

## Project Manual

---



---

## ELMWOOD FRONT ENTRY VESTIBULE PROJECT

### Elmwood Street School

40 Elmwood Street  
Millbury, Massachusetts 01527

---

**March 24, 2021 - BID #0186-2101**

---

Awarding Authority:

The **TOWN OF MILLBURY, MASSACHUSETTS**  
*acting by and through its*

**MILLBURY PUBLIC SCHOOLS**  
**OFFICE OF THE SUPERINTENDENT**  
12 Martin Street  
Millbury, Massachusetts 01527

Architect:

**DIXON SALO ARCHITECTS, INC.**  
300 Main Street, 1<sup>st</sup> Floor  
Worcester, Massachusetts 01608-1505

DOCUMENT 00010

TABLE OF CONTENTS

Document/Section No. and Title	Page Numbers	Issue Date	Latest Revision Date
<u>INTRODUCTORY INFORMATION</u>			
- PROJECT TITLE PAGE	(one page)	03/24/21	-
Document 00010 TABLE OF CONTENTS	00010-1 through 2	03/24/21	-
Document 00015 LIST OF DRAWINGS	00015-1	03/24/21	-
<u>BIDDING AND CONTRACT REQUIREMENTS</u>			
SECTION I - INVITATION FOR BIDS	I-1	03/24/21	
SECTION II - SCOPE OF SERVICES	II-1 through 2	03/24/21	-
SECTION III - SPECIFICATIONS	III-1 through 2	03/24/21	-
SECTION IV - BID FORMS AND ATTACHMENTS			
- BID PRICE FORM	IV-1	03/24/21	-
- CERTIFICATE OF NON-COLLUSION	IV-2	03/24/21	-
- OSHA-10 CERTIFICATION (Chapter 306 of the Acts of 2004)	IV-3	03/24/21	-
- TAX COMPLIANCE CERTIFICATION	IV-4	03/24/21	-
- CERTIFICATE OF AUTHORITY	IV-5	03/24/21	-
SECTION V - CONTRACT			
- CONTRACT	V-1 through. 2	03/24/21	-
SECTION VI - PREVAILING WAGE RATES			
- PREVAILING WAGE SCHEDULE (Wage Request No. 20210315-037)	(34 pages)	03/15/21	-
<u>SPECIFICATIONS</u>			
<u>DIVISION 1 - GENERAL REQUIREMENTS</u>			
Section 01010 SUMMARY OF WORK	01010-1 through 3	03/24/21	-
Section 01035 MODIFICATION PROCEDURES	01035-1 through 5	03/24/21	-
Section 01040 COORDINATION	01040-1	03/24/21	-
Section 01045 CUTTING AND PATCHING	01045-1 through 3	03/24/21	-
Section 01120 ALTERATION PROJECT PROCEDURES	01120-1 through 3	03/24/21	-
Section 01200 PROJECT MEETINGS	01200-1 through 4	03/24/21	-
Section 01300 SUBMITTALS	01300-1 through 7	03/24/21	-
Section 01500 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS	01500-1 through 5	03/24/21	-
Section 01600 MATERIAL AND EQUIPMENT	01600-1 through 4	03/24/21	-
Section 01700 CONTRACT CLOSEOUT	01700-1 through 3	03/24/21	-

<u>Document/Section No. and Title</u>	<u>Page Numbers</u>	<u>Issue Date</u>	<u>Latest Revision Date</u>
<u>DIVISION 2 - SITE CONSTRUCTION</u>			
Section 02070    SELECTIVE DEMOLITION	02070-1 through 3	03/24/21	-
<u>DIVISIONS 3 to 5</u>			
Not Used.			
<u>DIVISION 6 - WOOD AND PLASTICS</u>			
Section 06105    MISCELLANEOUS CARPENTRY	06105-1 through 6	03/24/21	-
<u>DIVISION 7 - THERMAL AND MOISTURE PROTECTION</u>			
Section 07900    JOINT SEALERS	07900-1 through 4	03/24/21	-
<u>DIVISION 8 - DOORS AND WINDOWS</u>			
Section 08520    METAL WINDOWS	08520-1 through 6	03/24/21	-
Section 08710    DOOR HARDWARE	08710-1 through 7	03/24/21	-
Section 08800    GLASS AND GLAZING	08800-1 through 4	03/24/21	-
<u>DIVISION 9 - FINISHES</u>			
Section 09250    GYPSUM BOARD ASSEMBLIES	09250-1 through 8	03/24/21	-
Section 09510    ACOUSTICAL CEILINGS	09510-1 through 6	03/24/21	-
Section 09650    RESILIENT WALL BASE	09650-1 through 4	03/24/21	-
Section 09900    PAINTING	09900-1 through 8	03/24/21	-
<u>DIVISIONS 10 to 16</u>			
Not Used.			

END OF TABLE OF CONTENTS

DOCUMENT 00015

LIST OF DRAWINGS

PART 1 - GENERAL

1.01 DRAWING LIST

- A. The List of Drawings for MILLBURY PUBLIC SCHOOLS – ELMWOOD FRONT ENTRY VESTIBULE PROJECT at ELMWOOD STREET ELEMENTARY SCHOOL, 40 Elmwood Street, Millbury, Massachusetts 01527; BID #0186-21012, is as follows:

<u>Drawing No.</u>	<u>Date of Issue</u>	<u>Rev. No.</u>	<u>Rev. Date</u>	<u>Drawing Title</u>
GENERAL				
T-1.0	03/24/21	-	-	TITLE SHEET
T-1.1	03/24/21	-	-	GENERAL NOTES
ARCHITECTURAL				
A-1.0	03/24/21	-	-	PROJECT PLANS
A-2.0	03/24/21	-	-	PROJECT DETAILS

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF DOCUMENT

**SECTION I**  
**INVITATION FOR BIDS**

**SECTION I - INVITATION FOR BIDS**

**MILLBURY PUBLIC SCHOOLS**

**INVITATION FOR BIDS**

**ELMWOOD FRONT ENTRY VESTIBULE PROJECT**

The Millbury Public Schools is accepting bids for Elmwood Front Entry Vestibule Project at the Elmwood Street School, 40 Elmwood Street, Millbury, MA.

Copies of the bid documents may be obtained from the Superintendent's Office, c/o Business Manager, 12 Martin Street, Millbury, MA 01527 during regular business hours of Monday through Friday 8:00 A.M. to 3:00 P.M.

All proposals are due by Wednesday, April 14, 2021 at 2:00 P.M. in the Superintendent's Office, 12 Martin Street, Millbury, MA.

There is a pre-bid conference scheduled for Wednesday, April 7, 2021 at 2:00 P.M. at Elmwood Street School. Telephone number 508-865-9501.

Work under this contract requires a Contractor to furnish all labor, materials, tools, equipment and supervision necessary to accomplish the work described herein, accordance with all specifications and requirements.

All bids are subject to the provisions of M.G.L. Chapter 149. Wages are subject to minimum wage rates determined by the Massachusetts Dept. of Labor and Industries pursuant to M.G.L. Chapter 149, Section 26 and 27.

END OF DOCUMENT

**SECTION II**  
**SCOPE OF SERVICES**

## **SECTION II – SCOPE OF SERVICES**

The Contractor agrees to perform the following services to reconfigure the front entry vestibule at the Elmwood Street School, 40 Elmwood Street, Millbury, MA.

All prospective bidders are required to visit the site to inspect the work.

The project shall be completed within seventy-five (75) calendar days from the execution of a signed contract.

### **GENERAL SPECIFICATIONS**

- All work shall be completed in a manner that will minimize disruption to school related activities and personnel.
- All work and workers shall adhere to the current CDC guidelines for the COVID-19 pandemic including but not limited to face masks and proper hand sanitizing.
- Secure work area.
- Contractor responsible for all Federal, State and Local permits.
- All work to comply with Massachusetts State Building Code.
- All work to comply with industry standards.
- Clean up and remove all debris from site as needed daily and at the end of the project.
- Prevailing wages apply, rate sheet included.

### **WORK SPECIFICATIONS**

- All work is at Elmwood Street School, primarily the front entry vestibule.
- Remove and dispose of all waste.
- Remove all debris from the work site.
- Work shall be completed within seventy-five (75) calendar days from the execution of a signed contract.

It is the intent of these specifications to describe the reconfiguration of the front entry vestibule at Elmwood Street School in order to increase control and access into the building for security purposes.

The work involves construction of a permanent wall, a counter window and reconfiguring of doors, HVAC, fire sprinklers and security access systems as per enclosed description and blueprints.

The project shall be completed within seventy-five (75) calendar days from the execution of a signed contract.

The work under this contract is to include the furnishing of all labor, materials necessary to complete this process. All contracts are awarded with the understanding that the contractor has acquainted himself with all the requirements of the contracts and specifications, the conditions of the site, and has obtained all the information necessary for the completion of this project. The Contractor shall not at any time, after the submission of his bid, make any claim whatsoever based on insufficient data or a misunderstanding of the requirements, nature, conditions or extent of the work under the contract.

END OF DOCUMENT



**SECTION III**  
**SPECIFICATIONS**

### SECTION III – SPECIFICATIONS

A. Description

Work shall be performed in accordance with approved construction methods as specified in the Massachusetts Building Codes.

B. Insurance Requirements

The Contractor shall evidence the ability to insure the Millbury Public Schools against general, automobile, and workers' compensation liabilities. Contractors must meet the minimum insurance limits outlined below. The Contractor shall provide proof of insurance naming the Millbury Public Schools as an additional insured for the project.

General Liability	\$1,000,000 per occurrence; \$3,000,000 aggregate
Automobile Liability	\$1,000,000 Combined Single Limit (C.S.L.)
Workers' Compensation	Per statutory limits
Excess Liability Umbrella	\$1,000,000 C.S.L.

C. Contractor's Indemnification

Contractor shall, to the maximum extent permitted by law, indemnify and save harmless the Millbury Public Schools, its officers, agents and employees from and against any and all damages, liabilities, action, suits, proceedings, claims, demands, losses, costs and expenses (including reasonable attorney's fees) that may arise out of or in connection with the work being performed or to be performed by the Contractor, his employees, agents, subcontractors or materialmen. The existence of insurance shall in no way limit the scope of this indemnification.

The Contractor further agrees to reimburse the Millbury Public Schools for damage to its property cause by the Contractor, his employees agents, subcontractors or materialmen, including damages caused by his, its or their use of faulty, defective or unsuitable material or equipment, unless the damage is cause by the Millbury Public Schools's gross negligence or willful misconduct.

D. Contractor's Licenses/Certification

Contractor shall possess all necessary licenses and certifications to complete the work.

E. Payment Bond

A payment bond in the amount of fifty percent (50%) of the total cost of the project, issued by a surety company qualified to do business under the laws of the Commonwealth of Massachusetts and satisfactory to the awarding authority, must be furnished within ten (10) days of notice of award of contract.

END OF DOCUMENT

**SECTION IV**  
**BID FORMS AND ATTACHMENTS**

BID PRICE FORM

CERTIFICATE OF NON-COLLUSION

OSHA-10 CERTIFICATION (CHAPTER 306 OF THE ACTS OF 2004)

TAX COMPLIANCE CERTIFICATION

CERTIFICATE OF AUTHORITY

MILLBURY PUBLIC SCHOOLS  
BID #0186-2101

ELMWOOD FRONT ENTRY VESTIBULE PROJECT  
ELMWOOD STREET ELEMENTARY SCHOOL  
40 Elmwood Street  
Millbury, Massachusetts 01527

## **BID PRICE FORM**

**Bid Price Form**  
**Millbury Public Schools**  
**Elmwood Front Entry Vestibule Project**

### **Bid #0186-2101**

For Supplies and Labor for the reconfiguration and reconstruction of the front entry vestibule as per the Proposed Scope of Services at the Elmwood Street School, 40 Elmwood Street, Millbury, Massachusetts 01527, as specified.

Base Bid Price: \_\_\_\_\_

Contractor Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Company Name: \_\_\_\_\_

Company Address: \_\_\_\_\_

Date: \_\_\_\_\_

List any addendum acknowledgements included in bid price: \_\_\_\_\_

END OF DOCUMENT

**CERTIFICATE OF NON-COLLUSION**

The undersigned certifies under penalty of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club or other organization, entity, or group of individuals.

\_\_\_\_\_  
Signature of individual submitting bid or proposal

\_\_\_\_\_  
Name of Business

END OF DOCUMENT

**OSHA-10 CERTIFICATION**

**CHAPTER 306 OF THE ACTS OF 2004**

Chapter 30: Section 39S. Contracts for construction; requirements

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins to work and who shall furnish documentation of the successful completion of said course with the first certified payroll report for each employee.

Any employee found on a worksite subject to this section without documentation of successful completion of a course in safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration shall be subject to immediate removal.

Date: \_\_\_\_\_

Company Name: \_\_\_\_\_

Company Address: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_

Print Name & Title: \_\_\_\_\_

END OF DOCUMENT

### TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. c 62C, Sec. 49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

=

---

Signature of person submitting bid or proposal

---

Name of Business

---

Date

END OF DOCUMENT

**CERTIFICATE OF AUTHORITY**

At a duly authorized meeting of the Board of Directors of the \_\_\_\_\_  
(name of corporation)

\_\_\_\_\_, held on \_\_\_\_\_ at which all the Directors  
(date)

were present or waived notice, it was voted that \_\_\_\_\_, of the  
(officer and title)  
the company be and is hereby authorized to execute contracts and bonds in the name and on behalf of said company,  
and affix its Corporate Seal thereto, and such execution of any contract of obligation in this company's name on its  
behalf of such \_\_\_\_\_ under the seal of the company, shall be valid and  
(officer)  
binding upon this company.

A TRUE COPY,

Attest: \_\_\_\_\_

Place of Business: \_\_\_\_\_

I hereby certify that I am the (title) \_\_\_\_\_ of the  
(name of corporation) \_\_\_\_\_ and that  
(name of officer) \_\_\_\_\_ is the duly elected  
(title) \_\_\_\_\_ of said company, and the above vote has not been  
amended or rescinded and remains in full force and effect as of the date of this contract.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Name/Title: \_\_\_\_\_

(Corporate Seal)

COMMONWEALTH OF MASSACHUSETTS  
Worcester County, S. S.

On this \_\_\_\_\_ day of \_\_\_\_\_, of the year  
\_\_\_\_\_, then personally appeared the above-named  
\_\_\_\_\_, and acknowledged the foregoing instrument to be  
his/her free act and deed before me.

