Nate\\_csi@icloud.com](mailto:Nate_csi@icloud.com).
  4. Commercial Furnishings, LLC, Orem, UT [www.commercialfurnishingsllc.com](http://www.commercialfurnishingsllc.com).
    - a. Contact information: Aaron, (801) 319-5814, email [aaron@commercialfurnishingsllc.com](mailto:aaron@commercialfurnishingsllc.com).
  5. Harris Restoration & Upholstery Inc, Orem UT [www.harrisupholstery.com](http://www.harrisupholstery.com).
    - a. Contact Information: email [harris.restoration@gmail.com](mailto:harris.restoration@gmail.com).
  6. Mobile Restoration Services, Pleasant Grove, UT:
    - a. Contact Information: (801) 368-1493, email [mobilorestorationservices@gmail.com](mailto:mobilorestorationservices@gmail.com).
  7. Equal as approved by Architect before bidding. See Section 01 4300.

### **3.2 EXAMINATION**

- A. Site Verification of Conditions:
1. Using existing wood element that is not to be re-used, apply finish as specified for existing work.
    - a. Notify Architect immediately with preliminary results of testing.
    - b. Within four calendar days of test, meet with Architect and finish applicator to evaluate test results and performance of specified finish system. If specified system is not satisfactory, revised finish system will be determined and specified.

### **3.3 APPLICATION**

- A. General: See appropriate paragraphs of Section 09 9001.
- B. Touch-up And Recoat:
1. Sand with fine sandpaper to remove gloss, scratches, and blemishes.
  2. Clean surfaces with mild soap and water. Etch with tri-sodium phosphate (TSP).
  3. Patch scratches and gouges and stain as necessary to match adjacent wood.
  4. Apply two coats of specified finish using professional spray equipment.

**END OF SECTION**

**SECTION 09 2900****GYPSUM BOARD****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Furnish and install gypsum board as described in Contract Documents, except behind ceramic tile.
  - 2. Furnish and install acoustical sealants as described in Contract Documents.
- B. Related Requirements:
  - 1. Section 07 9219: 'Acoustical Joint Sealants' for quality of acoustical sealants.
  - 2. Section 09 9413: 'Interior Textured Finishing'.

**1.2 REFERENCES**

- A. Definitions:
  - 1. Accessories: Metal or plastic beads, trim, or moulding used to protect or conceal corners, edges, or abutments of the gypsum board construction.
  - 2. Drywall Primer: Paint material specifically formulated to fill the pores and equalize the suction difference between gypsum board surface paper and the compound used on finished joints, angles, fastener heads, and accessories and over skim coatings.
  - 3. Skim Coat: Either a thin coat of joint compound trowel applied, or a material manufactured especially for this purpose and applied in accordance with manufacturer's recommendations, over the entire surface.
  - 4. Texturing: Regular or irregular patterns typically produced by applying a mixture of joint compound and water, or proprietary texture materials including latex base texture paint, to a gypsum board surface previously coated with drywall primer.
- B. Reference Standards:
  - 1. ASTM International:
    - a. ASTM C11-13, 'Standard Terminology Relating to Gypsum and Related Building Materials and Systems'.
    - b. ASTM C475/C475M-12, 'Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board'.
    - c. ASTM C840-13, 'Standard Specification for Application and Finishing of Gypsum Board'.
    - d. ASTM C1002-07(2013), 'Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs'.
    - e. ASTM C1047-14a, 'Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base'.
    - f. ASTM C1178/C1178M-13, 'Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel'.
    - g. ASTM C1396/C1396M-14, 'Standard Specification for Gypsum Board'.
    - h. ASTM E84-14, 'Standard Test Method for Surface Burning Characteristics of Building Materials'.
    - i. ASTM E119-12a, 'Standard Test Method for Fire Tests of Building Construction and Materials'.
    - j. GA-214-10, 'Recommended Levels of Gypsum Board Finish'.
    - k. GA-216-13: 'Application and Finishing of Gypsum Panel Products'.
    - l. GA-600-12, 'Fire Reference Design Manual'.



- m. GA-801-07, 'Handling and Storage of Gypsum Panel Products: A Guide for Distributors, Retailers, and Contractors'.
- 2. International Building Code (IBC):
  - a. Chapter 25, 'Gypsum Board and Plaster' (2003 or latest code).
- 3. Underwriters Laboratories, Inc.
  - a. UL 263: 'Test Method for Fire Tests of Building Construction and Materials' (2011).
  - b. UL 723: 'Standard for Safety Test for Surface Burning Characteristics of Building Materials; (2010).

### **1.3 ADMINISTRATIVE REQUIREMENTS**

### **1.4 SUBMITTALS**

- A. Informational Submittals:
  - 1. Test And Evaluation Reports:
    - a. Fire test results or assembly diagrams and numbers confirming products used will provide required fire ratings with installation configurations used.

### **1.5 DELIVERY, STORAGE, AND HANDLING**

- A. General:
  - 1. Following recommendations of GA-801 Guide for Handling and Storage of Gypsum Panel Products unless local, state or federal laws or agency rules differing from the recommendations shall take precedence.
- B. Delivery And Acceptance Requirements:
  - 1. Deliver materials in original packages, containers, or bundles bearing brand name, applicable standard designation, and Manufacturer's name.
- C. Storage And Handling Requirements:
  - 1. Store material under roof and keep dry and protected against damage from weather, condensation, direct sunlight, construction traffic, and other causes. Stack gypsum board flat to prevent sagging.

### **1.6 FIELD CONDITIONS**

- A. Ambient Conditions:
  - 1. Comply with ASTM C840 or GA-216 requirements, whichever are more stringent:
    - a. Do not install interior products until installation areas are enclosed and conditioned.
      - 1) Temperature shall be 50 deg F and 95 deg F maximum day and night during entire joint operation and until execution of Certificate of Substantial Completion.
      - 2) Provide ventilation to eliminate excessive moisture.
      - 3) Avoid hot air drafts that will cause too rapid drying.
    - b. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. Manufacturers:

1. Manufacturer Contact List:
  - a. American Gypsum, Dallas, TX [www.americangypsum.com](http://www.americangypsum.com).
  - b. CertainTeed Gypsum, Inc; Tampa, FL [www.certainteed.com](http://www.certainteed.com).
  - c. Georgia Pacific, Atlanta, GA [www.gp.com](http://www.gp.com).
  - d. National Gypsum, Charlotte, NC [www.nationalgypsum.com](http://www.nationalgypsum.com).
  - e. Pabco Gypsum, Newark, CA [www.pabco gypsum.com](http://www.pabco gypsum.com).
  - f. United States Gypsum Co, Chicago, IL [www.usg.com](http://www.usg.com).

B. Materials:

1. Interior Gypsum Board:
  - a. General:
    - 1) Size:
      - a) Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.
    - 2) Class Two Quality Standard:
      - a) Core: Fire-resistant rated gypsum core.
      - b) Complies with Type X requirements of ASTM C1396/C1396M (Section 5).
      - c) Surface paper: Face paper suitable for painting.
      - d) Long edges: Tapered edge.
      - e) Overall thickness: **5/8 inch (15.9 mm)**.

## 2.2 ACCESSORIES

A. Manufacturers:

1. Manufacturer Contact List:
  - a. Kinetics Noise Control, Dublin, OH [www.kineticsnoise.com](http://www.kineticsnoise.com).
  - b. Magnum Products, Lenaxa, KS [www.levelcoat.com](http://www.levelcoat.com).
  - c. National Gypsum, Charlotte, NC [www.nationalgypsum.com](http://www.nationalgypsum.com).
  - d. Soundproofing Co, San Marcos, CA [www.soundproofing.org](http://www.soundproofing.org).
  - e. United States Gypsum Co, Chicago, IL [www.usg.com](http://www.usg.com).
  - f. Westpac Materials Inc, Orange, CA [www.westpacmaterials.com](http://www.westpacmaterials.com).
  - g. Wm. Zinsser & Co, Somerset, NJ [www.zinsser.com](http://www.zinsser.com).
2. Joint Compound:
  - a. Best grade or type recommended by Board Manufacturer and meeting requirements of ASTM C475/C475M.
    - 1) Use Taping Compound for first coat to embed tape and accessories.
    - 2) Use Taping Compound or All-Purpose Compound for subsequent coats except final coat.
    - 3) Use Finishing Compound for final coat and for skim coat.
3. Joint Reinforcing:
  - a. Paper reinforcing tape acceptable to Gypsum Board Manufacturer.
4. Fasteners:
  - a. Bugle head screws meeting requirements of ASTM C1002:
    - 1) Gypsum Board:
      - a) Type W: For fastening gypsum board to wood members, of length to penetrate wood framing **5/8 inch (15.9 mm)** minimum.

B. Primer / Surfer On Surfaces To Receive Texturing:

1. Type Two Acceptable Products:
  - a. Sheetrock First Coat by USG.
  - b. Prep Coat by Westpac Materials.
  - c. Level Coat by Magnum Products.
  - d. Equal as approved by Architect before bidding. See Section 01 6200.

C. Primer On Surfaces To Receive Wallcovering:

1. White, self-sizing, water based, all purpose wallcovering primer.
2. Type Two Acceptable Products:

- a. Shieldz Universal Pre-Wallcovering Primer by Wm. Zinsser and Company.
- b. Equal as approved by Architect before application. See Section 01 6200.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Verification Of Conditions:
  1. Examine substrate and verify framing is suitable for installation of gypsum board.
  2. Examine gypsum board before installation. Reject panels that are wet, moisture damaged, and mold damaged.
  3. Notify Architect of unsuitable conditions in writing.
    - a. Do not install board over unsuitable conditions.
  4. Commencement of Work by installer is considered acceptance of substrate.

### **3.2 INSTALLATION**

- A. Interface With Other Work:
  1. Coordinate with Division 06 for location of backblocking for edges and ends of gypsum board and for blocking required for installation of equipment and building specialties.
  2. Do not install gypsum board until required blocking is in place.
- B. General: Install and finish as recommended in ASTM C840 or GA-216 unless specified otherwise in this Section.
- C. Interior Gypsum Board:
  1. General:
    - a. Install so trim and reinforcing tape are fully backed by gypsum board. No hollow spaces between pieces of gypsum board over 1/8 inch wide before taping are acceptable.
    - b. Rout out backside of gypsum board to accommodate items that extend beyond face of framing, but do not penetrate face of gypsum board, such as metal door frame mounting brackets, etc.
    - c. Butt edges in moderate contact. Do not force in place.
    - d. Leave facings true with joint, finishing flush. Vertical work shall be plumb and ceiling surfaces matching existing slope.
    - e. Scribe work closely:
      - 1) Keep joints as far from openings as possible.
      - 2) If joints occur near an opening, apply board so vertical joints are centered over openings.
      - 3) No vertical joints shall occur within 8 inches of external corners or openings.
    - f. Install board tight against support with joints even and true. Tighten loose screws.
    - g. Caulk perimeter joints in sound insulated rooms with specified acoustical sealant.
  2. Ceilings:
    - a. Apply ceilings first using minimum of two (2) men.
    - b. Use board of length to give minimum number of joints.
    - c. Apply board perpendicular to support.
    - d. Chapel and Cultural Hall:
      - 1) Single Layer Application:
        - a) Stagger end joints:
          - (1) End and edge joints of board applied on ceilings shall occur over framing members or be back blocked with 2x4 blocking.
          - (2) Edge joints of board vertically applied on walls shall occur over framing members.
          - (3) 2x4 blocking is required at wall to ceiling transitions and at top of ceiling vault transitions.

3. Fastening:
  - a. Apply from center of board towards ends and edges.
  - b. Apply screws 3/8 inch minimum from ends and edges, one inch maximum from edges, and 1/2 inch maximum from ends.
  - c. Spacing:
    - 1) Ends: Screws not over 7 inches on center at edges where blocking or framing occurs.
    - 2) Wood Framed Walls And Ceilings: Screws 7 inches on center in panel field.
    - 3) Metal Framed Walls: Screws 12 inches on center in panel field.
  - d. Set screw heads 1/32 inch below plane of board, but do not break face paper. If face is accidentally broken, apply additional screw 2 inches away.
  - e. Screws on adjacent ends or edges shall be opposite each other.
  - f. Drive screws with shank perpendicular to face of board.
4. Trim:
  - a. Corner Beads:
    - 1) Attach corner beads to outside corners.
      - a) Attach metal corner bead with staples spaced 4 inches on center maximum and flat taped over edges of corner bead. Also, apply screw through edge of corner bead where wood trim will overlay corner bead.
      - b) Set paper-faced trim in solid bed of taping compound.
  - b. Edge Trim: Apply where gypsum board abuts dissimilar material. Hold channel and 'L' trim back from exterior window and door frames 1/8 inch to allow for caulking.
5. Finishing:
  - a. General:
    - 1) Tape and finish joints and corners throughout building as specified below to correspond with final finish material to be applied to gypsum board. When sanding, do not raise nap of gypsum board face paper or paper-faced trim.
    - 2) First Coat:
      - a) Apply tape over center of joint in complete, uniform bed of specified taping compound and wipe with a joint knife leaving a thin coating of joint compound. If metal corner bead is used, apply reinforcing tape over flange of metal corner bead and trim so half of tape width is on flange and half is on gypsum board.
      - b) Completely fill gouges, dents, and fastener dimples.
      - c) Allow to dry and sand lightly if necessary to eliminate high spots or excessive compound.
    - 3) Second Coat:
      - a) Apply coat of specified joint compound over embedded tape extending 3-1/2 inches on both sides of joint center. Use finishing compound only if applied coat is intended as final coat.
      - b) Re-coat gouges, dents, and fastener dimples.
      - c) Allow to dry and sand lightly to eliminate high spots or excessive compound.
    - 4) Third Coat: Apply same as second coat except extend application 6 inches on both sides of joint center. Allow to dry and sand with fine sandpaper or wipe with damp sponge.
    - 5) Fourth Coat: Apply same as second coat except extend application 9 inches on both sides of joint center. Allow to dry and sand with fine sandpaper or wipe with damp sponge.
  - a. Finishing Levels: Finish panels to levels indicated below and according to ASTM C840, GA-214 and GA-216:
    - 1) Gypsum Board Surfaces Under Acoustical Tile:
      - a) GA-214 Level 2: 'All joints and interior angles shall have tape embedded in joint compound and wiped with a joint knife leaving a thin coating of joint compound over all joints and interior angles. Fastener heads and accessories shall be covered with a coat of joint compound. Surface shall be free of excess joint compound. Tool marks and ridges are acceptable. Joint compound applied over the body of the tape at the time of tape embedment shall be considered a separate coat of joint compound and shall satisfy the conditions of this level.
      - b) Note: It is critical that gypsum board ceiling be smooth before installing ceiling tile. Drywall joints must be as specified in paragraph above.

- 2) Gypsum Board Surfaces to Receive: Painted Texturing - Section 09 9413: 'Interior Textured Finishing':
  - a) GA-214 Level 4: 'All and interior angles shall have tape embedded in joint compound and two separate coats of joint compound applied over all flat joints and one separate coat of joint compound applied over interior angles. Fastener heads and accessories shall be covered with three separate coats of joint compound. All joint compound shall be smooth and free of tool marks and ridges. Coat prepared surface with specified primer'.

D. Glass Mat Gypsum Tile Backer:

1. Apply glass mat gypsum tile backer to framing. Attach using specified fasteners spaced **6 inches (150 mm)** on center on edges and into all framing members. Drive screws flush with surface of board.
2. Shim board to be plumb and flat or level and flat, depending on location.
3. Apply reinforcing only at joints where abutting different materials.

### 3.3 FIELD QUALITY CONTROL

A. Non-Conforming Work:

1. Remove and replace panels that are wet, moisture damaged, and mold damaged.
  - a. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  - b. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

### 3.4 CLEANING

- A. Remove from site debris resulting from work of this Section including taping compound spills.

**END OF SECTION**

**SECTION 09 5116****ACOUSTICAL TILE CEILINGS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Furnish and install acoustical tile on backerboard as described in Contract Documents.
- B. Related Requirements:
  - 1. Section 09 2900: 'Gypsum Board'.

**1.2 REFERENCES**

- A. Association Publications:
  - 1. The Ceilings & Interior Systems Construction Association (CISCA), 405 Illinois Avenue, 2B, St Charles IL. [www.cisca.org](http://www.cisca.org).
    - a. '*Ceiling Systems Handbook*': Recommendations for direct hung acoustical tile installation.
    - b. '*Production Guide*': Practical reference for ceiling systems and estimating costs.
- B. Definitions:
  - 1. Acoustical Tile: Prefinished material with various surface finishes installed in concealed suspension system or adhered to ceiling surface to provide improved sound absorption qualities.
  - 2. Acoustical Cement/Adhesive: Special type of adhesive or mastic used to stick up or adhere 12 inch x 12 inch acoustical tile to concrete or gypsum board.
  - 3. Absorption: Materials that have capacity to absorb sound. Absorption is the opposite of reflection.
  - 4. Bevel Edge: Acoustical tile is considered bevel edge when face of tile chamfered at approximately 45 degree for 1/8 inch to 1/4 inch around the perimeter of tile.
  - 5. Ceiling Attenuation Class (CAC): Rates ceiling's efficiency as barrier to airborne sound transmission between adjacent closed offices. Shown as minimum value, previously expressed as CSTC (Ceiling Sound Transmission Class). Single-figure rating derived from normalized ceiling attenuation values in accordance with classification ASTM E413, except that resultant rating shall be designated ceiling attenuation class. (Defined in ASTM E1414.) Acoustical unit with high CAC may have low NRC.
  - 6. Center Line: Line indicating midpoint of surface in either direction. Used as guide in starting ceiling.
  - 7. Class A: Fire classification for product with flame spread rating of no more than 25 and smoke developed rating not exceeding 50, when tested in accordance with ASTM E84 or UL 723.
  - 8. Flame Spread: The propagation of flame over a surface.
  - 9. Flame Spread Index: Comparative measure, expressed as a dimensionless number, derived from visual measurements of the spread of flame versus time for a material tested in accordance with ASTM E84 or UL 723.
  - 10. Interior Finish: Interior finish includes interior wall and ceiling finish and interior floor finish.
  - 11. Kerf: Slit cut into midpoint of edge of tiles.
  - 12. Light Reflectance (LR): Percentage of light a surface reflected by ceiling surface expressed in decimal form.
  - 13. Mineral Base: Ceilings composed principally of mineral materials such as fibers manufactured from rock or slab, with or without binders.
  - 14. Noise Reduction Coefficient (NRC): Average sound absorption coefficient measured at four frequencies: 250, 500, 1,000 and 2,000 Hertz expressed to the nearest integral multiple of 0.05. Rates ability of ceiling or wall panel or other construction to absorb sound. NRC is fraction of

- sound energy, averaged over all angles of direction and from low to high sound frequencies that is absorbed and not reflected.
15. Smoke-Developed Index: Comparative measure, expressed as a dimensionless number, derived from visual measurements of smoke obscuration versus time for a material tested in accordance with ASTM E84 or UL 723.
  16. Sound Absorption: Property possessed by materials and objects, including air, of converting sound energy into heat energy. Sound wave reflected by surface always loses part of its energy. Fraction of energy that is not reflected is called sound absorption coefficient of reflecting surface. For instance, if material reflects 80 percent of sound energy, then sound absorption coefficient would be 20 percent (0.20).
  17. Surface Burning Characteristic: Rating of interior and surface finish material providing indexes for flame spread and smoke developed, based on testing conducted according to ASTM Standard E84 or UL 723.
  18. Textured Pattern: Granular or raised (fine, coarse, or a blend), felted or matted surface as an integral part of the basic product or superimposed on the product surface.
  19. Tile: Acoustical ceiling board, usually 12 inch x 12 inch, which is stapled, cemented, or suspended by concealed grid system. Edges are often kerfed and cut back.