Notary Public \_\_\_\_\_

My commission expires: \_\_\_\_\_

END OF DOCUMENT



## **SECTION V**

## **CONTRACT**

MILLBURY PUBLIC SCHOOLS  
BID #0186-2101

ELMWOOD FRONT ENTRY VESTIBULE PROJECT  
ELMWOOD STREET ELEMENTARY SCHOOL  
40 Elmwood Street  
Millbury, Massachusetts 01527

**CONTRACT**

**SAMPLE**

**CONTRACT**

**MILLBURY PUBLIC SCHOOLS  
Millbury Public Schools**

**Bid Number: 0186-2101.**

**Elmwood Front Entry Vestibule Project**

This Contract is executed this \_\_\_\_\_ day of \_\_\_\_\_ by and between:

\_\_\_\_\_ hereinafter referred to as the ‘Contractor’ and the Millbury Public Schools, c/o Millbury Public Schools, a municipal corporation duly organized under the laws of the Commonwealth of Massachusetts, with a principal place of business at 12 Martin Street, Millbury, MA 01527, hereinafter referred to as the ‘School.’

The School and the Contractor agree to the terms and conditions contained in this Contract. The Contractor agrees to perform the following services at the price indicated in its proposal dated \_\_\_\_\_

**Elmwood Front Entry Vestibule Project**

**CONTRACTOR SERVICES, LICENSES AND PERMITS**

The Contractor shall furnish all labor, materials and equipment to complete Elmwood Front Entry Vestibule Project as prescribed in the Scope of Services attached to this Contract. The Contractor shall conform to applicable federal, state, and local laws, regulations and building codes. The Contractor shall obtain municipal building permits required to complete the project.

**PREVAILING WAGES**

This contract is subject to the Commonwealth’s Prevailing Wage Law. Attached is the Massachusetts Division of Occupational Safety Prevailing Wage Rate schedule covering this project.

**PAYMENT TERMS**

The Contractor shall provide the services for the price submitted on their proposal dated \_\_\_\_\_, unless otherwise mutually agreed in writing. The School shall not loan or advance any funds to the Contractor for any purposes.

**INSURANCE REQUIREMENTS**

The Contractor shall secure and maintain for the duration of this project and at no cost to the School, with respect to the services related to this Contract, insurance coverages as stipulated in Section III. B. of the Bid Specifications. The Contractor shall be required to provide proof of insurance naming the Millbury Public Schools as an additional insured for the project. The Certificate Holder shall be identified as the ‘Superintendent’, 12 Martin Street, Millbury, MA 01527.

**PAYMENT BOND**

A payment bond in the amount of fifty percent (50%) of the total cost of the project, issued by a surety company qualified to do business under the laws of the Commonwealth of Massachusetts and satisfactory to the awarding authority, must be furnished within ten (10) days of notice of award of contract.

**CONTRACTOR'S INDEMNIFICATION**

The Contractor shall, to the maximum extent permitted by law, indemnify and save harmless the Millbury Public Schools, its officers, agents and employees from and against any and all damages, liabilities, actions, suits, proceedings, claims, demands, losses, costs and expenses (including reasonable attorney's fees) that arise out of or in connection with the work being performed or to be performed by the Contractor, his employees, agents, subcontractors or materialmen. The existence of insurance shall in no way limit the scope of this indemnification. The Contractor further agrees to reimburse the Millbury Public Schools for damage to its property caused by the Contractor, his employees, agents, subcontractors or materialmen, including damages caused by his, its or their use of faulty, defective or unsuitable material or equipment, unless the damage is caused by the Millbury Public Schools's gross negligence or willful misconduct.

**TERMINATION**

If the work to be done under this Contract shall be abandoned, or if this Contract or any part thereof shall be assigned or transferred, without the previous written consent of the School, or if the Contract or any claim hereunder shall be assigned by the Contractor otherwise than as herein specified, or if at any time the School determines that the conditions herein specified as to the rate of progress are not fulfilled, or that the work or any part thereof, is unnecessarily or unreasonably delayed, or that the Contractor has violated any of the provisions of this Contract, the School may terminate this Contract and/or notify the Contractor or discontinue such work or such part thereof as the School may designate, and the School may thereupon by agreement or otherwise, as it may determine, complete the work, or any part thereof; and for such completion the School for itself or for its Contractor may take possession of and use or cause to be used in the completion of the work thereof any of such materials, apparatus, machinery, implements, and tools of every description as may be found upon said work. Termination pursuant to this paragraph shall not entitle the Contractor to any claim for damages on account thereof, nor shall it relieve the Contractor of any liability under this Contract.

This contract shall not be altered in any way without the consent of all parties to this contract. All alterations to this contract must be in writing and authorized as such by the Superintendent for the Contractor.

This contract shall be deemed to be a Massachusetts contract and its interpretation and construction shall be governed by the laws of Massachusetts and the Charter and Bylaws of the Millbury Public Schools.

This contract shall become effective when signed by both the Contractor and the Superintendent.

IN WITNESS WHEREOF, this Agreement has been executed, in duplicate, on the date first above written for the Millbury Public Schools by Gregory B. Myers, Superintendent, and for the said Contractor by its owner, or duly authorized officer or agent. This instrument shall take effect as a sealed instrument.

**MILLBURY PUBLIC SCHOOLS:**

**CONTRACTOR:**

\_\_\_\_\_  
Gregory B. Myers, Superintendent

\_\_\_\_\_  
Vendor Name.

\_\_\_\_\_  
Approved as to Appropriation:

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Sean Hendricks, Town Manager

\_\_\_\_\_  
Print Name and Title

**Contract Price: \$**

Internal Use:

MPS BudgetSense Acct. No.:

School Hall Acct. No.:

END OF DOCUMENT

**SECTION VI**  
**PREVAILING WAGE RATES**

MILLBURY PUBLIC SCHOOLS  
BID #0186-2101

ELMWOOD FRONT ENTRY VESTIBULE PROJECT  
ELMWOOD STREET ELEMENTARY SCHOOL  
40 Elmwood Street  
Millbury, Massachusetts 01527

### **PREVAILING WAGE RATES**

**(Wage Request Number 20210315-037; Issue Date - March 15, 2021, 34 pages)**

All bids are subject to the provisions of M.G.L. Chapter 149. Wages are subject to minimum wage rates determined by the Massachusetts Dept. of Labor and Industries pursuant to M.G.L. Chapter 149, Section 26 and 27.

Wage Schedule: The Prevailing Wage Rates (Wage Request Number 20210315-037; Issue Date - March 15, 2021, 34 pages) applicable to this Project immediately follow this document.

END OF DOCUMENT



CHARLES D. BAKER  
Governor

KARYN E. POLITO  
Lt. Governor

THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT  
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Director under the provisions of the  
Massachusetts General Laws, Chapter 149, Sections 26 to 27H

ROSALIN ACOSTA  
Secretary  
MICHAEL FLANAGAN  
Director

**Awarding Authority:** Millbury Public Schools  
**Contract Number:** 0186-2101 **City/Town:** MILLBURY  
**Description of Work:** Reconstruct the front entry way vestibule at Elmwood Street School in order to increase access control for security purposes.  
**Job Location:** 40 Elmwood Street, Millbury, MA 01527

---

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the "Wage Request Number" on all pages of this schedule.
  - An Awarding Authority must request an updated wage schedule from the Department of Labor Standards ("DLS") if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
  - The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
  - All apprentices working on the project are required to be registered with the Massachusetts Department of Labor Standards, Division of Apprentice Standards (DLS/DAS). Apprentice must keep his/her apprentice identification card on his/her person during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **Any apprentice not registered with DLS/DAS regardless of whether or not they are registered with any other federal, state, local, or private agency must be paid the journeyworker's rate for the trade.**
  - The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule. Awarding authorities are required to request these updates no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. Contractors are required to obtain the wage schedules from awarding authorities, and to pay no less than these rates to covered workers. The annual update requirement is not applicable to 27F "rental of equipment" contracts.
  - Every contractor or subcontractor which performs construction work on the project is required to submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee's name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. A sample of a payroll reporting form may be obtained at <http://www.mass.gov/dols/pw>.
  - Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
  - Employees not receiving the prevailing wage rate set forth on the wage schedule may report the violation to the Fair Labor Division of the office of the Attorney General at (617) 727-3465.
  - Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and criminal penalties.
-

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Construction</b>						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2020	\$35.15	\$12.91	\$14.82	\$0.00	\$62.88
	06/01/2021	\$35.95	\$12.91	\$14.82	\$0.00	\$63.68
	08/01/2021	\$35.95	\$13.41	\$14.82	\$0.00	\$64.18
	12/01/2021	\$35.95	\$13.41	\$16.01	\$0.00	\$65.37
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2020	\$35.22	\$12.91	\$14.82	\$0.00	\$62.95
	06/01/2021	\$36.02	\$12.91	\$14.82	\$0.00	\$63.75
	08/01/2021	\$36.02	\$13.41	\$14.82	\$0.00	\$64.25
	12/01/2021	\$36.02	\$13.41	\$16.01	\$0.00	\$65.44
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2020	\$35.34	\$12.91	\$14.82	\$0.00	\$63.07
	06/01/2021	\$36.14	\$12.91	\$14.82	\$0.00	\$63.87
	08/01/2021	\$36.14	\$13.41	\$14.82	\$0.00	\$64.37
	12/01/2021	\$36.14	\$13.41	\$16.01	\$0.00	\$65.56
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2020	\$35.41	\$8.60	\$16.06	\$0.00	\$60.07
	06/01/2021	\$36.33	\$8.60	\$16.06	\$0.00	\$60.99
	12/01/2021	\$37.24	\$8.60	\$16.06	\$0.00	\$61.90
	06/01/2022	\$38.14	\$8.60	\$16.06	\$0.00	\$62.80
	12/01/2022	\$38.99	\$8.60	\$16.06	\$0.00	\$63.65
	06/01/2023	\$39.89	\$8.60	\$16.06	\$0.00	\$64.55
	12/01/2023	\$40.79	\$8.60	\$16.06	\$0.00	\$65.45
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$35.41	\$8.60	\$16.06	\$0.00	\$60.07
	06/01/2021	\$36.33	\$8.60	\$16.06	\$0.00	\$60.99
	12/01/2021	\$37.24	\$8.60	\$16.06	\$0.00	\$61.90
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASBESTOS WORKER (PIPES & TANKS) <i>HEAT &amp; FROST INSULATORS LOCAL 6 (WORCESTER)</i>	12/01/2020	\$38.10	\$12.80	\$9.45	\$0.00	\$60.35
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
	06/01/2022	\$37.64	\$8.60	\$16.06	\$0.00	\$62.30
	12/01/2022	\$38.49	\$8.60	\$16.06	\$0.00	\$63.15
	06/01/2023	\$39.39	\$8.60	\$16.06	\$0.00	\$64.05
	12/01/2023	\$40.29	\$8.60	\$16.06	\$0.00	\$64.95
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.98	\$13.50	\$15.70	\$0.00	\$79.18
	06/01/2021	\$51.08	\$13.50	\$15.70	\$0.00	\$80.28
	12/01/2021	\$52.23	\$13.50	\$15.70	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.98	\$13.50	\$15.70	\$0.00	\$79.18
	06/01/2021	\$51.08	\$13.50	\$15.70	\$0.00	\$80.28
	12/01/2021	\$52.23	\$13.50	\$15.70	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
	06/01/2022	\$37.64	\$8.60	\$16.06	\$0.00	\$62.30
	12/01/2022	\$38.49	\$8.60	\$16.06	\$0.00	\$63.15
	06/01/2023	\$39.39	\$8.60	\$16.06	\$0.00	\$64.05
	12/01/2023	\$40.29	\$8.60	\$16.06	\$0.00	\$64.95
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	12/01/2020	\$35.41	\$8.60	\$16.06	\$0.00	\$60.07
	06/01/2021	\$36.33	\$8.60	\$16.06	\$0.00	\$60.99
	12/01/2021	\$37.24	\$8.60	\$16.06	\$0.00	\$61.90
	06/01/2022	\$38.14	\$8.60	\$16.06	\$0.00	\$62.80
	12/01/2022	\$38.99	\$8.60	\$16.06	\$0.00	\$63.65
	06/01/2023	\$39.89	\$8.60	\$16.06	\$0.00	\$64.55
	12/01/2023	\$40.79	\$8.60	\$16.06	\$0.00	\$65.45
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$35.41	\$8.60	\$16.06	\$0.00	\$60.07
	06/01/2021	\$36.33	\$8.60	\$16.06	\$0.00	\$60.99
	12/01/2021	\$37.24	\$8.60	\$16.06	\$0.00	\$61.90
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2020	\$46.10	\$7.07	\$17.98	\$0.00	\$71.15

**Apprentice - BOILERMAKER - Local 29**

**Effective Date -** 01/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$29.97	\$7.07	\$11.69	\$0.00	\$48.73
2	65	\$29.97	\$7.07	\$11.69	\$0.00	\$48.73
3	70	\$32.27	\$7.07	\$12.59	\$0.00	\$51.93
4	75	\$34.58	\$7.07	\$13.49	\$0.00	\$55.14
5	80	\$36.88	\$7.07	\$14.38	\$0.00	\$58.33
6	85	\$39.19	\$7.07	\$15.29	\$0.00	\$61.55
7	90	\$41.49	\$7.07	\$16.18	\$0.00	\$64.74
8	95	\$43.80	\$7.07	\$17.09	\$0.00	\$67.96

**Notes:**

**Apprentice to Journeyworker Ratio:1:4**

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (WORCESTER)</i>	02/01/2021	\$53.61	\$11.39	\$21.41	\$0.00	\$86.41
	08/01/2021	\$55.01	\$11.39	\$21.57	\$0.00	\$87.97
	02/01/2022	\$55.59	\$11.39	\$21.57	\$0.00	\$88.55



Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
----------------	----------------	-----------	--------	---------	------------------------------	------------

**Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Worcester**

**Effective Date - 02/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.81	\$11.39	\$21.41	\$0.00	\$59.61
2	60	\$32.17	\$11.39	\$21.41	\$0.00	\$64.97
3	70	\$37.53	\$11.39	\$21.41	\$0.00	\$70.33
4	80	\$42.89	\$11.39	\$21.41	\$0.00	\$75.69
5	90	\$48.25	\$11.39	\$21.41	\$0.00	\$81.05

**Effective Date - 08/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.51	\$11.39	\$21.57	\$0.00	\$60.47
2	60	\$33.01	\$11.39	\$21.57	\$0.00	\$65.97
3	70	\$38.51	\$11.39	\$21.57	\$0.00	\$71.47
4	80	\$44.01	\$11.39	\$21.57	\$0.00	\$76.97
5	90	\$49.51	\$11.39	\$21.57	\$0.00	\$82.47

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

BULLDOZER/GRADER/SCRAPER OPERATING ENGINEERS LOCAL 4	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN LABORERS - FOUNDATION AND MARINE	12/01/2020	\$41.05	\$8.60	\$17.47	\$0.00	\$67.12
	06/01/2021	\$42.07	\$8.60	\$17.47	\$0.00	\$68.14
	12/01/2021	\$43.08	\$8.60	\$17.47	\$0.00	\$69.15
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER LABORERS - FOUNDATION AND MARINE	12/01/2020	\$39.90	\$8.60	\$17.47	\$0.00	\$65.97
	06/01/2021	\$40.92	\$8.60	\$17.47	\$0.00	\$66.99
	12/01/2021	\$41.93	\$8.60	\$17.47	\$0.00	\$68.00
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN LABORERS - FOUNDATION AND MARINE	12/01/2020	\$39.90	\$8.60	\$17.47	\$0.00	\$65.97
	06/01/2021	\$40.92	\$8.60	\$17.47	\$0.00	\$66.99
	12/01/2021	\$41.93	\$8.60	\$17.47	\$0.00	\$68.00
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR LABORERS - ZONE 2	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
	06/01/2022	\$37.64	\$8.60	\$16.06	\$0.00	\$62.30
	12/01/2022	\$38.49	\$8.60	\$16.06	\$0.00	\$63.15
	06/01/2023	\$39.39	\$8.60	\$16.06	\$0.00	\$64.05
	12/01/2023	\$40.29	\$8.60	\$16.06	\$0.00	\$64.95
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARPENTER	03/01/2021	\$43.54	\$9.40	\$18.95	\$0.00	\$71.89
CARPENTERS -ZONE 2 (Eastern Massachusetts)	09/01/2021	\$44.19	\$9.40	\$18.95	\$0.00	\$72.54
	03/01/2022	\$44.79	\$9.40	\$18.95	\$0.00	\$73.14
	09/01/2022	\$45.44	\$9.40	\$18.95	\$0.00	\$73.79
	03/01/2023	\$46.04	\$9.40	\$18.95	\$0.00	\$74.39

**Apprentice - CARPENTER - Zone 2 Eastern MA**

**Effective Date - 03/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.77	\$9.40	\$1.73	\$0.00	\$32.90
2	60	\$26.12	\$9.40	\$1.73	\$0.00	\$37.25
3	70	\$30.48	\$9.40	\$13.76	\$0.00	\$53.64
4	75	\$32.66	\$9.40	\$13.76	\$0.00	\$55.82
5	80	\$34.83	\$9.40	\$15.49	\$0.00	\$59.72
6	80	\$34.83	\$9.40	\$15.49	\$0.00	\$59.72
7	90	\$39.19	\$9.40	\$17.22	\$0.00	\$65.81
8	90	\$39.19	\$9.40	\$17.22	\$0.00	\$65.81

**Effective Date - 09/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.10	\$9.40	\$1.73	\$0.00	\$33.23
2	60	\$26.51	\$9.40	\$1.73	\$0.00	\$37.64
3	70	\$30.93	\$9.40	\$13.76	\$0.00	\$54.09
4	75	\$33.14	\$9.40	\$13.76	\$0.00	\$56.30
5	80	\$35.35	\$9.40	\$15.49	\$0.00	\$60.24
6	80	\$35.35	\$9.40	\$15.49	\$0.00	\$60.24
7	90	\$39.77	\$9.40	\$17.22	\$0.00	\$66.39
8	90	\$39.77	\$9.40	\$17.22	\$0.00	\$66.39

**Notes:**

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80  
Step 1&2 \$30.72/ 3&4 \$36.75/ 5&6 \$55.37/ 7&8 \$61.45

**Apprentice to Journeyworker Ratio:1:5**

CARPENTER WOOD FRAME	04/01/2020	\$22.66	\$7.21	\$4.80	\$0.00	\$34.67
CARPENTERS-ZONE 3 (Wood Frame)	04/01/2021	\$23.16	\$7.21	\$4.80	\$0.00	\$35.17
	04/01/2022	\$23.66	\$7.21	\$4.80	\$0.00	\$35.67
	04/01/2023	\$24.16	\$7.21	\$4.80	\$0.00	\$36.17

All Aspects of New Wood Frame Work

**Apprentice - CARPENTER (Wood Frame) - Zone 3****Effective Date - 04/01/2020**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$13.60	\$7.21	\$0.00	\$0.00	\$20.81
2	60	\$13.60	\$7.21	\$0.00	\$0.00	\$20.81
3	65	\$14.73	\$7.21	\$0.00	\$0.00	\$21.94
4	70	\$15.86	\$7.21	\$0.00	\$0.00	\$23.07
5	75	\$17.00	\$7.21	\$3.80	\$0.00	\$28.01
6	80	\$18.13	\$7.21	\$3.80	\$0.00	\$29.14
7	85	\$19.26	\$7.21	\$3.80	\$0.00	\$30.27
8	90	\$20.39	\$7.21	\$3.80	\$0.00	\$31.40

**Effective Date - 04/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$13.90	\$7.21	\$0.00	\$0.00	\$21.11
2	60	\$13.90	\$7.21	\$0.00	\$0.00	\$21.11
3	65	\$15.05	\$7.21	\$0.00	\$0.00	\$22.26
4	70	\$16.21	\$7.21	\$0.00	\$0.00	\$23.42
5	75	\$17.37	\$7.21	\$3.80	\$0.00	\$28.38
6	80	\$18.53	\$7.21	\$3.80	\$0.00	\$29.54
7	85	\$19.69	\$7.21	\$3.80	\$0.00	\$30.70
8	90	\$20.84	\$7.21	\$3.80	\$0.00	\$31.85

**Notes:**

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80  
 Step 1&2 \$17.41/ 3&4 \$19.67/ 5&6 \$26.87/ 7&8 \$29.14

**Apprentice to Journeyworker Ratio:1:5**

CEMENT MASONRY/PLASTERING

01/01/2020

\$47.14

\$12.75

\$22.41

\$0.62

\$82.92

BRICKLAYERS LOCAL 3 (WORCESTER)

**Apprentice - CEMENT MASONRY/PLASTERING - Worcester****Effective Date - 01/01/2020**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.57	\$12.75	\$15.41	\$0.00	\$51.73
2	60	\$28.28	\$12.75	\$17.41	\$0.62	\$59.06
3	65	\$30.64	\$12.75	\$18.41	\$0.62	\$62.42
4	70	\$33.00	\$12.75	\$19.41	\$0.62	\$65.78
5	75	\$35.36	\$12.75	\$20.41	\$0.62	\$69.14
6	80	\$37.71	\$12.75	\$21.41	\$0.62	\$72.49
7	90	\$42.43	\$12.75	\$22.41	\$0.62	\$78.21

**Notes:**

Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

**Apprentice to Journeyworker Ratio:1:3**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CHAIN SAW OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
	06/01/2022	\$37.64	\$8.60	\$16.06	\$0.00	\$62.30
	12/01/2022	\$38.49	\$8.60	\$16.06	\$0.00	\$63.15
	06/01/2023	\$39.39	\$8.60	\$16.06	\$0.00	\$64.05
	12/01/2023	\$40.29	\$8.60	\$16.06	\$0.00	\$64.95
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$50.98	\$13.50	\$15.70	\$0.00	\$80.18
	06/01/2021	\$52.08	\$13.50	\$15.70	\$0.00	\$81.28
	12/01/2021	\$53.23	\$13.50	\$15.70	\$0.00	\$82.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$33.00	\$13.50	\$15.70	\$0.00	\$62.20
	06/01/2021	\$33.75	\$13.50	\$15.70	\$0.00	\$62.95
	12/01/2021	\$34.54	\$13.50	\$15.70	\$0.00	\$63.74
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2021	\$52.06	\$8.25	\$22.75	\$0.00	\$83.06

**Apprentice - PAINTER Local 35 - BRIDGES/TANKS**

**Effective Date -** 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.03	\$8.25	\$0.00	\$0.00	\$34.28
2	55	\$28.63	\$8.25	\$6.16	\$0.00	\$43.04
3	60	\$31.24	\$8.25	\$6.72	\$0.00	\$46.21
4	65	\$33.84	\$8.25	\$7.28	\$0.00	\$49.37
5	70	\$36.44	\$8.25	\$19.39	\$0.00	\$64.08
6	75	\$39.05	\$8.25	\$19.95	\$0.00	\$67.25
7	80	\$41.65	\$8.25	\$20.51	\$0.00	\$70.41
8	90	\$46.85	\$8.25	\$21.63	\$0.00	\$76.73

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

DEMO: ADZEMAN <i>LABORERS - ZONE 2</i>	12/01/2020	\$40.05	\$8.60	\$17.32	\$0.00	\$65.97
	06/01/2021	\$41.07	\$8.60	\$17.32	\$0.00	\$66.99
	12/01/2021	\$42.08	\$8.60	\$17.32	\$0.00	\$68.00
	06/01/2022	\$43.08	\$8.60	\$17.32	\$0.00	\$69.00
	12/01/2022	\$44.08	\$8.60	\$17.32	\$0.00	\$70.00
	06/01/2023	\$45.08	\$8.60	\$17.32	\$0.00	\$71.00
	12/01/2023	\$46.33	\$8.60	\$17.32	\$0.00	\$72.25
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: BACKHOE/LOADER/HAMMER OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2020	\$41.05	\$8.60	\$17.32	\$0.00	\$66.97
	06/01/2021	\$42.07	\$8.60	\$17.32	\$0.00	\$67.99
	12/01/2021	\$43.08	\$8.60	\$17.32	\$0.00	\$69.00
	06/01/2022	\$44.08	\$8.60	\$17.32	\$0.00	\$70.00
	12/01/2022	\$45.08	\$8.60	\$17.32	\$0.00	\$71.00
	06/01/2023	\$46.08	\$8.60	\$17.32	\$0.00	\$72.00
	12/01/2023	\$47.33	\$8.60	\$17.32	\$0.00	\$73.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS <i>LABORERS - ZONE 2</i>	12/01/2020	\$40.80	\$8.60	\$17.32	\$0.00	\$66.72
	06/01/2021	\$41.82	\$8.60	\$17.32	\$0.00	\$67.74
	12/01/2021	\$42.83	\$8.60	\$17.32	\$0.00	\$68.75
	06/01/2022	\$43.83	\$8.60	\$17.32	\$0.00	\$69.75
	12/01/2022	\$44.83	\$8.60	\$17.32	\$0.00	\$70.75
	06/01/2023	\$45.83	\$8.60	\$17.32	\$0.00	\$71.75
	12/01/2023	\$47.08	\$8.60	\$17.32	\$0.00	\$73.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 2</i>	12/01/2020	\$41.05	\$8.60	\$17.32	\$0.00	\$66.97
	06/01/2021	\$42.07	\$8.60	\$17.32	\$0.00	\$67.99
	12/01/2021	\$43.08	\$8.60	\$17.32	\$0.00	\$69.00
	06/01/2022	\$44.08	\$8.60	\$17.32	\$0.00	\$70.00
	12/01/2022	\$45.08	\$8.60	\$17.32	\$0.00	\$71.00
	06/01/2023	\$46.08	\$8.60	\$17.32	\$0.00	\$72.00
	12/01/2023	\$47.33	\$8.60	\$17.32	\$0.00	\$73.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2020	\$40.80	\$8.60	\$17.32	\$0.00	\$66.72
	06/01/2021	\$41.82	\$8.60	\$17.32	\$0.00	\$67.74
	12/01/2021	\$42.83	\$8.60	\$17.32	\$0.00	\$68.75
	06/01/2022	\$43.83	\$8.60	\$17.32	\$0.00	\$69.75
	12/01/2022	\$44.83	\$8.60	\$17.32	\$0.00	\$70.75
	06/01/2023	\$45.83	\$8.60	\$17.32	\$0.00	\$71.75
	12/01/2023	\$47.08	\$8.60	\$17.32	\$0.00	\$73.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 2</i>	12/01/2020	\$40.05	\$8.60	\$17.32	\$0.00	\$65.97
	06/01/2021	\$41.07	\$8.60	\$17.32	\$0.00	\$66.99
	12/01/2021	\$42.08	\$8.60	\$17.32	\$0.00	\$68.00
	06/01/2022	\$43.08	\$8.60	\$17.32	\$0.00	\$69.00
	12/01/2022	\$44.08	\$8.60	\$17.32	\$0.00	\$70.00
	06/01/2023	\$45.08	\$8.60	\$17.32	\$0.00	\$71.00
	12/01/2023	\$46.33	\$8.60	\$17.32	\$0.00	\$72.25
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$68.70	\$9.40	\$23.12	\$0.00	\$101.22
For apprentice rates see "Apprentice- PILE DRIVER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$73.60	\$9.40	\$23.12	\$0.00	\$106.12
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>DRAWBRIDGE - SEIU LOCAL 888</i>	07/01/2020	\$26.77	\$6.67	\$3.93	\$0.16	\$37.53
ELECTRICIAN <i>ELECTRICIANS LOCAL 96</i>	09/06/2020	\$44.42	\$11.13	\$17.34	\$0.00	\$72.89
	09/05/2021	\$45.01	\$11.57	\$17.42	\$0.00	\$74.00
	09/04/2022	\$45.59	\$12.20	\$17.50	\$0.00	\$75.29

**Apprentice - ELECTRICIAN - Local 96**

**Effective Date - 09/06/2020**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.77	\$11.13	\$0.53	\$0.00	\$29.43
2	43	\$19.10	\$11.13	\$0.57	\$0.00	\$30.80
3	48	\$21.32	\$11.13	\$14.11	\$0.00	\$46.56
4	55	\$24.43	\$11.13	\$14.54	\$0.00	\$50.10
5	65	\$28.87	\$11.13	\$15.17	\$0.00	\$55.17
6	80	\$35.54	\$11.13	\$16.10	\$0.00	\$62.77

**Effective Date - 09/05/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.00	\$11.57	\$0.54	\$0.00	\$30.11
2	43	\$19.35	\$11.57	\$0.58	\$0.00	\$31.50
3	48	\$21.60	\$11.57	\$14.15	\$0.00	\$47.32
4	55	\$24.76	\$11.57	\$14.58	\$0.00	\$50.91
5	65	\$29.26	\$11.57	\$15.22	\$0.00	\$56.05
6	80	\$36.01	\$11.57	\$16.16	\$0.00	\$63.74

**Notes:**

Steps 1-2 are 1000 hrs; Steps 3-6 are 1500 hrs.