C. Reference Standards:

1. American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE):
  - a. ASHRAE Standard 62.1-2013, 'Ventilation for Acceptable Indoor Air Quality'.
2. ASTM International;
  - a. ASTM D1779-98(2011), 'Standard Specification for Adhesive for Acoustical Materials'.
  - b. ASTM E84-15, 'Standard Test Method for Surface Burning Characteristics of Building Materials'.
  - c. ASTM E795-05(2012), 'Standard Practices for Mounting Test Specimens During Sound Absorption Tests'.
  - d. ASTM E1264-14, 'Standard Classification for Acoustical Ceiling Products'.
  - e. ASTM E1414/E1414-11a, 'Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum'.
  - f. ASTM E1477 - 98a(2013), 'Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers'.
3. International Building Code (IBC) (2009 and 2012 Edition):
  - a. Chapter 8, 'Interior Finishes':
    - 1) Section 803, 'Wall And Ceiling Finishes':
      - a) 803.1.1, 'Interior Wall and Ceiling Finish Materials'.
      - b) 803.1.2, 'Room Corner Test for Interior Wall or Ceiling Finish Materials'.
4. National Fire Protection Association:
  - a. NFPA 101: 'Life Safety Code' (2015 Edition).
  - b. NFPA 265: 'Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile Coverings on Full Height Panels and Walls' (2015 Edition).
5. Underwriters Laboratories Inc.:
  - a. UL 723, 'Standard for Safety Test for Surface Burning Characteristics of Building Materials' (Tenth Edition).
6. Underwriters Laboratories of Canada:
  - a. CAN/ULC S102-10, 'Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies' (7<sup>th</sup> Edition).
  - b. CAN/ULC S102.2-10, 'Method of Test for Surface Burning Characteristics of Flooring, Flooring Coverings and Miscellaneous Materials and Assemblies' (7<sup>th</sup> Edition).

### 1.3 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conferences:

1. Participate in pre-installation conference specified in Section 09 2900 to review finish requirements for gypsum wallboard ceilings.
2. Schedule acoustical tile ceiling pre-installation conference after installation of gypsum wallboard but before beginning installation of tile.
3. In addition to items specified in Section 01 3100, review following:
  - a. Verify that tile comes from same dye lot and has same dye lot code.

- b. Review requirements of acceptable and non acceptable tile.

## 1.4 SUBMITTALS

- A. Action Submittals:
  1. Samples:
    - a. One (1) sample of each variant of specified tile series.
- B. Informational Submittals:
  1. Certificates:
    - a. Installer(s):
      - 1) Provide each Installer's 'Certificate of Completion - LDS Duratile' from Manufacturer showing Name and completion date with bid to be included in closing documents for project.
        - a) Certificate is valid for two (2) years from date printed on Certificate before recertification is required.
  2. Test And Evaluation Reports:
    - a. If requested by Owner, provide copies of Quality Assurance requirements for 'Class A' flame spread rating and 'Room-Corner Test'.
  3. Manufacturer Installations:
    - a. Published installation recommendations.
  4. Qualification Statement:
    - a. Installer(s):
      - 1) Provide Qualification documentation unless waived by Owner.
- C. Closeout Submittals:
  1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
    - a. Warranty Documentation:
      - 1) Include final, executed copy of warranty.
    - b. Record Documentation:
      - 1) Manufacturers Documentation:
        - a) Manufacturer's literature on tile and adhesive.
        - b) Color and pattern selection.
      - 2) Installer(s) 'Certificate of Completion - LDS Duratile' submitted at time of bid.
- D. Maintenance Material Submittals:
  1. Extra Stock Materials:
    - a. Provide Owner with six (6) cartons of each type of tile with same dye lot code.

## 1.5 QUALITY ASSURANCE

- A. Regulatory Agency Sustainability Approvals:
  1. Fire-Test-Response Characteristics: As determined by testing identical ceiling tile applied with identical adhesives to substrates according to test method indicated below by qualified testing agency. Identify products with appropriate markings of applicable testing agency.
    - a. Surface-Burning Characteristics:
      - 1) Ceiling tile shall have Class A flame spread rating in accordance with ASTM E84 or UL 723 Type 1.
        - a) Class A (Flame spread index 0-25; Smoke-developed index 0-450).
        - b) Flash point: None.
  2. Passage of 'Room-Corner Test' as recognized by AHJ, is required for system. Adhesive cited in test literature is required for installation of ceiling tile on Project.
    - a. Room Corner Tests:
      - 1) ASTM E84, 'Standard Test Method for Surface Burning Characteristics of Building Materials'.
      - 2) IBC 803.2.1, 'Room Corner Test for Interior Wall or Ceiling Finish Materials'.
      - 3) NFPA 265: 'Room Corner Test for Interior Wall or Ceiling Finish Materials'.



- 4) UL 723, 'Standard for Safety Test for Surface Burning Characteristics of Building Materials'.

**B. Qualifications:**

1. Installer: Requirements of Section 01 4301 applies, but not limited to following:
  - a. Minimum five (5) years satisfactorily completed projects of comparable quality, similar size, and complexity including a minimum of three (3) years of experience in glue-up ceiling tile installations, and shall have satisfactorily completed glue-up installation(s) within in past three (3) years before bidding.
  - b. Review, understand, and comply Installer Qualifications and submitted 'DuraTile' published installation recommendations provided by Manufacturer:
    - 1) Contact Armstrong CSA customer service center at (800) 442-4212 to obtain and review compliance package on DuraTile prior to bidding.
    - 2) This requirement may be waived by Owner, if Installer has previously complied with Installer Qualification requirements and can document at least two (2) satisfactorily completed projects of comparable size using Armstrong 12 inch x 12 inch (300 mm x 300 mm) ceiling tile for glue-up within past three (3) years prior to bidding.
    - 3) Installer shall note complete compliance with Qualification requirements on submitted bid form.
    - 4) Submit qualification documentation unless waived by Owner.
  - c. Agree to complete and pass 'LDS Duratile Personal Learning Module' (Certificate required for all Installer(s) for Church projects). Certification valid for two (2) years:
    - 1) Go to <http://www.armstrong.com/commceilingsna/#>.
    - 2) Click on My Armstrong Upper Right hand Corner.
    - 3) First time users: Click on 'Register' button and provide all appropriate information for username and password (you must register as a contractor to have access to 'ELearning System').
    - 4) Under My Armstrong Functions (left hand side), click on 'ELearning System'.
    - 5) Click on 'LDS Duratile Video'.
    - 6) Watch video and take Quiz (10 questions). Passing grade required for certificate.
    - 7) Print Certificate.
    - 8) Certificate must be submitted with Bid.
    - 9) Submit 'Certificate of Completion LDS - Duratile'. Required for all projects and may not be waived by Owner.

## 1.6 DELIVERY, STORAGE, AND HANDLING

**A. Delivery and Acceptance Requirements:**

1. Materials shall be delivered in original, unopened packages with labels intact.

**B. Storage And Handling Requirements:**

1. Store materials where protected from moisture, direct sunlight, surface contamination, and damage.
2. Store acoustic tile in cool, dry location, out of direct sunlight and weather, and at temperatures between 32 deg F and 86 deg F.
3. Store adhesive on site at installation temperature, between 65 and 90 deg F, for one week before installation.
4. Handle acoustical ceiling tiles carefully to avoid chipping edges or damage. Use no soiled, scratched, or broken material in the Work.

## 1.7 FIELD CONDITIONS

**A. Ambient Conditions:**

1. Building shall be enclosed, mechanical system operating with proper filters in place, and temperature and humidity conditions stabilized within limits under which Project will operate before, during, and after installation until Substantial Completion.
2. Temperature at time of setting tile shall be 50 deg F minimum and 100 deg F maximum.

## 1.8 WARRANTY

- A. Manufacturer Warranty:
1. Provide Manufacturer's ten (10) year limited system warranty for the following:
    - a. Manufacturer's warranty to be free from defects in materials and factory workmanship.
    - b. Manufacturer's warranty against sagging and warping.
    - c. Manufacturer's warranty against mold/mildew, and bacterial growth.

## PART 2 - PRODUCTS

### 2.1 SYSTEM

- A. Manufacturers:
1. Manufacturer Contact List:
    - a. Armstrong World Industries, Strategic Accounts, Lancaster, PA [www.ceilings.com](http://www.ceilings.com).
      - 1) For pricing and ordering of tile, contact Sherry Brunt, Phyllis Miller, or Beth Rinehart at (800) 442-4212, or [Armstrongcsa@armstrong.com](mailto:Armstrongcsa@armstrong.com).
      - 2) For Strategic Account information, contact Deborah Pickens at (480) 695-9053 [dlpickens@armstrong.com](mailto:dlpickens@armstrong.com).
    - b. Franklin International, Inc., Columbus, OH [www.titebond.com](http://www.titebond.com).
- B. Materials:
1. Description:
    - a. Size: 3/4 inch (19 mm) thick minimum by 12 inches (300 mm) square.
    - b. Color: White.
    - c. Grid Face: Tile glue-up.
    - d. Surface Finish: Factory-applied.
    - e. Wet-formed high density mineral fiber.
  2. Design Criteria:
    - a. Meet requirements of ASTM E1264, Type III (mineral base with painted finish), Form 2 (water felted), Pattern CE (perforated, small holes – lightly textured), Fire Class A.
    - b. Acoustics:
      - 1) Noise Reduction Coefficient (Rating expressed according to ASTM E1284 requirements:
        - a) NRC rating: 60 minimum.
      - 2) CAC rating: 35 minimum.
    - c. Anti Mold / Mildew:
      - 1) Resistance against growth of mold/mildew.
    - d. Durable:
      - 1) Impact-resistant.
      - 2) Scratch-resistant.
    - e. Tongue and Groove.
    - f. Finish:
      - 1) Abuse-resistant/durable, factory applied vinyl latex paint.
    - g. Fire Performance:
      - 1) Panels meet ASTM E84 or UL 723 Type 1 surface burning characteristics.
    - h. High Recycled Content (HRC): Classified as containing greater than 50 percent total recycled content.
    - i. Light Reflectance (LR): 0.86 Average (Range of 0.84 to 0.88).
    - j. Sag Resistance:
      - 1) Resistance to sagging in high humidity conditions up to, but not including, standing water and outdoor applications.
    - k. Texture: Embossed texture with fine fissuring and small perforations with natural variation in texture and color appearance between tile.
    - l. VOC Emissions:
      - 1) Low formaldehyde: Contributing less than 13.5 ppb in typical conditions per ASHRAE Standard 62, 'Ventilation for Acceptable Indoor Air Quality'.