**Apprentice to Journeyworker Ratio:2:3\*\*\***

ELEVATOR CONSTRUCTOR <i>ELEVATOR CONSTRUCTORS LOCAL 41</i>	01/01/2021	\$56.69	\$15.88	\$19.31	\$0.00	\$91.88
	01/01/2022	\$58.62	\$16.03	\$20.21	\$0.00	\$94.86

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
----------------	----------------	-----------	--------	---------	---------------------------	------------

**Apprentice - ELEVATOR CONSTRUCTOR - Local 41**

**Effective Date -** 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.35	\$15.88	\$0.00	\$0.00	\$44.23
2	55	\$31.18	\$15.88	\$19.31	\$0.00	\$66.37
3	65	\$36.85	\$15.88	\$19.31	\$0.00	\$72.04
4	70	\$39.68	\$15.88	\$19.31	\$0.00	\$74.87
5	80	\$45.35	\$15.88	\$19.31	\$0.00	\$80.54

**Effective Date -** 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.31	\$16.03	\$0.00	\$0.00	\$45.34
2	55	\$32.24	\$16.03	\$20.21	\$0.00	\$68.48
3	65	\$38.10	\$16.03	\$20.21	\$0.00	\$74.34
4	70	\$41.03	\$16.03	\$20.21	\$0.00	\$77.27
5	80	\$46.90	\$16.03	\$20.21	\$0.00	\$83.14

**Notes:**

Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

**Apprentice to Journeyworker Ratio:1:1**

ELEVATOR CONSTRUCTOR HELPER	01/01/2021	\$39.68	\$15.88	\$19.31	\$0.00	\$74.87
ELEVATOR CONSTRUCTORS LOCAL 41	01/01/2022	\$41.03	\$16.03	\$20.21	\$0.00	\$77.27
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
LABORERS - ZONE 2	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
	06/01/2022	\$37.64	\$8.60	\$16.06	\$0.00	\$62.30
	12/01/2022	\$38.49	\$8.60	\$16.06	\$0.00	\$63.15
	06/01/2023	\$39.39	\$8.60	\$16.06	\$0.00	\$64.05
	12/01/2023	\$40.29	\$8.60	\$16.06	\$0.00	\$64.95
For apprentice rates see "Apprentice- LABORER"						
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY)	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY	11/01/2020	\$45.23	\$13.00	\$15.70	\$0.00	\$73.93
OPERATING ENGINEERS LOCAL 4	05/01/2021	\$46.38	\$13.00	\$15.70	\$0.00	\$75.08
	11/01/2021	\$47.38	\$13.00	\$15.70	\$0.00	\$76.08
	05/01/2022	\$48.53	\$13.00	\$15.70	\$0.00	\$77.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY	11/01/2020	\$46.74	\$13.00	\$15.70	\$0.00	\$75.44
OPERATING ENGINEERS LOCAL 4	05/01/2021	\$47.90	\$13.00	\$15.70	\$0.00	\$76.60
	11/01/2021	\$48.91	\$13.00	\$15.70	\$0.00	\$77.61
	05/01/2022	\$50.07	\$13.00	\$15.70	\$0.00	\$78.77
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2020	\$22.73	\$13.00	\$15.70	\$0.00	\$51.43
	05/01/2021	\$23.41	\$13.00	\$15.70	\$0.00	\$52.11
	11/01/2021	\$24.01	\$13.00	\$15.70	\$0.00	\$52.71
	05/01/2022	\$24.68	\$13.00	\$15.70	\$0.00	\$53.38
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 96</i>	09/06/2020	\$44.42	\$11.13	\$17.34	\$0.00	\$72.89
	09/05/2021	\$45.01	\$11.57	\$17.42	\$0.00	\$74.00
	09/04/2022	\$45.59	\$12.20	\$17.50	\$0.00	\$75.29
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINT/COMMISSIONING <i>ELECTRICIANS LOCAL 96</i>	09/06/2020	\$44.42	\$11.13	\$17.34	\$0.00	\$72.89
	09/05/2021	\$45.01	\$11.57	\$17.42	\$0.00	\$74.00
	09/04/2022	\$45.59	\$12.20	\$17.50	\$0.00	\$75.29
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$40.75	\$13.50	\$15.70	\$0.00	\$69.95
	06/01/2021	\$41.66	\$13.50	\$15.70	\$0.00	\$70.86
	12/01/2021	\$42.61	\$13.50	\$15.70	\$0.00	\$71.81
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$24.50	\$8.60	\$16.06	\$0.00	\$49.16
	06/01/2021	\$24.50	\$8.60	\$16.06	\$0.00	\$49.16
	12/01/2021	\$24.50	\$8.60	\$16.06	\$0.00	\$49.16
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE II</i>	03/01/2021	\$46.28	\$9.40	\$19.25	\$0.00	\$74.93
	09/01/2021	\$47.08	\$9.40	\$19.25	\$0.00	\$75.73
	03/01/2022	\$47.88	\$9.40	\$19.25	\$0.00	\$76.53



**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - FLOORCOVERER - Local 2168 Zone II**
**Effective Date - 03/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.14	\$9.40	\$1.79	\$0.00	\$34.33
2	55	\$25.45	\$9.40	\$1.79	\$0.00	\$36.64
3	60	\$27.77	\$9.40	\$13.88	\$0.00	\$51.05
4	65	\$30.08	\$9.40	\$13.88	\$0.00	\$53.36
5	70	\$32.40	\$9.40	\$15.67	\$0.00	\$57.47
6	75	\$34.71	\$9.40	\$15.67	\$0.00	\$59.78
7	80	\$37.02	\$9.40	\$17.46	\$0.00	\$63.88
8	85	\$39.34	\$9.40	\$17.46	\$0.00	\$66.20

**Effective Date - 09/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.54	\$9.40	\$1.79	\$0.00	\$34.73
2	55	\$25.89	\$9.40	\$1.79	\$0.00	\$37.08
3	60	\$28.25	\$9.40	\$13.88	\$0.00	\$51.53
4	65	\$30.60	\$9.40	\$13.88	\$0.00	\$53.88
5	70	\$32.96	\$9.40	\$15.67	\$0.00	\$58.03
6	75	\$35.31	\$9.40	\$15.67	\$0.00	\$60.38
7	80	\$37.66	\$9.40	\$17.46	\$0.00	\$64.52
8	85	\$40.02	\$9.40	\$17.46	\$0.00	\$66.88

**Notes:** Steps are 750 hrs.

% After 09/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)

Step 1&amp;2 \$31.99/ 3&amp;4 \$38.37/ 5&amp;6 \$57.47/ 7&amp;8 \$63.88

**Apprentice to Journeyworker Ratio:1:1**
**FORK LIFT/CHERRY PICKER**
*OPERATING ENGINEERS LOCAL 4*

12/01/2020	\$49.98	\$13.50	\$15.70	\$0.00	\$79.18
06/01/2021	\$51.08	\$13.50	\$15.70	\$0.00	\$80.28
12/01/2021	\$52.23	\$13.50	\$15.70	\$0.00	\$81.43

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

**GENERATOR/LIGHTING PLANT/HEATERS**
*OPERATING ENGINEERS LOCAL 4*

12/01/2020	\$33.00	\$13.50	\$15.70	\$0.00	\$62.20
06/01/2021	\$33.75	\$13.50	\$15.70	\$0.00	\$62.95
12/01/2021	\$34.54	\$13.50	\$15.70	\$0.00	\$63.74

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

**GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR  
SYSTEMS)**
*GLAZIERS LOCAL 35 (ZONE 2)*

01/01/2021	\$41.56	\$8.25	\$22.75	\$0.00	\$72.56
------------	---------	--------	---------	--------	---------

Apprentice - GLAZIER - Local 35 Zone 2

Effective Date - 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.78	\$8.25	\$0.00	\$0.00	\$29.03
2	55	\$22.86	\$8.25	\$6.16	\$0.00	\$37.27
3	60	\$24.94	\$8.25	\$6.72	\$0.00	\$39.91
4	65	\$27.01	\$8.25	\$7.28	\$0.00	\$42.54
5	70	\$29.09	\$8.25	\$19.39	\$0.00	\$56.73
6	75	\$31.17	\$8.25	\$19.95	\$0.00	\$59.37
7	80	\$33.25	\$8.25	\$20.51	\$0.00	\$62.01
8	90	\$37.40	\$8.25	\$21.63	\$0.00	\$67.28

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS	12/01/2020	\$49.98	\$13.50	\$15.70	\$0.00	\$79.18
OPERATING ENGINEERS LOCAL 4	06/01/2021	\$51.08	\$13.50	\$15.70	\$0.00	\$80.28
	12/01/2021	\$52.23	\$13.50	\$15.70	\$0.00	\$81.43

**Apprentice - OPERATING ENGINEERS - Local 4**

**Effective Date -** 12/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$27.49	\$13.50	\$0.00	\$0.00	\$40.99
2	60	\$29.99	\$13.50	\$15.70	\$0.00	\$59.19
3	65	\$32.49	\$13.50	\$15.70	\$0.00	\$61.69
4	70	\$34.99	\$13.50	\$15.70	\$0.00	\$64.19
5	75	\$37.49	\$13.50	\$15.70	\$0.00	\$66.69
6	80	\$39.98	\$13.50	\$15.70	\$0.00	\$69.18
7	85	\$42.48	\$13.50	\$15.70	\$0.00	\$71.68
8	90	\$44.98	\$13.50	\$15.70	\$0.00	\$74.18

**Effective Date -** 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$28.09	\$13.50	\$0.00	\$0.00	\$41.59
2	60	\$30.65	\$13.50	\$15.70	\$0.00	\$59.85
3	65	\$33.20	\$13.50	\$15.70	\$0.00	\$62.40
4	70	\$35.76	\$13.50	\$15.70	\$0.00	\$64.96
5	75	\$38.31	\$13.50	\$15.70	\$0.00	\$67.51
6	80	\$40.86	\$13.50	\$15.70	\$0.00	\$70.06
7	85	\$43.42	\$13.50	\$15.70	\$0.00	\$72.62
8	90	\$45.97	\$13.50	\$15.70	\$0.00	\$75.17

**Notes:**

**Apprentice to Journeyworker Ratio:1:6**

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 63	01/01/2021	\$37.24	\$10.64	\$17.33	\$1.96	\$67.17
	07/01/2021	\$38.29	\$10.64	\$17.33	\$1.99	\$68.25
	01/01/2022	\$39.29	\$10.64	\$17.33	\$2.02	\$69.28
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 96	09/06/2020	\$44.42	\$11.13	\$17.34	\$0.00	\$72.89
	09/05/2021	\$45.01	\$11.57	\$17.42	\$0.00	\$74.00
	09/04/2022	\$45.59	\$12.20	\$17.50	\$0.00	\$75.29
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 63	01/01/2021	\$37.24	\$10.64	\$17.33	\$1.96	\$67.17
	07/01/2021	\$38.29	\$10.64	\$17.33	\$1.99	\$68.25
	01/01/2022	\$39.29	\$10.64	\$17.33	\$2.02	\$69.28
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) PLUMBERS LOCAL 4	03/01/2021	\$47.85	\$9.80	\$15.77	\$0.00	\$73.42
	09/01/2021	\$48.85	\$9.80	\$15.77	\$0.00	\$74.42
	03/01/2022	\$49.85	\$9.80	\$15.77	\$0.00	\$75.42
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC MECHANIC <i>PLUMBERS LOCAL 4</i>	03/01/2021	\$47.85	\$9.80	\$15.77	\$0.00	\$73.42
	09/01/2021	\$48.85	\$9.80	\$15.77	\$0.00	\$74.42
	03/01/2022	\$49.85	\$9.80	\$15.77	\$0.00	\$75.42
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 2</i>	12/01/2020	\$35.41	\$8.60	\$16.06	\$0.00	\$60.07
	06/01/2021	\$36.33	\$8.60	\$16.06	\$0.00	\$60.99
	12/01/2021	\$37.24	\$8.60	\$16.06	\$0.00	\$61.90
	06/01/2022	\$38.14	\$8.60	\$16.06	\$0.00	\$62.80
	12/01/2022	\$38.99	\$8.60	\$16.06	\$0.00	\$63.65
	06/01/2023	\$39.89	\$8.60	\$16.06	\$0.00	\$64.55
	12/01/2023	\$40.79	\$8.60	\$16.06	\$0.00	\$65.45
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$35.41	\$8.60	\$16.06	\$0.00	\$60.07
	06/01/2021	\$36.33	\$8.60	\$16.06	\$0.00	\$60.99
	12/01/2021	\$37.24	\$8.60	\$16.06	\$0.00	\$61.90
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
INSULATOR (PIPES & TANKS) <i>HEAT &amp; FROST INSULATORS LOCAL 6 (WORCESTER)</i>	09/01/2020	\$44.10	\$13.80	\$17.14	\$0.00	\$75.04
	09/01/2021	\$46.50	\$13.80	\$17.14	\$0.00	\$77.44
	09/01/2022	\$48.95	\$13.80	\$17.14	\$0.00	\$79.89

**Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Worcester**

**Effective Date -** 09/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.05	\$13.80	\$12.42	\$0.00	\$48.27
2	60	\$26.46	\$13.80	\$13.36	\$0.00	\$53.62
3	70	\$30.87	\$13.80	\$14.31	\$0.00	\$58.98
4	80	\$35.28	\$13.80	\$15.25	\$0.00	\$64.33

**Effective Date -** 09/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.25	\$13.80	\$12.42	\$0.00	\$49.47
2	60	\$27.90	\$13.80	\$13.36	\$0.00	\$55.06
3	70	\$32.55	\$13.80	\$14.31	\$0.00	\$60.66
4	80	\$37.20	\$13.80	\$15.25	\$0.00	\$66.25

**Notes:**

Steps are 1 year

**Apprentice to Journeyworker Ratio:1:4**

IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (WORCESTER AREA)</i>	09/16/2020	\$48.36	\$8.10	\$25.10	\$0.00	\$81.56
--	------------	---------	--------	---------	--------	---------

Apprentice - IRONWORKER - Local 7 Worcester

Effective Date - 09/16/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$29.02	\$8.10	\$25.10	\$0.00	\$62.22
2	70	\$33.85	\$8.10	\$25.10	\$0.00	\$67.05
3	75	\$36.27	\$8.10	\$25.10	\$0.00	\$69.47
4	80	\$38.69	\$8.10	\$25.10	\$0.00	\$71.89
5	85	\$41.11	\$8.10	\$25.10	\$0.00	\$74.31
6	90	\$43.52	\$8.10	\$25.10	\$0.00	\$76.72

Notes:

Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:

JACKHAMMER & PAVING BREAKER OPERATOR	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
LABORERS - ZONE 2	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
	06/01/2022	\$37.64	\$8.60	\$16.06	\$0.00	\$62.30
	12/01/2022	\$38.49	\$8.60	\$16.06	\$0.00	\$63.15
	06/01/2023	\$39.39	\$8.60	\$16.06	\$0.00	\$64.05
	12/01/2023	\$40.29	\$8.60	\$16.06	\$0.00	\$64.95

For apprentice rates see "Apprentice- LABORER"

LABORER	12/01/2020	\$34.66	\$8.60	\$16.06	\$0.00	\$59.32
LABORERS - ZONE 2	06/01/2021	\$35.58	\$8.60	\$16.06	\$0.00	\$60.24
	12/01/2021	\$36.49	\$8.60	\$16.06	\$0.00	\$61.15
	06/01/2022	\$37.39	\$8.60	\$16.06	\$0.00	\$62.05
	12/01/2022	\$38.24	\$8.60	\$16.06	\$0.00	\$62.90
	06/01/2023	\$39.14	\$8.60	\$16.06	\$0.00	\$63.80
	12/01/2023	\$40.04	\$8.60	\$16.06	\$0.00	\$64.70

**Apprentice - LABORER - Zone 2****Effective Date -** 12/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$20.80	\$8.60	\$16.06	\$0.00	\$45.46
2	70	\$24.26	\$8.60	\$16.06	\$0.00	\$48.92
3	80	\$27.73	\$8.60	\$16.06	\$0.00	\$52.39
4	90	\$31.19	\$8.60	\$16.06	\$0.00	\$55.85

**Effective Date -** 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$21.35	\$8.60	\$16.06	\$0.00	\$46.01
2	70	\$24.91	\$8.60	\$16.06	\$0.00	\$49.57
3	80	\$28.46	\$8.60	\$16.06	\$0.00	\$53.12
4	90	\$32.02	\$8.60	\$16.06	\$0.00	\$56.68

**Notes:****Apprentice to Journeyworker Ratio:1:5**

LABORER (HEAVY &amp; HIGHWAY)

LABORERS - ZONE 2 (HEAVY &amp; HIGHWAY)

12/01/2020	\$34.66	\$8.60	\$16.06	\$0.00	\$59.32
06/01/2021	\$35.58	\$8.60	\$16.06	\$0.00	\$60.24
12/01/2021	\$36.49	\$8.60	\$16.06	\$0.00	\$61.15

**Apprentice - LABORER (Heavy & Highway) - Zone 2****Effective Date -** 12/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$20.80	\$8.60	\$16.06	\$0.00	\$45.46
2	70	\$24.26	\$8.60	\$16.06	\$0.00	\$48.92
3	80	\$27.73	\$8.60	\$16.06	\$0.00	\$52.39
4	90	\$31.19	\$8.60	\$16.06	\$0.00	\$55.85

**Effective Date -** 06/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$21.35	\$8.60	\$16.06	\$0.00	\$46.01
2	70	\$24.91	\$8.60	\$16.06	\$0.00	\$49.57
3	80	\$28.46	\$8.60	\$16.06	\$0.00	\$53.12
4	90	\$32.02	\$8.60	\$16.06	\$0.00	\$56.68

**Notes:****Apprentice to Journeyworker Ratio:1:5**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER <i>LABORERS - ZONE 2</i>	12/01/2020	\$34.66	\$8.60	\$16.06	\$0.00	\$59.32
	06/01/2021	\$35.58	\$8.60	\$16.06	\$0.00	\$60.24
	12/01/2021	\$36.49	\$8.60	\$16.06	\$0.00	\$61.15
	06/01/2022	\$37.39	\$8.60	\$16.06	\$0.00	\$62.05
	12/01/2022	\$38.24	\$8.60	\$16.06	\$0.00	\$62.90
	06/01/2023	\$39.14	\$8.60	\$16.06	\$0.00	\$63.80
	12/01/2023	\$40.04	\$8.60	\$16.06	\$0.00	\$64.70
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER <i>LABORERS - ZONE 2</i>	12/01/2020	\$34.66	\$8.60	\$16.06	\$0.00	\$59.32
	06/01/2021	\$35.58	\$8.60	\$16.06	\$0.00	\$60.24
	12/01/2021	\$36.49	\$8.60	\$16.06	\$0.00	\$61.15
	06/01/2022	\$37.39	\$8.60	\$16.06	\$0.00	\$62.05
	12/01/2022	\$38.24	\$8.60	\$16.06	\$0.00	\$62.90
	06/01/2023	\$39.14	\$8.60	\$16.06	\$0.00	\$63.80
	12/01/2023	\$40.04	\$8.60	\$16.06	\$0.00	\$64.70
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 2</i>	12/01/2020	\$34.75	\$8.60	\$16.12	\$0.00	\$59.47
	06/01/2021	\$35.67	\$8.60	\$16.12	\$0.00	\$60.39
	12/01/2021	\$36.58	\$8.60	\$16.12	\$0.00	\$61.30
	06/01/2022	\$37.48	\$8.60	\$16.12	\$0.00	\$62.20
	12/01/2022	\$38.33	\$8.60	\$16.12	\$0.00	\$63.05
	06/01/2023	\$39.23	\$8.60	\$16.12	\$0.00	\$63.95
	12/01/2023	\$40.13	\$8.60	\$16.12	\$0.00	\$64.85
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER <i>LABORERS - ZONE 2</i>	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
	06/01/2022	\$37.64	\$8.60	\$16.06	\$0.00	\$62.30
	12/01/2022	\$38.49	\$8.60	\$16.06	\$0.00	\$63.15
	06/01/2023	\$39.39	\$8.60	\$16.06	\$0.00	\$64.05
	12/01/2023	\$40.29	\$8.60	\$16.06	\$0.00	\$64.95
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 2</i>	12/01/2020	\$34.66	\$8.60	\$16.06	\$0.00	\$59.32
	06/01/2021	\$35.58	\$8.60	\$16.06	\$0.00	\$60.24
	12/01/2021	\$36.49	\$8.60	\$16.06	\$0.00	\$61.15
	06/01/2022	\$37.39	\$8.60	\$16.06	\$0.00	\$62.05
	12/01/2022	\$38.24	\$8.60	\$16.06	\$0.00	\$62.90
	06/01/2023	\$39.14	\$8.60	\$16.06	\$0.00	\$63.80
	12/01/2023	\$40.04	\$8.60	\$16.06	\$0.00	\$64.70
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: TREE REMOVER <i>LABORERS - ZONE 2</i>	12/01/2020	\$34.66	\$8.60	\$16.06	\$0.00	\$59.32
	06/01/2021	\$35.58	\$8.60	\$16.06	\$0.00	\$60.24
	12/01/2021	\$36.49	\$8.60	\$16.06	\$0.00	\$61.15
	06/01/2022	\$37.39	\$8.60	\$16.06	\$0.00	\$62.05
	12/01/2022	\$38.24	\$8.60	\$16.06	\$0.00	\$62.90
	06/01/2023	\$39.14	\$8.60	\$16.06	\$0.00	\$63.80
	12/01/2023	\$40.04	\$8.60	\$16.06	\$0.00	\$64.70
This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
	06/01/2022	\$37.64	\$8.60	\$16.06	\$0.00	\$62.30
	12/01/2022	\$38.49	\$8.60	\$16.06	\$0.00	\$63.15
	06/01/2023	\$39.39	\$8.60	\$16.06	\$0.00	\$64.05
	12/01/2023	\$40.29	\$8.60	\$16.06	\$0.00	\$64.95
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE &amp; TILE</i>	02/01/2021	\$42.57	\$11.39	\$20.14	\$0.00	\$74.10
	08/01/2021	\$43.69	\$11.39	\$20.30	\$0.00	\$75.38
	02/01/2022	\$44.16	\$11.39	\$20.30	\$0.00	\$75.85

**Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile**

**Effective Date -** 02/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.29	\$11.39	\$20.14	\$0.00	\$52.82
2	60	\$25.54	\$11.39	\$20.14	\$0.00	\$57.07
3	70	\$29.80	\$11.39	\$20.14	\$0.00	\$61.33
4	80	\$34.06	\$11.39	\$20.14	\$0.00	\$65.59
5	90	\$38.31	\$11.39	\$20.14	\$0.00	\$69.84

**Effective Date -** 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.85	\$11.39	\$20.30	\$0.00	\$53.54
2	60	\$26.21	\$11.39	\$20.30	\$0.00	\$57.90
3	70	\$30.58	\$11.39	\$20.30	\$0.00	\$62.27
4	80	\$34.95	\$11.39	\$20.30	\$0.00	\$66.64
5	90	\$39.32	\$11.39	\$20.30	\$0.00	\$71.01

**Notes:**

**Apprentice to Journeyworker Ratio:1:3**



Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
MARBLE MASONS, TILELAYERS & TERRAZZO MECH <i>BRICKLAYERS LOCAL 3 - MARBLE &amp; TILE</i>	02/01/2021	\$55.77	\$11.39	\$22.08	\$0.00	\$89.24
	08/01/2021	\$57.17	\$11.39	\$22.24	\$0.00	\$90.80
	02/01/2022	\$57.74	\$11.39	\$22.24	\$0.00	\$91.37

**Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile**

**Effective Date -** 02/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.89	\$11.39	\$22.08	\$0.00	\$61.36
2	60	\$33.46	\$11.39	\$22.08	\$0.00	\$66.93
3	70	\$39.04	\$11.39	\$22.08	\$0.00	\$72.51
4	80	\$44.62	\$11.39	\$22.08	\$0.00	\$78.09
5	90	\$50.19	\$11.39	\$22.08	\$0.00	\$83.66

**Effective Date -** 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.59	\$11.39	\$22.24	\$0.00	\$62.22
2	60	\$34.30	\$11.39	\$22.24	\$0.00	\$67.93
3	70	\$40.02	\$11.39	\$22.24	\$0.00	\$73.65
4	80	\$45.74	\$11.39	\$22.24	\$0.00	\$79.37
5	90	\$51.45	\$11.39	\$22.24	\$0.00	\$85.08

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 3) <i>MILLWRIGHTS LOCAL 1121 - Zone 3</i>	01/04/2021	\$37.96	\$9.40	\$20.45	\$0.00	\$67.81
	01/03/2022	\$39.21	\$9.40	\$20.45	\$0.00	\$69.06
	01/02/2023	\$40.46	\$9.40	\$20.45	\$0.00	\$70.31

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Apprentice - MILLWRIGHT - Local 1121 Zone 3</b>						
<b>Effective Date - 01/04/2021</b>						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$20.88	\$9.40	\$5.58	\$0.00	\$35.86
2	65	\$24.67	\$9.40	\$16.90	\$0.00	\$50.97
3	75	\$28.47	\$9.40	\$17.92	\$0.00	\$55.79
4	85	\$32.27	\$9.40	\$18.93	\$0.00	\$60.60
<b>Effective Date - 01/03/2022</b>						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$21.57	\$9.40	\$5.58	\$0.00	\$36.55
2	65	\$25.49	\$9.40	\$16.90	\$0.00	\$51.79
3	75	\$29.41	\$9.40	\$17.92	\$0.00	\$56.73
4	85	\$33.33	\$9.40	\$18.93	\$0.00	\$61.66
<div> <b>Notes:</b> Step 1&amp;2 Appr. indentured after 1/1/2020 receive no pension, but do receive annuity. (Step 1 \$5.58, Step 2 \$6.50)  Steps are 2,000 hours </div>						
<b>Apprentice to Journeyworker Ratio:1:5</b>						
<b>MORTAR MIXER</b>						
<i>LABORERS - ZONE 2</i>						
		12/01/2020	\$34.91	\$8.60	\$16.06	\$59.57
		06/01/2021	\$35.83	\$8.60	\$16.06	\$60.49
		12/01/2021	\$36.74	\$8.60	\$16.06	\$61.40
		06/01/2022	\$37.64	\$8.60	\$16.06	\$62.30
		12/01/2022	\$38.49	\$8.60	\$16.06	\$63.15
		06/01/2023	\$39.39	\$8.60	\$16.06	\$64.05
		12/01/2023	\$40.29	\$8.60	\$16.06	\$64.95
For apprentice rates see "Apprentice- LABORER"						
<b>OILER (OTHER THAN TRUCK CRANES,GRADALLS)</b>						
<i>OPERATING ENGINEERS LOCAL 4</i>						
		12/01/2020	\$23.20	\$13.50	\$15.70	\$52.40
		06/01/2021	\$23.75	\$13.50	\$15.70	\$52.95
		12/01/2021	\$24.33	\$13.50	\$15.70	\$53.53
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
<b>OILER (TRUCK CRANES, GRADALLS)</b>						
<i>OPERATING ENGINEERS LOCAL 4</i>						
		12/01/2020	\$27.97	\$13.50	\$15.70	\$57.17
		06/01/2021	\$28.61	\$13.50	\$15.70	\$57.81
		12/01/2021	\$29.29	\$13.50	\$15.70	\$58.49
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
<b>OTHER POWER DRIVEN EQUIPMENT - CLASS II</b>						
<i>OPERATING ENGINEERS LOCAL 4</i>						
		12/01/2020	\$49.45	\$13.50	\$15.70	\$78.65
		06/01/2021	\$50.54	\$13.50	\$15.70	\$79.74
		12/01/2021	\$51.68	\$13.50	\$15.70	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
<b>PAINTER (BRIDGES/TANKS)</b>						
<i>PAINTERS LOCAL 35 - ZONE 2</i>						
		01/01/2021	\$52.06	\$8.25	\$22.75	\$83.06