3. Acoustic Tile:
  - a. Category Three National Account Approved Product. See Section 01 6200 for definitions of Categories:
    - 1) DuraTile Item No. MN80377 by Armstrong.
- C. Accessories:
  1. Adhesive:
    - a. Description:
      - 1) For use on acoustical ceiling tiles.
    - b. Design Criteria:
      - 1) Meet requirements of ASTM D1779.
      - 2) Meet NFPA Class A fire rating when tested in accordance with ASTM E84.
      - 3) Fast grab and 'no sag' installation.
      - 4) Water cleanup.
      - 5) Not recommended for use on tiles larger than 12 inch x 12 inch (305 mm x 305 mm).
    - c. Type Two Acceptable Products:
      - 1) Titebond No. 2704 Solvent Free Acoustical Ceiling Tile Adhesive by Franklin International.
      - 2) Highest quality of adhesive from manufacturer recommended by Tile Manufacturer as approved by Architect before use. See Section 01 6200.
  2. Edge Molding:
    - a. Steel 'U' molding with baked enamel finish.
    - b. Type Two Acceptable Products:
      - 1) 7843 Series by Armstrong.
      - 2) Equal as approved by Architect before installation. See Section 01 6200.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Verification Of Conditions:
  1. Inspect for defects in backing and support that are not acceptable.
    - a. Examine areas around HVAC diffusers and light fixtures for tile installation problems.
    - b. Examine ceiling for levelness. Cisca '*Code of Practice*' requires ceiling to be free of irregularities and be level to within 1/4 inch (6 mm) in 12 foot (305 mm).
    - c. Examine substrate for any problems that will compromise adhesion of ceiling tile.
  2. Notify Architect in writing of unacceptable conditions.
  3. Do not apply ceiling tile until defects in backing and support are corrected.

### **3.2 PREPARATION**

- A. Surface Preparation:
  1. Follow Manufacturer recommendations for surface preparation:
    - a. Substrate must be clean, free of grease and dirt, sound, smooth, even and level before applying tile to surface.
      - 1) Do not install new ceiling tile over old glue globs or bad substrate with any surface finish that is incompatible with tile adhesive.
    - b. Painted Surfaces: Avoid applying tile to newly painted ceiling.
    - c. Materials shall be dry and clean at time of application.

### **3.3 INSTALLATION**

- A. Special Techniques:
  1. Installation shall be in accordance with Manufacturer's recommendations:

- a. Do not install tile when room temperature exceeds or below recommended ambient conditions.
  - b. Tile is directional tile and must be installed in same direction of pattern running parallel to long dimension of each room.
  - c. Remove loose dust from back of tile and ceiling where adhesive is to be applied.
  - d. Prime 3 inch minimum circle near each corner by buttering very thin coat of adhesive.
  - e. Apply daub of adhesive to each corner. Daubs will be of sufficient size to form a circle 2-1/2 to 3 inches in diameter and 1/8 to 1/4 inch thick when tile is pressed firmly in place. Do not apply daubs so far in advance of installation that adhesive skins over.
  - f. Do not bend tile during installation.
2. Tile Layout:
    - a. Lay out tile symmetrically about center lines of room.
    - b. Lay out so tiles at room perimeters are at least 1/2 full tile size.
    - c. Leave tile in true plane with straight, even joints.
    - d. Tile joints shall be straight and in alignment, and exposed surface flush and level.
    - e. Furnish and install specified molding wherever tile has exposed edges or abuts walls, columns, and other vertical surfaces, except at curves of 3 inch radius or smaller.
    - f. Cut around penetrations that are not to receive moldings cleanly with sharp knife and at a slight angle away from cutout.
  3. Ceiling mounted items:
    - a. Locate light fixtures, speakers, and mechanical diffusers and grilles symmetrically in room and centered on tile centers or tile joints insofar as possible, unless shown otherwise.
    - b. Keep method of locating ceiling mounted items as consistent as possible throughout building.
    - c. Ceiling mounted item location method within each room shall always be consistent.

### 3.4 FIELD QUALITY CONTROL

- A. Non-Conforming Work:
  1. Acoustical Tile. The following have been identified by the Manufacturer as tile defects, should not be installed, and will be replaced at no charge to Owner. Manufacturer will replace any material that does not meet product specifications. Installer to call 1 (800) 442-4212 immediately to report any tile discrepancies:
    - a. Obvious Tile Defects:
      - 1) Gross surface defects or damage.
      - 2) Gross damage to edges and corners.
      - 3) Bevels without paint.
    - b. Size Measurement:
      - 1) Tiles measure 12 inches, plus or minus 1/32 inch, measured across center of two (2) parallel sides.
    - c. Squareness Measurement:
      - 1) Measure two (2) diagonals of an individual ceiling tile.
      - 2) Diagonal measurements need to be within 1/16 inch of each other. No more than 1/16 inch difference.
    - d. Warp:
      - 1) Tiles specification is plus or minus 0.050 inch as measured in the center of tile.
  2. Installer:
    - a. Substrate preparation and installation of ceiling tile not following CISCA Code of Practice will be unacceptable and considered defective and subject to replacement at no cost to Owner.

### 3.5 ADJUSTING

- A. 'Touch-up' minor abraded surfaces.

**3.6 CLEANING**

- A. Remove from site debris connected with work of this Section.

**END OF SECTION**

**SECTION 09 9001**

**COMMON PAINTING AND COATING REQUIREMENTS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Common procedures and requirements for field-applied painting and coating.
- B. Related Requirements:
  - 1. Sections under 09 9000 heading 'Paints and Coatings'.
    - a. Pre-Installation conferences held jointly with Section 09 9001.

**1.2 REFERENCES**

- A. Definitions:
  - 1. Damage Caused By Others: Damage caused by individuals other than those under direct control of Painting Applicator (MPI(a), PDCA P1.92).
  - 2. Gloss Levels:
    - a. Specified paint gloss level shall be defined as sheen rating of applied paint, in accordance with following terms and values, unless specified otherwise for a specific paint system.

|                 |   |  |
|-----------------|---|--|
| Gloss Level '1' | Traditional matte finish - flat             | 0 to 5 units at 60 degrees to 10 units maximum at 85 degrees.    |
| Gloss Level '2' | High side sheen flat - 'velvet-like' finish | 10 units maximum at 60 degrees and 10 to 35 units at 85 degrees. |
| Gloss Level '3' | Traditional 'eggshell-like' finish          | 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees.   |
| Gloss Level '4' | 'Satin-like' finish                         | 20 to 35 units at 60 degrees and 35 units minimum at 85 degrees. |
| Gloss Level '5' | Traditional semi-gloss                      | 35 to 70 units at 60 degrees.                                    |
| Gloss Level '6' | Traditional gloss                           | 70 to 85 units at 60 degrees.                                    |
| Gloss Level "7" | High gloss                                  | More than 85 units at 60 degrees.                                |

- 3. Properly Painted Surface:
  - a. Surface that is uniform in appearance, color, and sheen and free of foreign material, lumps, skins, runs, sags, holidays, misses, strike-through, and insufficient coverage. Surface free of drips, spatters, spills, and overspray caused by Paint Applicator. Compliance will be determined when viewed without magnification at a distance of 5 feet minimum under normal lighting conditions and from normal viewing position (MPI(a), PDCA P1.92).
- 4. Latent Damage: Damage or conditions beyond control of Painting Applicator caused by conditions not apparent at time of initial painting or coating work.

- B. Reference Standards:
  - 1. The latest edition of the following reference standard shall govern all painting work:
    - a. MPI(a), 'Architectural Painting Specification Manual' by Master Painters Institute (MPI), as issued by local MPI Accredited Quality Assurance Association having jurisdiction.
    - b. MPI(r), 'Maintenance Repainting Manual' by Master Painters Institute (MPI), as issued by local MPI Accredited Quality Assurance Association having jurisdiction.

### 1.3 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Conferences:
  - 1. Schedule painting pre-installation conference after delivery of paint or coatings and before or at same time as application of field samples.
    - a. Coordinate pre-installation conferences of all related painting and coating Sections under 09 9000 heading 'Paints and Coatings'.
    - b. Schedule conference before preparation of control samples as specified in Sections under 09 9000 heading 'Paints and Coatings'.
    - c. Conference to be held at same time as Section 09 2900 to review gypsum board finish preparation.
  - 2. In addition to agenda items specified in Section 01 3100, review following:
    - a. Review Quality Assurance for Approval requirements.
    - b. Review Quality Assurance Field Sample requirements.
    - c. Review Submittal requirements for compliance for MPI Approved Products.
    - d. Review Design Criteria requirements.
    - e. Review Cleaning requirements.
    - f. Review painting schedule.
    - g. Review safety issues.
  - 3. Review additional agenda items from Sections under 09 9000 heading 'Paints and Coatings'.

### 1.4 SUBMITTALS

- A. Action Submittals:
  - 1. Product Data:
    - a. Include following information for each painting product, arranged in same order as in Project Manual.
      - 1) Manufacturer's cut sheet for each product indicating ingredients and percentages by weight and by volume, environmental restrictions for application, and film thicknesses and spread rates.
      - 2) Provide one (1) copy of 'MPI Approved Products List' showing compliance for each MPI product specified.
        - a) MPI Information is available from MPI Approved Products List using the following link: <http://www.paintinfo.com/mpi/approved/index.shtml>.
      - 3) Confirmation of colors selected and that each area to be painted or coated has color selected for it.
  - 2. Samples: Provide two 4 inch by 6 inch minimum draw-down cards for each paint or coating color selected for this Project.
- B. Informational Submittals:
  - 1. Manufacturer Instructions:
    - a. Manufacturer's substrate preparation instructions and application instruction for each painting system used on Project.
  - 2. Qualification Statement:
    - a. Applicator:
      - 1) Provide Qualification documentation if requested by Architect or Owner.
- C. Closeout Submittals:
  - 1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
    - a. Record Documentation:
      - 1) Manufacturer's documentation:
        - a) Manufacturer's cut sheet for each component of each system.
        - b) Schedule showing rooms and surfaces where each system was used.
- D. Maintenance Materials Submittals:
  - 1. Extra Stock Materials:

- a. Provide painting materials in Manufacturer's original containers and with original labels in each color used. Label each can with color name, mixture instructions, date, and anticipated shelf life.
- b. Provide one (1) quart of each finish coat and one (1) pint of each primer and of each undercoat in each color used.