**Apprentice - PAINTER Local 35 - BRIDGES/TANKS****Effective Date -** 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.03	\$8.25	\$0.00	\$0.00	\$34.28
2	55	\$28.63	\$8.25	\$6.16	\$0.00	\$43.04
3	60	\$31.24	\$8.25	\$6.72	\$0.00	\$46.21
4	65	\$33.84	\$8.25	\$7.28	\$0.00	\$49.37
5	70	\$36.44	\$8.25	\$19.39	\$0.00	\$64.08
6	75	\$39.05	\$8.25	\$19.95	\$0.00	\$67.25
7	80	\$41.65	\$8.25	\$20.51	\$0.00	\$70.41
8	90	\$46.85	\$8.25	\$21.63	\$0.00	\$76.73

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER (SPRAY OR SANDBLAST, NEW) \*

01/01/2021

\$42.96

\$8.25

\$22.75

\$0.00

\$73.96

\* If 30% or more of surfaces to be painted are new construction,

NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2

**Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New****Effective Date -** 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.48	\$8.25	\$0.00	\$0.00	\$29.73
2	55	\$23.63	\$8.25	\$6.16	\$0.00	\$38.04
3	60	\$25.78	\$8.25	\$6.72	\$0.00	\$40.75
4	65	\$27.92	\$8.25	\$7.28	\$0.00	\$43.45
5	70	\$30.07	\$8.25	\$19.39	\$0.00	\$57.71
6	75	\$32.22	\$8.25	\$19.95	\$0.00	\$60.42
7	80	\$34.37	\$8.25	\$20.51	\$0.00	\$63.13
8	90	\$38.66	\$8.25	\$21.63	\$0.00	\$68.54

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER (SPRAY OR SANDBLAST, REPAINT)

01/01/2021

\$41.02

\$8.25

\$22.75

\$0.00

\$72.02

PAINTERS LOCAL 35 - ZONE 2

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint**
**Effective Date - 01/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.51	\$8.25	\$0.00	\$0.00	\$28.76
2	55	\$22.56	\$8.25	\$6.16	\$0.00	\$36.97
3	60	\$24.61	\$8.25	\$6.72	\$0.00	\$39.58
4	65	\$26.66	\$8.25	\$7.28	\$0.00	\$42.19
5	70	\$28.71	\$8.25	\$19.39	\$0.00	\$56.35
6	75	\$30.77	\$8.25	\$19.95	\$0.00	\$58.97
7	80	\$32.82	\$8.25	\$20.51	\$0.00	\$61.58
8	90	\$36.92	\$8.25	\$21.63	\$0.00	\$66.80

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER / TAPER (BRUSH, NEW) *	01/01/2021	\$41.56	\$8.25	\$22.75	\$0.00	\$72.56
--------------------------------	------------	---------	--------	---------	--------	---------

\* If 30% or more of surfaces to be painted are new construction,  
NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2

**Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW**
**Effective Date - 01/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.78	\$8.25	\$0.00	\$0.00	\$29.03
2	55	\$22.86	\$8.25	\$6.16	\$0.00	\$37.27
3	60	\$24.94	\$8.25	\$6.72	\$0.00	\$39.91
4	65	\$27.01	\$8.25	\$7.28	\$0.00	\$42.54
5	70	\$29.09	\$8.25	\$19.39	\$0.00	\$56.73
6	75	\$31.17	\$8.25	\$19.95	\$0.00	\$59.37
7	80	\$33.25	\$8.25	\$20.51	\$0.00	\$62.01
8	90	\$37.40	\$8.25	\$21.63	\$0.00	\$67.28

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2021	\$39.62	\$8.25	\$22.75	\$0.00	\$70.62
----------------------------------	------------	---------	--------	---------	--------	---------

PAINTERS LOCAL 35 - ZONE 2

**Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT**

**Effective Date -** 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.81	\$8.25	\$0.00	\$0.00	\$28.06
2	55	\$21.79	\$8.25	\$6.16	\$0.00	\$36.20
3	60	\$23.77	\$8.25	\$6.72	\$0.00	\$38.74
4	65	\$25.75	\$8.25	\$7.28	\$0.00	\$41.28
5	70	\$27.73	\$8.25	\$19.39	\$0.00	\$55.37
6	75	\$29.72	\$8.25	\$19.95	\$0.00	\$57.92
7	80	\$31.70	\$8.25	\$20.51	\$0.00	\$60.46
8	90	\$35.66	\$8.25	\$21.63	\$0.00	\$65.54

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY)	12/01/2020	\$34.66	\$8.60	\$16.06	\$0.00	\$59.32
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2021	\$35.58	\$8.60	\$16.06	\$0.00	\$60.24
	12/01/2021	\$36.49	\$8.60	\$16.06	\$0.00	\$61.15
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
PANEL & PICKUP TRUCKS DRIVER	12/01/2020	\$34.98	\$12.91	\$14.82	\$0.00	\$62.71
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	06/01/2021	\$35.78	\$12.91	\$14.82	\$0.00	\$63.51
	08/01/2021	\$35.78	\$13.41	\$14.82	\$0.00	\$64.01
	12/01/2021	\$35.78	\$13.41	\$16.01	\$0.00	\$65.20
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK)	08/01/2020	\$46.11	\$9.40	\$23.12	\$0.00	\$78.63
PILE DRIVER LOCAL 56 (ZONE 2)						
For apprentice rates see "Apprentice- PILE DRIVER"						
PILE DRIVER	08/01/2020	\$46.11	\$9.40	\$23.12	\$0.00	\$78.63
PILE DRIVER LOCAL 56 (ZONE 2)						

**Apprentice - PILE DRIVER - Local 56 Zone 2**

**Effective Date -** 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

**Notes:** Apprentice wages shall be no less than the following Steps;

(Same as set in Zone 1)

1\$57.06/2\$61.96/3\$66.87/4\$69.32/5\$71.78/6\$71.78/7\$76.68/8\$76.68

**Apprentice to Journeyworker Ratio:1:5**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIPELAYER <i>LABORERS - ZONE 2</i>	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
	06/01/2022	\$37.64	\$8.60	\$16.06	\$0.00	\$62.30
	12/01/2022	\$38.49	\$8.60	\$16.06	\$0.00	\$63.15
	06/01/2023	\$39.39	\$8.60	\$16.06	\$0.00	\$64.05
	12/01/2023	\$40.29	\$8.60	\$16.06	\$0.00	\$64.95
For apprentice rates see "Apprentice- LABORER"						
PIPELAYER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
PLUMBER & PIPEFITTER <i>PLUMBERS LOCAL 4</i>	03/01/2021	\$47.85	\$9.80	\$15.77	\$0.00	\$73.42
	09/01/2021	\$48.85	\$9.80	\$15.77	\$0.00	\$74.42
	03/01/2022	\$49.85	\$9.80	\$15.77	\$0.00	\$75.42

**Apprentice - PLUMBER/PIPEFITTER - Local 4**

**Effective Date - 03/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.14	\$9.80	\$0.00	\$0.00	\$28.94
2	50	\$23.93	\$9.80	\$0.00	\$0.00	\$33.73
3	60	\$28.71	\$9.80	\$0.00	\$0.00	\$38.51
4	70	\$33.50	\$9.80	\$6.06	\$0.00	\$49.36
5	80	\$38.28	\$9.80	\$6.06	\$0.00	\$54.14

**Effective Date - 09/01/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.54	\$9.80	\$0.00	\$0.00	\$29.34
2	50	\$24.43	\$9.80	\$0.00	\$0.00	\$34.23
3	60	\$29.31	\$9.80	\$0.00	\$0.00	\$39.11
4	70	\$34.20	\$9.80	\$6.06	\$0.00	\$50.06
5	80	\$39.08	\$9.80	\$6.06	\$0.00	\$54.94

**Notes:**

Steps - 2000 hrs; Step 4 w/lic 75%, Step 5 w/lic 85%  
Step 4 w/lic \$51.75, Step 5 w/lic \$56.53

**Apprentice to Journeyworker Ratio:1:3**

PNEUMATIC CONTROLS (TEMP.) <i>PLUMBERS LOCAL 4</i>	03/01/2021	\$47.85	\$9.80	\$15.77	\$0.00	\$73.42
	09/01/2021	\$48.85	\$9.80	\$15.77	\$0.00	\$74.42
	03/01/2022	\$49.85	\$9.80	\$15.77	\$0.00	\$75.42
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
	06/01/2022	\$37.64	\$8.60	\$16.06	\$0.00	\$62.30
	12/01/2022	\$38.49	\$8.60	\$16.06	\$0.00	\$63.15
	06/01/2023	\$39.39	\$8.60	\$16.06	\$0.00	\$64.05
	12/01/2023	\$40.29	\$8.60	\$16.06	\$0.00	\$64.95
For apprentice rates see "Apprentice- LABORER"						
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWDERMAN & BLASTER <i>LABORERS - ZONE 2</i>	12/01/2020	\$35.66	\$8.60	\$16.06	\$0.00	\$60.32
	06/01/2021	\$36.58	\$8.60	\$16.06	\$0.00	\$61.24
	12/01/2021	\$37.49	\$8.60	\$16.06	\$0.00	\$62.15
	06/01/2022	\$38.39	\$8.60	\$16.06	\$0.00	\$63.05
	12/01/2022	\$39.24	\$8.60	\$16.06	\$0.00	\$63.90
	06/01/2023	\$40.14	\$8.60	\$16.06	\$0.00	\$64.80
	12/01/2023	\$41.04	\$8.60	\$16.06	\$0.00	\$65.70
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY &amp; HIGHWAY)</i>	12/01/2020	\$35.66	\$8.60	\$16.06	\$0.00	\$60.32
	06/01/2021	\$36.58	\$8.60	\$16.06	\$0.00	\$61.24
	12/01/2021	\$37.49	\$8.60	\$16.06	\$0.00	\$62.15
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.98	\$13.50	\$15.70	\$0.00	\$79.18
	06/01/2021	\$51.08	\$13.50	\$15.70	\$0.00	\$80.28
	12/01/2021	\$52.23	\$13.50	\$15.70	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.98	\$13.50	\$15.70	\$0.00	\$79.18
	06/01/2021	\$51.08	\$13.50	\$15.70	\$0.00	\$80.28
	12/01/2021	\$52.23	\$13.50	\$15.70	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$33.00	\$13.50	\$15.70	\$0.00	\$62.20
	06/01/2021	\$33.75	\$13.50	\$15.70	\$0.00	\$62.95
	12/01/2021	\$34.54	\$13.50	\$15.70	\$0.00	\$63.74
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 170 - Dauphinais (Bellingham)</i>	01/01/2021	\$25.00	\$9.31	\$3.20	\$0.00	\$37.51
	12/01/2021	\$25.75	\$9.76	\$4.00	\$0.00	\$39.51
	01/01/2022	\$25.75	\$9.76	\$4.00	\$0.00	\$39.51
	12/01/2022	\$26.40	\$10.26	\$4.75	\$0.00	\$41.41
	01/01/2023	\$26.40	\$10.26	\$4.75	\$0.00	\$41.41
	12/01/2023	\$27.00	\$10.76	\$5.45	\$0.00	\$43.21
	01/01/2024	\$27.00	\$10.76	\$5.45	\$0.00	\$43.21
	12/01/2024	\$27.60	\$11.26	\$6.15	\$0.00	\$45.01
	01/01/2025	\$27.60	\$11.26	\$6.15	\$0.00	\$45.01

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
RECLAIMERS	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
OPERATING ENGINEERS LOCAL 4	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
LABORERS - ZONE 2	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
	06/01/2022	\$37.64	\$8.60	\$16.06	\$0.00	\$62.30
	12/01/2022	\$38.49	\$8.60	\$16.06	\$0.00	\$63.15
	06/01/2023	\$39.39	\$8.60	\$16.06	\$0.00	\$64.05
	12/01/2023	\$40.29	\$8.60	\$16.06	\$0.00	\$64.95
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
OPERATING ENGINEERS LOCAL 4	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roofers Waterproofing &Roofers Damproofg)	02/01/2021	\$46.60	\$12.28	\$17.15	\$0.00	\$76.03
ROOFERS LOCAL 33	08/01/2021	\$48.03	\$12.28	\$17.15	\$0.00	\$77.46
	02/01/2022	\$49.46	\$12.28	\$17.15	\$0.00	\$78.89

#### Apprentice - ROOFER - Local 33

Effective Date - 02/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.30	\$12.28	\$4.31	\$0.00	\$39.89
2	60	\$27.96	\$12.28	\$17.15	\$0.00	\$57.39
3	65	\$30.29	\$12.28	\$17.15	\$0.00	\$59.72
4	75	\$34.95	\$12.28	\$17.15	\$0.00	\$64.38
5	85	\$39.61	\$12.28	\$17.15	\$0.00	\$69.04

Effective Date - 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.02	\$12.28	\$4.31	\$0.00	\$40.61
2	60	\$28.82	\$12.28	\$17.15	\$0.00	\$58.25
3	65	\$31.22	\$12.28	\$17.15	\$0.00	\$60.65
4	75	\$36.02	\$12.28	\$17.15	\$0.00	\$65.45
5	85	\$40.83	\$12.28	\$17.15	\$0.00	\$70.26

**Notes:** \*\* 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1  
Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.  
(Hot Pitch Mechanics' receive \$1.00 hr. above ROOFER)

**Apprentice to Journeyworker Ratio:\*\***

ROOFER SLATE / TILE / PRECAST CONCRETE	02/01/2021	\$46.85	\$12.28	\$17.15	\$0.00	\$76.28
ROOFERS LOCAL 33	08/01/2021	\$48.28	\$12.28	\$17.15	\$0.00	\$77.71
	02/01/2022	\$49.71	\$12.28	\$17.15	\$0.00	\$79.14
For apprentice rates see "Apprentice- ROOFER"						



Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SHEETMETAL WORKER	01/01/2021	\$37.24	\$10.64	\$17.33	\$1.96	\$67.17
<i>SHEETMETAL WORKERS LOCAL 63</i>	07/01/2021	\$38.29	\$10.64	\$17.33	\$1.99	\$68.25
	01/01/2022	\$39.29	\$10.64	\$17.33	\$2.02	\$69.28