## 1.5 QUALITY ASSURANCE

- A. Regulatory Agency Sustainability Approval:
1. Conform to work place safety regulations and requirements of those authorities having jurisdiction for storage, mixing, application and disposal of all paint and related hazardous materials.
  2. Paint and painting materials shall be free of lead and mercury, and have VOC levels acceptable to local jurisdiction.
  3. Master Painters Institute (MPI) Standards:
    - a. Products: Comply with MPI standards indicated and listed in 'MPI Approved Products List'.
    - b. Preparation and Workmanship: Comply with requirements in 'MPI Architectural Painting Specification Manual' for products and coatings indicated.
- B. Qualifications:
1. Applicator: Requirements of Section 01 4301 applies, but not limited to following:
    - a. Minimum five (5) years experience in painting installations.
    - b. Minimum five (5) satisfactorily completed projects of comparable quality, similar size, and complexity in past three (3) years before bidding.
    - c. Maintain qualified crew of painters throughout duration of the Work.
    - d. Upon request, submit documentation.
- C. Field Samples:
1. Before application of any paint system, meet on Project site with Architect, Owner's representative, and Manufacturer's representative. Architect may select one (1) surface for application of each paint system specified. This process will include establishing acceptable substrate conditions required for Project before application of paints and coatings.
  2. Apply paint systems to surfaces indicated by Architect following procedures outlined in Contract Documents and Product Data submission specified above.
  3. After approval of samples, proceed with application of paint system throughout Project. Approved samples will serve as standard of acceptability.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery And Acceptance Requirements:
1. Deliver specified products in sealed, original containers with Manufacturer's original labels intact on each container.
  2. Deliver amount of materials necessary to meet Project requirements in single shipment.
- B. Storage And Handling Requirements:
1. Store materials in single place.
  2. Keep storage area clean and rectify any damage to area at completion of work of this Section.
  3. Maintain storage area at 55 deg F minimum.

## 1.7 FIELD CONDITIONS

- A. Ambient Conditions:
1. Perform painting operations at temperature and humidity conditions recommended by Manufacturer for each operation and for each product for both interior and exterior work.
  2. Apply painting systems at lighting level of 540 Lux (50 foot candles) minimum on surfaces to be painted.
    - a. Inspection of painting work shall take place under same lighting conditions as application.



- b. If painting and coating work is applied under temporary lighting, deficiencies discovered upon installation of permanent lighting will be considered latent damage as defined in MPI Manual, PDCA P1-92.

## **PART 2 - PRODUCTS**

### **2.1 SYSTEMS**

- A. Performance:
  1. Design Criteria:
    - a. Provide materials for use within each coating system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
    - b. All materials, preparation and workmanship shall conform to requirements of 'Architectural Painting Specification Manual' by Master Painters Institute (MPI).
    - c. All paint manufacturers and products used shall be as listed under Approved Product List section of MPI Painting Manual.
    - d. Provide Premium Grade systems (2 top coats) as defined in MPI Architectural Painting Specification Manual, except as otherwise indicated.
    - e. Where specified paint system does not have Premium Grade, provide Budget Grade.
    - f. Provide products of same manufacturer for each coat in coating system.
    - g. Where required to meet LEED (Leadership in Energy and Environmental Design) program requirements, use only MPI listed materials having an "L" rating designation.
- B. Materials:
  1. Materials used for any painting system shall be from single manufacturer unless approved otherwise in writing by painting system manufacturers and by Architect. Include manufacturer approvals in Product Data submittal.
  2. Linseed oil, shellac, turpentine, and other painting materials shall be pure, be compatible with other coating materials, bear identifying labels on containers, and be of highest quality of an approved manufacturer listed in MPI manuals. Tinting color shall be best grade of type recommended by Manufacturer of paint or stain used on Project.

## **PART 3 - EXECUTION**

### **3.1 APPLICATORS**

- A. Approved Applicators:
  1. Meet Quality Assurance Applicator Qualifications as specified in Part 1 of this specification.

### **3.2 EXAMINATION**

- A. Verification Of Conditions:
  1. Directing applicator to begin painting and coating work will indicate that substrates to receive painting and coating materials have been previously inspected as part of work of other Sections and are complete and ready for application of painting and coating systems as specified in those Sections.
- B. Pre-Installation Testing:
  1. Before beginning work of this Section, examine, and test surfaces to be painted or coated for adhesion of painting and coating systems.
  2. Report in writing to Architect of conditions that will adversely affect adhesion of painting and coating work.

3. Do not apply painting and coating systems until party responsible for adverse condition has corrected adverse condition.

C. Evaluation And Assessment:

1. Report defects in substrates that become apparent after application of primer or first finish coat to Architect in writing and do not proceed with further work on defective substrate until such defects are corrected by party responsible for defect.

### 3.3 PREPARATION

A. Protection Of In-Place Conditions:

1. Protect other finish work and adjacent materials during painting. Do not splatter, drip, or paint surfaces not intended to be painted. These items will not be spelled out in detail but pay special attention to the following:
  - a. Do not paint finish copper, bronze, chromium plate, nickel, stainless steel, anodized aluminum, or monel metal except as explicitly specified.
  - b. Keep cones of ceiling speakers completely free of paint. In all cases where painting of metal speaker grilles is required, paint without grilles mounted to speakers and without grilles on ceiling.
  - c. On existing work where ceiling is to be painted, speakers and grilles are already installed, and ceiling color is not being changed, mask off metal grilles installed on ceiling speakers. If ceiling color is being changed, remove metal grilles and paint, and mask off ceiling speakers.

B. Surface Preparation:

1. Prepare surfaces in accordance with MPI requirements and requirements of Manufacturer for each painting system specified, unless instructed differently in Contract Documents. Bring conflicts to attention of Architect in writing.
2. Fill minor holes and cracks in wood surfaces to receive paint or stain.
3. Surfaces to be painted shall be clean and free of loose dirt. Clean and dust surfaces before painting or finishing.
4. Do no exterior painting while surface is damp, unless recommended by Manufacturer, nor during rainy or frosty weather. Interior surfaces shall be dry before painting. Moisture content of materials to be painted shall be within tolerances acceptable to Paint Manufacturer.
5. Sand woodwork smooth in direction of grain leaving no sanding marks. Clean surfaces before proceeding with stain or first coat application.

### 3.4 APPLICATION

A. Interface With Other Work:

1. Coordinate with other trades for materials and systems that require painting before installation.
2. Schedule painting and coating work to begin when work upon which painting and coating work is dependent has been completed. Schedule installation of pre-finished and non-painted items, which are to be installed on painted surfaces, after application of final finishes.

- B. Apply sealant in gaps 3/16 inch and smaller between two substrates that are both to be painted or coated. Sealants in other gaps furnished and installed under Section 07 9213.

- C. Spread materials smoothly and evenly. Apply coats to not less than wet and dry film thicknesses and at spreading rates for specified products as recommended by Manufacturer.

- D. Touch up suction spots after application of first finish coat.

- E. Paint shall be thoroughly dry and surfaces clean before applying succeeding coats.

- F. Use fine sandpaper between coats as necessary to produce even, smooth surfaces.

- G. Make edges of paint adjoining other materials or colors clean, sharp, and without overlapping.
- H. Finished work shall be a 'Properly Painted Surface' as defined in this Section.

### **3.5 FIELD QUALITY CONTROL**

- A. Non-Conforming Work:
  - 1. Correct deficiencies in workmanship as required to leave surfaces in conformance with 'Properly Painted Surface,' as defined in this Section.
  - 2. Correction of 'Latent Damage' and 'Damage Caused By Others,' as defined in this Section, is not included in work of this Section.

### **3.6 CLEANING**

- A. General:
  - 1. As work proceeds and upon completion of work of any painting Section, remove paint spots from floors, walls, glass, or other surfaces and leave work clean, orderly, and in acceptable condition.
- B. Waste Management:
  - 1. Remove rags and waste used in painting operations from building each night. Take every precaution to avoid danger of fire.
  - 2. Paint, stain and wood preservative finishes and related materials (thinners, solvents, caulking, empty paint cans, cleaning rags, etc.) shall be disposed of subject to regulations of applicable authorities having jurisdiction.
  - 3. Remove debris caused by work of paint Sections from premises and properly dispose.
  - 4. Retain cleaning water and filter out and properly dispose of sediments.

**END OF SECTION**

**ATTACHMENTS**

**PART 4 - PAINT COLOR SCHEDULE**

- A. Related Requirements:
  - 1. Section 09 9123 'Interior Painted Gypsum Board-Plaster'.

**SECTION 09 9123****INTERIOR PAINTED GYPSUM BOARD, PLASTER****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Preparing and painting following existing interior gypsum board and plaster surfaces as described in Contract Documents:
    - a. Chapel Ceiling and walls above light cove level.
- B. Related Requirements:
  - 1. Section 09 9001: 'Common Painting And Coating Requirements':
    - a. Pre-installation conference for Sections under 09 9000 heading 'Paints and Coatings'.
    - b. 'Attachment: Paint Color Schedule' for O&M / R&I Projects.
  - 2. Section 09 9413: 'Interior Textured Finishing' for textured finishes.

**1.2 ADMINISTRATIVE REQUIREMENTS**

- A. Pre-Installation Conferences:
  - 1. Participate in pre-installation conference as specified in Section 09 2900.
    - a. In addition to agenda items specified in Section 01 3100 and Section 09 2900, review following:
      - 1) Review finish level requirements of gypsum wallboard as specified in Section 09 2900.
  - 2. Participate in pre-installation conference as specified in Section 09 9001.

**PART 2 - PRODUCTS****2.1 SYSTEM**

- A. Manufacturers:
  - 1. Category Four Approved Manufacturers and Products. See Section 01 6200 for definitions of Categories.
    - a. Products listed in edition of MPI Approved Product List current at time of bidding and later are approved, providing they meet VOC requirements in force where Project is located.
- B. Description:
  - 1. All Other:
    - a. Previously Finished Work: Use MPI(r) RIN 9.2B Latex Finish system.
- C. Performance:
  - 1. Design Criteria:
    - 1) Chapel Ceiling and walls above light cove level: Gloss Level 1 or 2.
- D. Materials:
  - 1. Primers:
    - a. MPI Product 50, 'Primer Sealer, Latex, Interior'.
  - 2. Finish Coats:
    - a. Chapel Ceiling and walls above light cove level:

- 1) MPI Product 53, 'Latex, Interior, Flat (MPI Gloss Level 1)'.

### **PART 3 - EXECUTION**

#### **3.1 APPLICATION**

- A. General: See appropriate paragraphs of Section 09 9001.
- B. Existing Painted Surfaces:
  1. Remove deteriorated existing paint down to sound substrate by scraping or sanding. Feather edges of existing paint by sanding to be smooth with adjacent surfaces.
  2. Clean surface with mild soap and water, or with tri-sodium phosphate (TSP). Wash surfaces that have been defaced with marking pens, crayons, lipstick, etc, with solvent recommended by Paint Manufacturer. Spot prime such surfaces.
  3. Spackle and tape cracks. Sand to smooth finish and spot prime all patched screw holes.
  4. Sand or chemically etch existing painted surface as required to prepare surface to accept new paint.
  5. Re-clean surface.
  6. Apply primer coat.
  7. Apply finish coats.

**END OF SECTION**

**SECTION 09 9324****INTERIOR CLEAR-FINISHED HARDWOOD****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Preparing and finishing of new interior clear finished hardwood as described in Contract Documents.
- B. Related Requirements:
  - 1. Section 06 2210: 'Miscellaneous Wood Trim'.
  - 2. Section 06 4512: 'Architectural Woodwork Wood Trim'.
  - 3. Section 09 9001: 'Common Painting And Coating Requirements':
    - a. Pre-installation conference for Sections under 09 9000 heading 'Paints and Coatings'.
    - b. 'Attachment: Paint Color Schedule' for O&M / R&I Projects.
  - 4. Section 09 0193: Refinishing existing interior clear finished hardwood.
  - 5. Section 12 6113: 'Upholstered Audience Seating'.
  - 6. Section 12 6713: 'Pews'.

**1.2 REFERENCES**

- A. Association Publications:
  - 1. Architectural Woodwork Institute / Architectural Woodwork Manufacturers Association of Canada, 46179 Westlake Drive, Suite 120, Potomac Falls, VA [www.awinet.org](http://www.awinet.org).
    - a. Architectural Woodwork Standards (AWS), 1st Edition, 2009.
- B. Reference Standards:
  - 1. Kitchen Cabinet Manufacturers Association / American National Standards Institute:
    - a. ANSI/KCMA A161.1-2000 (R2005) 23-Jan-2001 'Recommended Performance and Construction Standards for Kitchen and Vanity Cabinets.'

**1.3 ADMINISTRATIVE REQUIREMENTS**

- A. Pre-Installation Conferences:
  - 1. Participate in pre-installation conference as specified in Section 09 9001.
  - 2. In addition to agenda items specified in Section 01 3100 and Section 09 9001, review following:
    - a. Review control sample.

**1.4 SUBMITTALS**

- A. Action Submittals:
  - 1. Samples:
    - a. Interior Hardwood for Transparent Finish:
      - 1) Requirements for samples are specified in Related Requirement Sections listed above.
    - b. Design Criteria:
      - 1) Sample will be used as performance standard for evaluating finish provided.
- B. Informational Submittals:
  - 1. Test And Evaluation Reports:

- a. Before beginning finish work, submit Finish Manufacturer's literature or certification that finish material meets requirements of ANSI / KCMA A161.1.

## **PART 2 - PRODUCTS**

### **2.1 SYSTEM**

#### **A. Materials:**

1. Stain: MPI 90, 'Stain, Semi-Transparent, for Interior Wood'.
2. Clear Finish Coats:
  - a. Field Finished:
    - 1) Chemcraft International Inc:
      - a) First, Second, and Third Coats: 20 Sheen Opticlear Pre-Catalyzed Lacquer.
    - 2) ICI Dulux / Trinity:
      - a) First Coat: ICE Vinyl Sanding Sealer.
      - b) Second and Third Coats: ICI Pre-Catalyzed Lacquer.
    - 3) Lilly / Valspar:
      - a) First, Second, and Third Coats: 20 Sheen Pre-Catalyzed Lacquer 587E208.
    - 4) Sherwin-Williams:
      - a) First Coat: T67F3 Vinyl Sealer.
      - b) Second and Third Coats: T77F38 Sherwood Pre-Catalyzed Lacquer DRE.
  - b. Mill Finished: Architectural Woodwork finished in a mill may use one (1) coat of Vinyl Sealer and two (2) coats of Conversion Varnish or three (3) coats of Conversion Varnish from one (1) of the approved Finish Manufacturers, as recommended by Finish Manufacturer.
  - c. Products meeting testing requirements for finishes of ANSI / KCMA A161.1 may be used upon approval of submission by Architect before use. See Section 01 6200.
3. Color:
  - a. Design Criteria:
    - 1) Finish to match Owner selected sample.
  - b. Approved Finish:
    - 1) Performance standard: Owner provided sample of existing wood item from existing project to be used as Control Sample.

#### **B. Performance:**

1. Design Criteria: General: See appropriate paragraphs of Section 09 9001.

## **PART 3 - EXECUTION**

### **3.1 APPLICATION**

#### **A. General:**

1. See appropriate paragraphs of Section 09 9001.
2. Sand entire exposed surface of item to be finished lightly with 120 to 150 non-stearated sandpaper and clean before applying dye or stain.
3. Apply stain in accordance with Manufacturer's recommendations and as necessary to attain correct color.
4. Scuff sand with 220 non-stearated sandpaper between application of application stain and first finish coat.
5. If wood is finished before installation, finish cut ends and other unfinished, exposed surfaces same as previously finished surfaces after installation of wood.

- B. Where back-priming is required, apply one coat of finish material.

**END OF SECTION**



**SECTION 09 9413****INTERIOR TEXTURED FINISHING****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Furnish and apply texturing on walls and ceilings as described in Contract Documents.
- B. Related Requirements:
  - 1. Section 09 2900: Priming.
  - 2. Section 09 9001: 'Common Painting And Coating Requirements':
    - a. Pre-installation conference for Sections under 09 9000 heading 'Paints and Coatings'.
  - 3. Section 09 9123: Finish painting.

**1.2 REFERENCES**

- A. Definitions:
  - 1. Drywall Texture: Compound rolled, sprayed, or troweled onto sheetrock after taping and floating of joints is complete. Uses same material as joint compound, but thinned down with water and applied to wall surface:
    - a. Light Skip Trowel - Texture is applied to ceilings with trowel. Trowel marks may be left on surface to give a rustic, hand crafted look.

**1.3 ADMINISTRATIVE REQUIREMENTS**

- A. Pre-Installation Conferences:
  - 1. Participate in pre-installation conference as specified in Section 09 9001.
  - 2. In addition to agenda items specified in Section 01 3100 and Section 09 9001, review following:
    - a. Review control samples.

**1.4 SUBMITTALS**

- A. Action Submittals:
  - 1. Samples:
    - a. Light Skip Trowel Texture:
      - 1) Provide minimum of three (3) 24 inch square control samples on primed gypsum wallboard of 'light orange peel' texture to show possible variations.

**1.5 QUALITY ASSURANCE**

- A. Field Samples:
  - 1. Before performing work of this Section, prepare control samples.
  - 2. Architect will inspect control sample at pre-installation conference following preparation of control sample. When sample is approved, work of this Section may proceed. Approved samples will be kept at site at all times work of this section is being performed.

**PART 2 - PRODUCTS****2.1 SYSTEM**

- A. Manufacturers:
  - 1. Manufacturer Contact List:
    - a. National Gypsum, Charlotte, NC [www.nationalgypsum.com](http://www.nationalgypsum.com).
    - b. U S Gypsum Co, Chicago, IL [www.usg.com](http://www.usg.com).
- B. Materials:
  - 1. Class Two Quality Standards: See Section 01 6200.
    - a. ProForm Perfect Spray EM/HF by National Gypsum.
    - b. Sheetrock Wall & Ceiling Texture by U S Gypsum.

**PART 3 - EXECUTION****3.1 APPLICATION**

- A. Location:
  - 1. Ceilings:
    - a. Light Skip Trowel Texture:
      - 1) Chapel (Includes soffit and fascia of light cove).
      - 2) Cultural Hall (areas where acoustical tile is not applied).
      - 3) All other locations not indicated elsewhere.
- B. Finishing:
  - 1. Light Skip Trowel Texture:
    - a. After gypsum board is taped, sanded, and primed, apply texture. Closely match samples accepted by Architect.

**END OF SECTION**

**SECTION 12 6113****UPHOLSTERED AUDIENCE SEATING****PART 1 - GENERAL****1.1 SUMMARY**

- A. Related Requirements:
  - 1. Section 01 1200: Opera chairs on the rostrum are existing. This Section establishes quality of installation for information of Contractor, Architect, and Owner's Representatives.
  - 2. Section 01 4301: 'Quality Assurance – Qualifications'.
  - 3. Section 09 9324: 'Interior Clear-Finished Hardwood' for arm rest finish.

**1.2 REFERENCES**

- A. Association Publications:
  - 1. Architectural Woodwork Institute / Architectural Woodwork Manufacturers Association of Canada, 46179 Westlake Drive, Suite 120, Potomac Falls, VA [www.awinet.org](http://www.awinet.org).
    - a. Architectural Woodwork Standards (AWS), 1st Edition, 2009.

**1.3 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination:
  - 1. Coordinate the efforts of the various trades affected by the Work of this Section.
  - 2. Coordinate removal, protection, and re-installation of Upholstered Audience Seating.
- B. Sequencing:
  - 1. Install Upholstered Audience Seating after following has been completed:
    - a. Adjacent ceilings are finished and painted.
    - b. Adjacent hardwood trim installed and finished.

**1.4 SUBMITTALS**

- A. Action Submittals:
  - 1. Samples:
    - a. Interior Hardwood for Transparent Finish:
      - 1) Before performing work of this Section, prepare Control Sample, to match sample available from Owner, to be used as finishing standard for interior clear finished hardwood as specified in Section 09 9324.
      - 2) Design Criteria:
        - a) Control Sample will be used as performance standard for evaluating finish provided.
- B. Informational Submittals:
  - 1. Source Quality Control Submittals:
    - a. Samples:
      - 1) Interior Hardwood for Transparent Finish:
        - a) Owner will provide Control Sample from project for finish.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery And Acceptance Requirements: Requirements of Section 01 6600 applies, but not limited to the following:
  - 1. Contractor's Responsibility:
    - a. Remove, protect, and re-install opera seating on rostrum. Repair any damage that occurs during the project.
- B. Storage And Handling Requirements:
  - 1. Contractor's Responsibility:
    - a. Provide secure location protected from the weather and other trades.