**Apprentice - SHEET METAL WORKER - Local 63**

**Effective Date -** 01/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$16.76	\$4.79	\$4.67	\$0.79	\$27.01
2	50	\$18.62	\$5.32	\$5.19	\$0.87	\$30.00
3	55	\$20.48	\$5.85	\$9.33	\$1.07	\$36.73
4	60	\$22.34	\$6.38	\$9.33	\$1.14	\$39.19
5	65	\$24.21	\$6.92	\$9.33	\$1.21	\$41.67
6	70	\$26.07	\$7.45	\$9.33	\$1.29	\$44.14
7	75	\$27.93	\$7.98	\$9.33	\$1.36	\$46.60
8	80	\$29.79	\$8.51	\$16.29	\$1.64	\$56.23
9	85	\$31.65	\$9.04	\$16.29	\$1.71	\$58.69
10	90	\$33.52	\$9.58	\$16.29	\$1.78	\$61.17

**Notes:**

**Apprentice to Journeyworker Ratio:1:3**

SPECIALIZED EARTH MOVING EQUIP < 35 TONS	12/01/2020	\$35.44	\$12.91	\$14.82	\$0.00	\$63.17
<i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2021	\$36.24	\$12.91	\$14.82	\$0.00	\$63.97
	08/01/2021	\$36.24	\$13.41	\$14.82	\$0.00	\$64.47
	12/01/2021	\$36.24	\$13.41	\$16.01	\$0.00	\$65.66
SPECIALIZED EARTH MOVING EQUIP > 35 TONS	12/01/2020	\$35.73	\$12.91	\$14.82	\$0.00	\$63.46
<i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	06/01/2021	\$36.53	\$12.91	\$14.82	\$0.00	\$64.26
	08/01/2021	\$36.53	\$13.41	\$14.82	\$0.00	\$64.76
	12/01/2021	\$36.53	\$13.41	\$16.01	\$0.00	\$65.95
SPRINKLER FITTER	01/01/2019	\$41.51	\$10.02	\$13.08	\$0.00	\$64.61
<i>SPRINKLER FITTERS LOCAL 669</i>						

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - SPRINKLER FITTER - Local 669**
**Effective Date - 01/01/2019**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$18.68	\$7.75	\$0.00	\$0.00	\$26.43
2	50	\$20.76	\$7.75	\$0.00	\$0.00	\$28.51
3	55	\$22.83	\$10.02	\$7.25	\$0.00	\$40.10
4	60	\$24.91	\$10.02	\$7.25	\$0.00	\$42.18
5	65	\$26.98	\$10.02	\$7.50	\$0.00	\$44.50
6	70	\$29.06	\$10.02	\$7.50	\$0.00	\$46.58
7	75	\$31.13	\$10.02	\$7.50	\$0.00	\$48.65
8	80	\$33.21	\$10.02	\$7.50	\$0.00	\$50.73
9	85	\$35.28	\$10.02	\$7.50	\$0.00	\$52.80
10	90	\$37.36	\$10.02	\$7.50	\$0.00	\$54.88

**Notes:**
**Apprentice to Journeyworker Ratio:1:1**
**STEAM BOILER OPERATOR**
*OPERATING ENGINEERS LOCAL 4*

12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

**TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN**
*OPERATING ENGINEERS LOCAL 4*

12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

**TERRAZZO FINISHERS**
*BRICKLAYERS LOCAL 3 - MARBLE & TILE*

02/01/2021	\$54.69	\$11.39	\$22.09	\$0.00	\$88.17
08/01/2021	\$56.09	\$11.39	\$22.25	\$0.00	\$89.73
02/01/2022	\$56.68	\$11.39	\$22.25	\$0.00	\$90.32

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
----------------	----------------	-----------	--------	---------	---------------------------	------------

**Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile**

**Effective Date -** 02/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.35	\$11.39	\$22.09	\$0.00	\$60.83
2	60	\$32.81	\$11.39	\$22.09	\$0.00	\$66.29
3	70	\$38.28	\$11.39	\$22.09	\$0.00	\$71.76
4	80	\$43.75	\$11.39	\$22.09	\$0.00	\$77.23
5	90	\$49.22	\$11.39	\$22.09	\$0.00	\$82.70

**Effective Date -** 08/01/2021

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.05	\$11.39	\$22.25	\$0.00	\$61.69
2	60	\$33.65	\$11.39	\$22.25	\$0.00	\$67.29
3	70	\$39.26	\$11.39	\$22.25	\$0.00	\$72.90
4	80	\$44.87	\$11.39	\$22.25	\$0.00	\$78.51
5	90	\$50.48	\$11.39	\$22.25	\$0.00	\$84.12

**Notes:**

**Apprentice to Journeyworker Ratio:1:3**

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2020	\$41.30	\$8.60	\$17.47	\$0.00	\$67.37
	06/01/2021	\$42.32	\$8.60	\$17.47	\$0.00	\$68.39
	12/01/2021	\$43.33	\$8.60	\$17.47	\$0.00	\$69.40
For apprentice rates see "Apprentice- LABORER"						
TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2020	\$40.02	\$8.60	\$17.47	\$0.00	\$66.09
	06/01/2021	\$41.04	\$8.60	\$17.47	\$0.00	\$67.11
	12/01/2021	\$42.05	\$8.60	\$17.47	\$0.00	\$68.12
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2020	\$39.90	\$8.60	\$17.47	\$0.00	\$65.97
	06/01/2021	\$40.92	\$8.60	\$17.47	\$0.00	\$66.99
	12/01/2021	\$41.93	\$8.60	\$17.47	\$0.00	\$68.00
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2020	\$49.45	\$13.50	\$15.70	\$0.00	\$78.65
	06/01/2021	\$50.54	\$13.50	\$15.70	\$0.00	\$79.74
	12/01/2021	\$51.68	\$13.50	\$15.70	\$0.00	\$80.88
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2020	\$36.02	\$12.91	\$14.82	\$0.00	\$63.75
	06/01/2021	\$36.82	\$12.91	\$14.82	\$0.00	\$64.55
	08/01/2021	\$36.82	\$13.41	\$14.82	\$0.00	\$65.05
	12/01/2021	\$36.82	\$13.41	\$16.01	\$0.00	\$66.24
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	12/01/2020	\$52.13	\$8.60	\$17.92	\$0.00	\$78.65
	06/01/2021	\$53.15	\$8.60	\$17.92	\$0.00	\$79.67
	12/01/2021	\$54.16	\$8.60	\$17.92	\$0.00	\$80.68
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2020	\$54.13	\$8.60	\$17.92	\$0.00	\$80.65
	06/01/2021	\$55.15	\$8.60	\$17.92	\$0.00	\$81.67
	12/01/2021	\$56.16	\$8.60	\$17.92	\$0.00	\$82.68
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2020	\$44.20	\$8.60	\$17.92	\$0.00	\$70.72
	06/01/2021	\$45.22	\$8.60	\$17.92	\$0.00	\$71.74
	12/01/2021	\$46.23	\$8.60	\$17.92	\$0.00	\$72.75
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2020	\$46.20	\$8.60	\$17.92	\$0.00	\$72.72
	06/01/2021	\$47.22	\$8.60	\$17.92	\$0.00	\$73.74
	12/01/2021	\$48.23	\$8.60	\$17.92	\$0.00	\$74.75
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2020	\$35.44	\$12.91	\$14.82	\$0.00	\$63.17
	06/01/2021	\$36.24	\$12.91	\$14.82	\$0.00	\$63.97
	08/01/2021	\$36.24	\$13.41	\$14.82	\$0.00	\$64.47
	12/01/2021	\$36.24	\$13.41	\$16.01	\$0.00	\$65.66
VOICE-DATA-VIDEO TECHNICIAN <i>ELECTRICIANS LOCAL 96</i>	09/06/2020	\$31.54	\$11.13	\$15.54	\$0.00	\$58.21
	09/05/2021	\$32.86	\$11.57	\$15.72	\$0.00	\$60.15
	09/04/2022	\$34.19	\$12.20	\$15.91	\$0.00	\$62.30

**Apprentice - VOICE-DATA-VIDEO TECHNICIAN - Local 96**

**Effective Date - 09/06/2020**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$15.77	\$11.13	\$3.94	\$0.00	\$30.84
2	55	\$17.35	\$11.13	\$3.99	\$0.00	\$32.47
3	60	\$18.92	\$11.13	\$15.16	\$0.00	\$45.21
4	65	\$20.50	\$11.13	\$15.21	\$0.00	\$46.84
5	70	\$22.08	\$11.13	\$15.25	\$0.00	\$48.46
6	75	\$23.66	\$11.13	\$15.30	\$0.00	\$50.09
7	80	\$25.23	\$11.13	\$15.35	\$0.00	\$51.71
8	85	\$26.81	\$11.13	\$15.39	\$0.00	\$53.33

**Effective Date - 09/05/2021**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$16.43	\$11.57	\$4.10	\$0.00	\$32.10
2	55	\$18.07	\$11.57	\$4.15	\$0.00	\$33.79
3	60	\$19.72	\$11.57	\$15.32	\$0.00	\$46.61
4	65	\$21.36	\$11.57	\$15.37	\$0.00	\$48.30
5	70	\$23.00	\$11.57	\$15.42	\$0.00	\$49.99
6	75	\$24.65	\$11.57	\$15.47	\$0.00	\$51.69
7	80	\$26.29	\$11.57	\$15.35	\$0.00	\$53.21
8	85	\$27.93	\$11.57	\$15.39	\$0.00	\$54.89

**Notes:**

**Apprentice to Journeyworker Ratio:1:1**

WAGON DRILL OPERATOR	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
LABORERS - ZONE 2	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
	06/01/2022	\$37.64	\$8.60	\$16.06	\$0.00	\$62.30
	12/01/2022	\$38.49	\$8.60	\$16.06	\$0.00	\$63.15
	06/01/2023	\$39.39	\$8.60	\$16.06	\$0.00	\$64.05
	12/01/2023	\$40.29	\$8.60	\$16.06	\$0.00	\$64.95
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY)	12/01/2020	\$34.91	\$8.60	\$16.06	\$0.00	\$59.57
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2021	\$35.83	\$8.60	\$16.06	\$0.00	\$60.49
	12/01/2021	\$36.74	\$8.60	\$16.06	\$0.00	\$61.40
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WASTE WATER PUMP OPERATOR	12/01/2020	\$49.98	\$13.50	\$15.70	\$0.00	\$79.18
OPERATING ENGINEERS LOCAL 4	06/01/2021	\$51.08	\$13.50	\$15.70	\$0.00	\$80.28
	12/01/2021	\$52.23	\$13.50	\$15.70	\$0.00	\$81.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WATER METER INSTALLER <i>PLUMBERS LOCAL 4</i>	03/01/2021	\$47.85	\$9.80	\$15.77	\$0.00	\$73.42
	09/01/2021	\$48.85	\$9.80	\$15.77	\$0.00	\$74.42
	03/01/2022	\$49.85	\$9.80	\$15.77	\$0.00	\$75.42
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
<b>Outside Electrical - East</b>						
CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$29.67	\$9.25	\$1.89	\$0.00	\$40.81
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$42.03	\$9.25	\$10.27	\$0.00	\$61.55
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$34.62	\$9.25	\$10.07	\$0.00	\$53.94
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$27.20	\$9.25	\$1.82	\$0.00	\$38.27
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$42.03	\$9.25	\$14.35	\$0.00	\$65.63
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$37.09	\$9.25	\$10.87	\$0.00	\$57.21
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$27.20	\$9.25	\$1.82	\$0.00	\$38.27
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$22.25	\$9.25	\$1.82	\$0.00	\$33.32
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/30/2020	\$49.45	\$9.25	\$17.48	\$0.00	\$76.18

**Apprentice - LINEMAN (Outside Electrical) - East Local 104**

**Effective Date -** 08/30/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$29.67	\$9.25	\$3.39	\$0.00	\$42.31
2	65	\$32.14	\$9.25	\$3.46	\$0.00	\$44.85
3	70	\$34.62	\$9.25	\$3.54	\$0.00	\$47.41
4	75	\$37.09	\$9.25	\$5.11	\$0.00	\$51.45
5	80	\$39.56	\$9.25	\$5.19	\$0.00	\$54.00
6	85	\$42.03	\$9.25	\$5.26	\$0.00	\$56.54
7	90	\$44.51	\$9.25	\$7.34	\$0.00	\$61.10

**Notes:**

**Apprentice to Journeyworker Ratio:1:2**

TELEDATA CABLE SPLICER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	02/04/2019	\$30.73	\$4.70	\$3.17	\$0.00	\$38.60
--	------------	---------	--------	--------	--------	---------

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TELEDATA LINEMAN/EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	02/04/2019	\$28.93	\$4.70	\$3.14	\$0.00	\$36.77
TELEDATA WIREMAN/INSTALLER/TECHNICIAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	02/04/2019	\$28.93	\$4.70	\$3.14	\$0.00	\$36.77

Additional Apprentices Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours.)

Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

\*\* Multiple ratios are listed in the comment field.

\*\*\* APP to JM; 1:1, 2:2, 2:3, 3:4, 4:4, 4:5, 4:6, 5:7, 6:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.

\*\*\*\* APP to JM; 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.

SECTION 01010

SUMMARY OF WORK

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.02 PROJECT IDENTIFICATION AND DESCRIPTION OF WORK

- A. Project Identification: The name of the Project on Bidding and Contract Documents (Invitation to Bids) is MILLBURY PUBLIC SCHOOLS – ELMWOOD FRONT ENTRY VESTIBULE PROJECT at ELMWOOD STREET ELEMENTARY SCHOOL, 40 Elmwood Street, Millbury, Massachusetts 01527, BID #0186-2101.
- B. Work of this Contract includes renovations and modifications of the front entry vestibule at Elmwood Street School in order to increase control and access into the building for security purposes. The work involves construction of a permanent wall, a counter window, another window, and reconfiguring of doors, HVAC, fire sprinklers and security access systems as per the Contract Documents.
- C. All work shall be in accordance with the Bidding and Contract Documents prepared by Architect, DIXON SALO ARCHITECTS, INC., 300 Main Street, First Floor, Worcester, Massachusetts 01608 and their consultants.
- D. Contract Drawings: Refer to the LIST OF DRAWINGS contained in the the Bidding and Contract Documents.

1.03 WORK OF FILED SUB-TRADES

- A. (None).