## PART 2 - PRODUCTS

### 2.1 OWNER-FURNISHED PRODUCTS

- A. Materials:
  - 1. Wood Arm Rests:
    - a. Red Oak.
    - b. Finishes:
      - 1) Stain:
        - a) Penetrating, non-fading sealer-stain hand wiped to obtain best possible uniform color.
      - 2) Performance / Design Criteria:
        - a) Finish to match Owner provided sample as specified in Section 09 9324.
    - c. Color:
      - 1) Match existing Project Color Scheme:
        - a) Control Sample provided by Owner.
          - (1) Control Sample will be existing wood item from Project.
  - 2. Upholstery Color And Pattern:
- B. Seating:
  - 1. Bookrack on every other chair.
  - 2. Seating marked with temporary indicator and re-installed in the location it was removed from.

### 2.2 SOURCE QUALITY CONTROL

- A. Inspections:
  - 1. Wood Arm Rests:
    - a. Clear Finished Hardwood:
      - 1) Color matches Owner provided sample specified in Section 09 9324.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Removal:
  - 1. Contractor's Responsibility:
    - a. Removal, protection, and storage of old Upholstered Audience Seating.

**3.2 INSTALLATION**

- A. Re-install Upholstered Audience Seating in accordance with Manufacturer's assembly and installation manual if available. Match the existing installation if the Manufacturer's installation manual is not available.
- B. Use existing punch holes through carpet. Punch new holes with 1/2 inch hollow punch and drill guide holes for screws with 5/32 inch drill if required.

**3.3 CLEANING**

- A. Building Damage:
  - 1. Owner-Furnished Product Manufacturer's Responsibility:
    - a. Installer responsible for repair of all damaged surfaces to their original condition from Upholstered Audience Seating installation.

**3.4 PROTECTION**

- A. General:
  - 1. Contractor's Responsibility:
    - a. Protect Upholstered Audience Seating from damage and replace or repair subsequent damage at no cost to Owner.

**END OF SECTION**

**SECTION 12 6713****PEWS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Related Requirements:
  - 1. Section 01 1200: Contractor will remove, protect, and re-install Pews. This Section establishes quality of materials and installation for information of Contractor, Architect, and Owner's Representatives.
  - 2. Section 01 4301: Quality Assurance – Qualifications.
  - 3. Section 09 9324: 'Interior Clear-Finished Hardwood' for pew finish.

**1.2 REFERENCES**

- A. Association Publications:
  - 1. Architectural Woodwork Institute / Architectural Woodwork Manufacturers Association of Canada, 46179 Westlake Drive, Suite 120, Potomac Falls, VA [www.awinet.org](http://www.awinet.org).
    - a. Architectural Woodwork Standards (AWS), 2nd Edition, 20141.
- B. Reference Standards:
  - 1. American National Standards Institute:
    - a. ANSI B212.15-1994, 'Cutting Tools - Carbide-Tipped Masonry Drills & Blanks for Carbide Tipped Masonry Drills'.
  - 2. ASTM International:
    - a. ASTM B633-13, 'Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel'.
    - b. ASTM E488/E488M-10, 'Standard Test Methods for Strength of Anchors in Concrete Elements'.
    - c. ASTM F1554-07a, 'Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength'.
  - 3. Federal Specifications:
    - a. Government Services Administration:
      - 1) GSA: A-A-55614, 'Shield, Expansion (Non-Drilling Expansion Anchors)'.

**1.3 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination:
  - 1. Coordinate the efforts of the various trades affected by the Work of this Section.
  - 2. Coordinate completion of pews.
- B. Sequencing:
  - 1. Install pews after the following as been completed:
    - a. Adjacent ceilings are finished and painted.
    - b. Adjacent hardwood trim installed and finished.

**1.4 SUBMITTALS**

- A. Action Submittals:
  - 1. Samples:
    - a. Interior Hardwood for Transparent Finish:

- 1) Before performing work of this Section, prepare Control Sample, to match sample available from Owner, to be used as finishing standard for interior clear finished hardwood as specified in Section 09 9324.
- 2) Design Criteria:
  - a) Control Sample will be used as performance standard for evaluating finish provided.

B. Informational Submittals:

1. Source Quality Control Submittals:

a. Samples:

1) Interior Hardwood for Transparent Finish:

- a) Owner will provide Control Sample from project for finish.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery And Acceptance Requirements: Requirements of Section 01 6600 applies, but not limited to the following:
- B. Storage And Handling Requirements:
- a. Protect pews from damage during removal, storage, and re-installation.

## PART 2 - EXECUTION

### 2.1 PREPARATION

A. Demolition / Removal:

1. Contractor's Responsibility:

- a. Removal, storage, and re-installation of old pews.

### 2.2 INSTALLATION

A. Pew Attachment:

1. General:

- a. Follow Manufacturer's written installation instructions if available. Match existing installation if instructions are not available.
- b. Spacing and alignment shall be uniform and true.
- c. When installing over carpet, punch holes through carpet with hollow cutting tool. Do not drill thru carpet. Use existing holes where possible.

2. Concrete Installation:

- a. Protect existing anchors for re-use when pews are re-installed.
- b. Attachment to floor with anchors at each pew end or pew support.
- c. Embed anchor 1-3/4 inches.
- d. Drill hole same diameter as anchor to depth equal to embedment required:
  - 1) Tolerances of drill bit used should meet requirements of ANSI B212.15.
  - 2) Do not over drill hole.
  - 3) Clean hole.
- e. Drive anchor with expander plug in bottom.
- f. Expand anchor by driving anchor over plug with hammer.

3. Secure pew end or pew support to floor.

### 2.3 CLEANING

A. Waste Management:

1. Contractor's Responsibility:

- a. All work areas are to be kept clean, clear and free of debris at all times.
- b. Disposal of rubbish and debris to Contractor provided Dumpster.

## **2.4 PROTECTION**

### **A. General:**

1. Contractor's Responsibility:
  - a. Protect pews from damage and replace or repair subsequent damage at no cost to Owner.

**END OF SECTION**



**SECTION 23 3713****DIFFUSERS, REGISTERS, AND GRILLES****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
1. Remove, protect, and re-install diffusers, registers, and grilles connected to ductwork as described in Contract Documents.

**PART 2 - PRODUCTS****2.1 MANUFACTURERS**

- A. Manufacturer Contact List:
1. Carnes Co, Verona, MI [www.carnes.com](http://www.carnes.com).
  2. J & J Register, Grand Rapids, MI [www.jandjreg.com](http://www.jandjreg.com).
  3. Krueger Air System Components, Richardson, TX [www.krueger-hvac.com](http://www.krueger-hvac.com).
  4. Metal\*Aire by Metal Industries Inc, Clearwater, FL [www.metalaire.com](http://www.metalaire.com).
  5. Nailor Industries Inc, Houston, TX or Weston, ON [www.nailor.com](http://www.nailor.com).
  6. Price Industries Inc, Suwanee, GA [www.price-hvac.com](http://www.price-hvac.com) or E H Price Ltd, Winnipeg, MB (204) 669-4220.
  7. Titus, Richardson, TX [www.titus-hvac.com](http://www.titus-hvac.com).
  8. Tuttle & Bailey, Richardson, TX [www.tuttleandbailey.com](http://www.tuttleandbailey.com).

**2.2 MANUFACTURED UNITS**

- A. Supply Grilles And Registers:
1. Finish: Off-white baked enamel.
  2. Removable core.
  3. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
    - a. Krueger: 5815.
    - b. Metal\*Aire: 42C.
    - c. Nailor: 51RCD.
    - d. Price: RCG.
    - e. Titus: 1707.
- B. Ceiling Return And Transfer Grilles:
1. Finish: Off-white baked enamel.
  2. 1/2 inch spacing.
  3. See Contract Documents for location of filter grilles.
  4. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
    - a. Carnes: RSLA.
    - b. J & J: S90H.
    - c. Krueger: S85H.
    - d. Metal\*Aire: SRH.
    - e. Nailor: 6155H.
    - f. Price: 535.
    - g. Titus: 355RL or 355 RS.
    - h. Tuttle & Bailey: T70D.

- C. High Side Wall Return Grilles:
1. Finish: Off-white baked enamel.
  2. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
    - a. Metal\*Aire: 41C.
    - b. Krueger: 5810.
    - c. Nailor: 51RC.
    - d. Price: LBMR.
    - e. Titus: 1700.
- D. Floor / Toe Space Return Grilles:
1. Finish: Clear anodized.
  2. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
    - a. Carnes: CCJB (with mitered corners welded on face and sanded).
    - b. J & J: 2500 with Frame 10.
    - c. Krueger: 1500F.
    - d. Metal\*Aire: 2000F.
    - e. Nailor: 49-240-FN-MM.
    - f. Price: LBPH-25B.
    - g. Titus: CT-540.
    - h. Tuttle & Bailey: LFD.
- E. Low Sidewall Return Grilles:
1. Finish: Off-white baked enamel.
  2. 38 or 45 degree deflection.
  3. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
    - a. Carnes: RSHA.
    - b. J & J: S-590.
    - c. Krueger: S480H.
    - d. Metal\*Aire: HD-RH.
    - e. Nailor: 6145H-HD.
    - f. Price: 91.
    - g. Titus: 33RL or 33RS.
    - h. Tuttle & Bailey: T110.
- F. Soffit Grilles:
1. Finish: Baked enamel. Match soffit color.
  2. Aluminum with aluminum mesh insect screen.
  3. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
    - a. Carnes: RAAA.
    - b. J & J: ALS95H.
    - c. Krueger: S585H.
    - d. Metal\*Aire: RHE.
    - e. Nailor: 5155-IS.
    - f. Price: 635.
    - g. Titus: 355FL.
    - h. Tuttle & Bailey: A70D-5.
- G. Ceiling Diffusers:
1. Finish: Off-white baked enamel.
  2. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
    - a. Carnes: SKSA.
    - b. J & J: R-1400.
    - c. Krueger: SH.
    - d. Metal\*Aire: 5500S.
    - e. Nailor: 65OOB.
    - f. Price: SMD-6.
    - g. Titus: TDC-6.
    - h. Tuttle & Bailey: MS

- H. Door Grilles:

1. Finish: Baked enamel. Match door as closely as possible as approved by Architect.
2. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
  - a. Carnes.
  - b. J & J.
  - c. Krueger.
  - d. Metal\*Aire.
  - e. Nailor: 61OGD.
  - f. Price: STGI-BF.
  - g. Titus: T-700.
  - h. Tuttle & Bailey.

### **PART 3 - EXECUTION**

#### **3.1 INSTALLATION**

- A. Anchor securely into openings. Secure frames to ductwork by using four sheet metal screws, one per side. Level floor registers and anchor securely into floor.
- B. Secure ceiling diffusers and high wall mounted registers with a safety cable wrapped around the register frame and fastened to the inside of the duct as shown on the contract drawings.

#### **3.2 ADJUSTING**

- A. Set sidewall supply register blades at 15 degrees upward deflection.

**END OF SECTION**

**SECTION 26 0501****COMMON ELECTRICAL REQUIREMENTS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. General electrical system requirements and procedures.
  - 2. Make electrical connections to equipment provided under other Sections.

**1.2 REFERENCES**

- A. Reference Standards:
  - 1. National Fire Protection Association / American National Standards Institute:
    - a. NFPA 70-2011, National Electric Code (NEC).
  - 2. National Electrical Manufacturing Association Standards (NEMA):
    - a. NEMA 250-2014, 'Enclosure for Electrical Equipment (1000 Volts Maximum)'.

**1.3 ADMINISTRATIVE REQUIREMENTS**

- A. Coordination:
  - 1. Coordinate with Owner for equipment and materials to be removed by Owner.
- B. Sequencing:
  - 1. Include detailed sequence of individual electrical demolition operations on Construction Schedule specified in Section 01 3200.

**1.4 SUBMITTALS**

- A. Action Submittals:
  - 1. Product Data:
    - a. Provide following information for each item of equipment:
      - 1) Catalog Sheets.
      - 2) Assembly details or dimension drawings.
      - 3) Installation instructions.
      - 4) Manufacturer's name and catalog number.
      - 5) Name of local supplier.
    - b. Furnish such information for following equipment:
      - 1) Section 26 2726: 'Wiring Devices' for lighting control equipment.
      - 2) Section 26 2816: 'Enclosed Switches And Circuit Breakers'.
      - 3) Section 26 5100: 'Interior Lighting Fixtures'.
    - c. Do not purchase equipment before approval of product data.
- B. Informational Submittals:
  - 1. Test And Evaluation Reports:
    - a. Report of site tests, before Substantial Completion.
  - 2. Qualification Statement:
    - a. Electrical Subcontractor:
      - 1) Provide Qualification documentation if requested by Architect or Owner.
    - b. Installer:
      - 1) Provide Qualification documentation if requested by Architect or Owner.

- C. Closeout Submittals:
  - 1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
    - a. Operations and Maintenance Data:
      - 1) Provide operating and maintenance instructions for each item of equipment submitted under Product Data.
    - b. Record Documentation:
      - 1) Manufacturers documentation:
        - a) Manufacturer's literature.

## 1.5 QUALITY ASSURANCE

- A. Regulatory Agency Sustainability Approvals:
  - 1. NEC and local ordinances and regulations shall govern unless more stringent requirements are specified.
  - 2. Material and equipment provided shall meet standards of NEMA or UL and bear their label wherever standards have been established and label service is available.
- B. Qualifications: Requirements of Section 01 4301 applies, but not limited to following:
  - 1. Electrical Subcontractor:
    - a. Company specializing in performing work of this section.
      - 1) Minimum five (5) years experience in electrical installations.
      - 2) Minimum five (5) satisfactorily completed installations in past three (3) years of projects similar in size, scope, and complexity required for this project before bidding.
    - b. Upon request, submit documentation.
  - 2. Installer:
    - a. Licensed for area of Project.
    - b. Designate one (1) individual as project foremen who shall be on site at all times during installation and experienced with installation procedures required for this project.
    - c. Upon request, submit documentation.

## PART 2 - PRODUCTS

### 2.1 SYSTEMS

- A. Performance:
  - 1. Design Criteria:
    - a. Materials and equipment provided under following Sections shall be by same Manufacturer:
      - 1) Section 26 2417: Panelboards.

## PART 3 - EXECUTION

### 3.1 INSTALLERS

- A. Acceptable Installers:
  - 1. Meet Quality Assurance Installer Qualifications as specified in Part 1 of this specification.

### 3.2 EXAMINATION

- A. Verification Of Conditions:
  - 1. Confirm dimensions, ratings, and specifications of equipment to be installed and coordinate these with site dimensions and with other Sections.
- B. Evaluation And Assessment:

1. All relocations, reconnections, and removals are not necessarily indicated on Drawings. Include such work without additional cost to Owner.

### 3.3 PREPARATION

- A. Disconnect equipment that is to be removed or relocated. Carefully remove, disassemble, or dismantle as required, and store in approved location on site, existing items to be reused in completed work.
- B. Where affected by demolition or new construction, relocate, extend, or repair raceways, conductors, outlets, and apparatus to allow continued use of electrical system. Use methods and materials as specified for new construction.
- C. Perform drilling, cutting, block-offs, and demolition work required for removal of necessary portions of electrical system. Do not cut joists, beams, girders, trusses, or columns without prior written permission from Architect.
- D. Remove concealed wiring abandoned due to demolition or new construction. Remove circuits, conduits, and conductors that are not to be re-used back to next active fixture, device, or junction box.
- E. Patch, repair, and finish surfaces affected by electrical demolition work, unless work is specifically specified to be performed under other Sections of the specifications.

### 3.4 INSTALLATION

- A. General:
  1. Locations of electrical equipment shown on Drawings are approximate only. Field verify actual locations for proper installation.
  2. Coordinate electrical equipment locations and conduit runs with those providing equipment to be served before installation or rough in.
    - a. Notify Architect of conflicts before beginning work.
    - b. Coordinate locations of power and lighting outlets in mechanical rooms and other areas with mechanical equipment, piping, ductwork, cabinets, etc, so they will be readily accessible and functional.
  3. Work related to other trades which is required under this Division, such as cutting and patching, trenching, and backfilling, shall be performed according to standards specified in applicable Sections.

### 3.5 FIELD QUALITY CONTROL

- A. Field Tests:
  1. Test systems and demonstrate equipment as working and operating properly. Notify Architect before test. Rectify defects at no additional cost to Owner.
  2. Measure current for each phase of each motor under actual final load operation, i.e. after air balance is completed for fan units, etc. Record this information along with full-load nameplate current rating and size of thermal overload unit installed for each motor.

### 3.6 CLEANING

- A. Remove obsolete raceways, conductors, apparatus, and lighting fixtures promptly from site and dispose of legally.

**END OF SECTION**

**SECTION 26 5100**  
**INTERIOR LIGHTING**

**PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
  - 1. Furnish and install lighting system as described in Contract Documents, complete with lamps.
- B. Related Requirements:
  - 1. Section 26 0501: 'Common Electrical Requirements'.
- C. Reference Standards:
  - 1. American National Standards Institute (ANSI) / American National Standard Lighting Group (ANSLG):
    - a. ANSI/ANSLG C78.377-2011, 'American National Standard for Electric Lamps: Specification for the Chromaticity of Solid State Lighting Products'.
  - 2. Federal Communications Commission (FCC):
    - a. Code of Federal Regulations (CFR):
      - 1) FCC 47 CFR Part 18, 'Industrial, Scientific, and Medical Equipment'.
  - 3. Institute of Electrical and Electronics Engineers (IEEE) / American National Standards Institute (ANSI):
    - a. IEEE / ANSI C62.41.1-2002, 'Guide on the Surge Environment in Low-Voltage (1000 V and Less) AC Power Circuits'.

**PART 2 - PRODUCTS****2.1 ASSEMBLIES**

- A. Manufacturers:
  - 1. Manufacturer Contact List:
    - a. Advance Transformer Co, Rosemont, IL [www.advancetransformer.com](http://www.advancetransformer.com).
    - b. Cooper Wiring Devices by Eaton, Peachtree City, GA [www.cooperindustries.com](http://www.cooperindustries.com).
    - c. General Electric Lighting, Hendersonville, NC or General Electric Lighting Canada Inc, Mississauga, ON [www.gelighting.com/na](http://www.gelighting.com/na).
    - d. Howard Lighting Products, Laurel, MS [www.howard-ind.com](http://www.howard-ind.com).
    - e. Novitas Inc, Peachtree City, GA [www.novitas.com](http://www.novitas.com).
    - f. Osram Sylvania, Danvers, MA [www.sylvania.com](http://www.sylvania.com) or Osram Sylvania Ltd, Mississauga, ON (905) 673-6171.
    - g. Philips Lighting Co, Somerset, NJ [www.lighting.philips.com/nam](http://www.lighting.philips.com/nam) or Philips Lighting Canada, Scarborough, ON (416) 292-3000.
    - h. Universal Lighting Technologies, Nashville, TN [www.universalballast.com](http://www.universalballast.com).
    - i. Venture Lighting International, Solon, OH [www.venturelighting.com](http://www.venturelighting.com).
    - j. Watt Stopper Inc, Santa Clara, CA [www.wattstopper.com](http://www.wattstopper.com).
    - k. Westinghouse Lighting Corp, Philadelphia, PA [www.westinghouselightbulbs.com](http://www.westinghouselightbulbs.com).
  - 2. Product Options: When several lighting fixtures are specified by name for one use on Drawings, select any one of those specified. Do not mix fixtures from different manufacturers specified for one use.
- B. Materials
  - 1. Lighting Fixtures:
    - a. Remove, protect, and re-install existing light fixtures in the Chapel and Cultural Hall.

**PART 3 - EXECUTION****3.1 INSTALLATION**

- A. Interface With Other Work:
  - 1. Remove existing light fixtures in work area. Track fixtures so that they may be re-installed in their original location. Protect fixtures from damage during storage.
  - 2. Coordinate with Sections under 09 9000 heading to ensure that light covers are properly painted before installation of light fixtures.
  - 3. Re-install light fixtures after repair and finish work is complete.
- B. Securely mount fixtures. Support fixtures weighing 50 lbs or more from building framing or structural members.
- C. At recessed fixtures, remove, protect, and re-install trim rings after ceiling has been painted..

**3.2 ADJUSTMENT**

- A. Repair scratches or nicks on exposed surfaces of fixtures to match original undamaged conditions.

**END OF SECTION**