1.04 DCAMM CERTIFICATION

- A. (Not Required).

1.05 CONDITIONS OF THE CONTRACT

- A. Unless otherwise indicated, the Conditions of the Contract shall include the following:

**MILLBURY PUBLIC SCHOOLS  
INVITATION FOR BIDS  
ELMWOOD FRONT ENTRY VESTIBULE PROJECT**

**BID #0186-2101**

including the following Sections: Section I - Invitation for Bids; Section II - Scope of Services; Section III - Information/Instructions to Bidders; Section IV - General Specifications; Section V - Awarding of Contract; Section VI - Bid Forms and Attachments; Section VII - Sample Contract, and Section VIII - Prevailing Wage Rates



1.06 PERMIT AND INSPECTION FEES

- A. All permits and inspection fees shall be paid for by the Contractor.

1.07 CONTRACTOR'S USE OF PREMISES

- A. Contractor shall limit his use of the premises for Work and for storage, to allow for:

1. Work by other contractors.
2. Owner occupancy.
3. Public use.

- B. Coordinate use of premises under direction of Owner.

1. Assume full responsibility for the protection and safekeeping of Products under this Contract, stored on the site.
2. Move any stored Products, under Contractor's control, which interfere with operations of the Owner or separate contractor.
3. Obtain and pay for the use of additional storage or work areas needed for operations.
4. Move any stored Products, under Contractor's control, which interfere with operations of the Owner or separate contractor.

- C. Prior to beginning work of the Contract, the General Contractor shall meet with the Owner and the Architect to determine procedures regarding access to and use of site, staging, parking and storage areas, special site conditions and safety issues, and any other restrictions regarding the use of the site areas surrounding the construction.

1.08 EXAMINATION OF SITE AND PREBID CONFERENCE AND WALKTHROUGH

- A. Prior to bidding, the General Contractor and each Subcontractors shall carefully examine the site and the Contract Documents to ensure their knowledge of conditions and requirements affecting the work. No claim for extra compensation or extension of time will be allowed for General Contractor's or Subcontractor's failure to comply with this requirement nor will any condition at the site, whether or not in agreement with conditions shown or called for on the Contract Documents, be allowed as a basis or such claims, except as otherwise specifically provided for.

- B. Refer to Document INVITATION FOR BIDS for pre-bid conference.

1.09 ACCEPTABLE WORK HOURS AND COMMENCEMENT AND COMPLETION OF WORK

- A. Work Hours: Work hours shall be 6:30 AM to 3:00 P.M, Monday through Friday in particular over School Breaks (Holiday Vacation Period) except for holidays unless approved by Owner.

- B. Commencement of Work and Construction Time Frame: The proposed schedule for construction of Elmwood Front Entry Vestibule Project Contract (Bid No. 0186-2101) is as follows:

- Award of Contract: On or about April 30, 2021.
- Pre-Construction (Off-site) for Shop Drawing review: May 24, 2021 to June 21, 2021.
- Construction Period On-site: June 21, 2021 to August 13, 2021.
- Final Completion Date: August 13, 2021.

- D. Liquidated Damages for Failure to Complete Work: Refer to CONTRACT.

MILLBURY PUBLIC SCHOOLS  
BID #0186-2101

ELMWOOD FRONT ENTRY VESTIBULE PROJECT  
ELMWOOD STREET ELEMENTARY SCHOOL  
40 Elmwood Street  
Millbury, Massachusetts 01527

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01035

MODIFICATION PROCEDURES

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 SUMMARY

- A. This Section specifies administrative and procedural requirements required for handling modifications to the Contract Documents, including, but not limited to:
  - 1. Preliminary procedures.
  - 2. Documentation of proposals and claims.
  - 3. Architect's Supplemental Instructions (ASI).
  - 4. Proposal Request (PR).
  - 5. Construction Change Directive (CCD).
  - 6. Change Order (CO).
  - 7. Request for Information (RFI).

1.02 RELATED REQUIREMENTS

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. CONTRACT and SPECIFICATIONS; Methods of determining cost or credit to Owner resulting from changes in Work made on a time and material basis, and Contractor's claims for additional costs.
  - 2. Section 01300, SUBMITTALS.
  - 3. Section 01700, CONTRACT CLOSEOUT.

1.03 DEFINITIONS

- A. Change Order (CO):
  - 1. Definition: See CONTRACT.
  - 2. Form: AIA Document G701, Change Order.
- B. Construction Change Directive (CCD):
  - 1. Definition: A written order to the Contractor, signed by Owner and Architect which amends the Contract Documents as described, and authorizes Contractor to proceed with a change which affects the Contract Sum or the Contract Time, for inclusion in a subsequent Change Order.
  - 2. Form: AIA Document G714, Construction Change Directive.
- C. Architect's Supplemental Instructions (ASI):
  - 1. Definition: A written order, instructions, or interpretations, signed by Architect making minor changes in the Work not involving a change in Contract Sum or Contract Time.
  - 2. Form: AIA Document G710, Architect's Supplemental Instructions.

D. Proposal Request (PR):

1. Definition: A request to the Contractor, signed by the Architect, for submission of an itemized quotation for changes in the Contract Sum or Contract Time. This is not a Change Order or a direction to proceed with the Work.
2. Form: AIA Document G709, Work Changes Proposal Request.

E. Request for Information (RFI):

1. Definition: A request from the Contractor to the Architect soliciting additional information regarding the Contract Documents.
2. Form: AIA Document G716, Request for Information (RFI).

1.04 PRELIMINARY PROCEDURES

A. Architect may initiate change by submitting a Work Changes Proposal Request (PR) to Contractor. Request will include:

1. Detailed description of the Change, Products, and location of the change in the Project.
2. Supplementary or revised Drawings and Specifications.
3. The projected time span for making the change and a specific statement as to whether overtime work is, or is not, authorized.
4. A specific period of time during which the requested price will be considered valid.
5. Such request is for information only, and is not an instruction to execute the changes, nor to stop Work in progress.

B. Contractor may initiate changes by submitting a written notice to Architect, containing:

1. Description of the proposed changes.
2. Statement of the reason for making the changes.
3. State of the effect on the Contract Sum and the Contract Time.
4. Statement of the effect on the work of separate contractors.
5. Documentation supporting any change in Contract Sum or Contract Time, as appropriate.

1.05 CONSTRUCTION CHANGE AUTHORIZATION

- A. In lieu of Proposal Request, Architect may issue a Construction Change Directive utilizing form for Contractor to proceed with a change for subsequent inclusion in a Change Order.
- B. Directive will describe change in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change, and will designate the method of determining any change in the Contract Sum and any change in Contract Time.
- C. Architect will sign and date the Construction Change Directive and send it to the Owner for authorization for the Contractor to proceed with the changes.
- D. Once authorized by the Owner, the Architect will send the Construction Change Directive to the Contractor. Contractor shall sign and date the Construction Change Directive to indicate agreement with the terms therein.

1.06 DOCUMENTATION OF PROPOSALS AND CLAIMS

- A. Support each quotation for a lump-sum proposal, and for each unit price which has not previously been established, with sufficient substantiating data to allow Architect to evaluate the quotation.

B. On request provide additional data to support time and cost computations including, but not limited to:

1. Labor required.
2. Equipment required.
3. Products required.
  - a. Recommended source of purchase and unit cost.
  - b. Quantities required.
4. Taxes, insurance, and bonds.
5. Credit for work deleted from Contract, similarly documented.
6. Overhead and profit.
7. Justification for any change in Contract Time.

C. Support each claim for additional costs, and for work done on a time-and-material/force account basis, with documentation as required for a lump-sum proposal, plus additional information:

1. Name of the Owner's authorized agent who ordered the work, and date of the order.
2. Dates and times work was performed, and by whom.
3. Time record, summary of hours worked, and hourly rates paid.
4. Receipts and invoices for:
  - a. Equipment used, listing dates and times of use.
  - b. Products used, listing quantities.
  - c. Subcontracts.

D. Document requests for substitutions for Products as specified in Section 01600, MATERIAL AND EQUIPMENT.

#### 1.07 PREPARATION OF CHANGE ORDERS

A. Unless otherwise indicated, Architect will prepare each Change Order.

B. Change Order will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change.

#### 1.08 LUMP-SUM/FIXED PRICE CHANGE ORDER

A. Content of the Change Orders will be based on either:

1. Architect's Proposal Request and Contractor's responsive Proposal as mutually agreed between Owner and Contractor.
2. Contractor's Proposal for a change, as recommended by Architect.

B. Owner and Architect will sign and date the Change Order as authorization for the Contractor to proceed with the changes.

C. Contractor shall sign and date the Change Order to indicate agreement with the terms therein.

#### 1.09 UNIT PRICE CHANGE ORDER

A. Content of Change Orders will be based on, either:

1. Architect's definition of the scope of the required changes.
2. Contractor's Proposal for a change, as recommended by Architect.
3. Survey of completed Work.

- B. The amounts of the unit prices to be:
    - 1. Those stated in the Agreement.
    - 2. Those mutually agreed upon between Owner and Contractor.
  - C. When quantities of each of the items affected by the Change Order can be determined prior to start of the Work:
    - 1. Owner and Architect will sign and date the Change Order as authorization for Contractor to proceed with the changes.
    - 2. Contractor shall sign and date the Change Order to indicate agreement with the terms therein.
  - D. When quantities of the items cannot be determined prior to start of the Work:
    - 1. Architect and Owner will issue a Construction Change Directive directing Contractor to proceed with the change on the basis of unit prices, and will cite the applicable unit prices.
    - 2. At completion of the change, Architect will determine the cost of such work based on the unit prices and quantities used.
      - a. Contractor shall submit documentation to establish the number of units of each item and any claims for a change in Contract Time.
    - 3. Architect will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
    - 4. Owner and Contractor will sign and date the Change Order to indicate their agreement with the terms therein.
- 1.10 TIME AND MATERIAL/FORCE ACCOUNT CHANGE ORDER/CONSTRUCTION CHANGE DIRECTIVE
- A. Architect and Owner will issue a Construction Change Directive directing Contractor to proceed with the changes.
  - B. At completion of the change, Contractor shall submit itemized accounting and supporting data as provided in the Article "Documentation of Proposals and Claims" of this Section.
  - C. Architect will determine the allowable cost of such work, as provided in Document 00700, GENERAL CONDITIONS and Document 00800, SUPPLEMENTAL GENERAL CONDITIONS.
  - D. Architect will sign and date the Change Order to establish the change in Contract Sum and in Contract Time.
  - E. Owner and Contractor will sign and date the Change Order to indicate their agreement therewith.
- 1.11 CORRELATION WITH CONTRACTOR'S SUBMITTALS
- A. Periodically revise Schedule of Values and Request for Payment forms to record each change as a separate item of Work, and to record the adjusted Contract Sum.
  - B. Periodically revise the Construction Progress Schedule to reflect each change in Contract Time.
    - 1. Revise subschedules to show changes for other items of work affected by the changes.
  - C. Upon completion of work under a Change Order, enter pertinent changes in Record Documents.

MILLBURY PUBLIC SCHOOLS  
BID #0186-2101

ELMWOOD FRONT ENTRY VESTIBULE PROJECT  
ELMWOOD STREET ELEMENTARY SCHOOL  
40 Elmwood Street  
Millbury, Massachusetts 01527

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01040

COORDINATION

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 SUMMARY

- A. This Section specifies supervisory and administrative requirements for coordination of Work, including, but not limited to:
  - 1. Coordination of work of employees and subcontractors.
  - 2. Expedition of Work to assure compliance with schedules.
  - 3. Coordination of Work with that of other contractors and work by Owner.
  - 4. Compliance with orders and instructions of Architect or Owner.

1.02 RELATED REQUIREMENTS

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. CONTRACT and SPECIFICATIONS; Authority and Responsibilities of the Contractor.
  - 2. Section 01045, CUTTING AND PATCHING.
  - 3. Section 01200, PROJECT MEETINGS.
  - 4. Section 01300, SUBMITTALS.
  - 5. Section 01500, CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS.
  - 6. Section 01700, CONTRACT CLOSEOUT.

1.03 COORDINATION BY CONTRACTOR

- A. Coordinate the Work of the Contract, including mechanical and electrical work, and other subcontractors. Anticipate areas where work will be restricted, congested, or difficult. Consult various affected subcontractors.
  - 1. All work associated with this Contract shall be fully coordinated with the Owner.
  - 2. Coordinate and comply with requirements regarding use of the building, access, dumpster locations, utilities, and related facilities, as agreed to between the Owner and Contractor.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION



SECTION 01045

CUTTING AND PATCHING

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 SUMMARY

- A. This Section specifies administrative and procedural requirements for cutting, fitting, and patching work, including attendant excavation and backfill, required to complete the Work or to:
  - 1. Make its several parts fit together properly.
  - 2. Uncover portions of the Work to provide for installations of ill-timed work.
  - 3. Remove and replace defective work.
  - 4. Remove and replace work not conforming to requirements of Contract Documents.
  - 5. Remove samples of installed work as specified for testing.

1.02 RELATED REQUIREMENTS

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Section 01010, SUMMARY OF WORK; Description of Project.

1.03 QUALITY ASSURANCE

- A. Permission to patch any items of work does not imply a waiver of the Architect's right to require complete removal and replacement in said areas and of said items if, in Architect's opinion, patching does not satisfactorily restore quality and appearance of work.
- B. Requirements for Structural Work: Do not cut-and-patch structural work in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio.
- C. Operational and Safety Limitations: Do not cut-and-patch operational elements and safety-related components in a manner resulting in a reduction of capacities to perform in the manner intended or resulting in decreased operational life, increased maintenance, or decreased safety.
- D. Visual Requirements: Do not cut-and-patch work that is exposed on exterior or in occupied spaces of building, in a manner resulting in reduction of visual qualities or resulting in substantial evidence of cut-and-patch work, both as judged solely by the Architect. Remove and replace work judged by the Architect to be visually unsatisfactory.

1.04 SUBMITTALS

- A. Submit a written request to Architect well in advance of executing any cutting or alteration which affects:
  - 1. Work of Owner or separate contractor.
  - 2. Structural value or integrity of any element of the Project.
  - 3. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.

4. Efficiency, operational life, maintenance, or safety of operational elements.
5. Visual qualities of sight-exposed elements.

B. Request shall include:

1. Identification of the Project.
2. Description of affected work.
3. The necessity for cutting, alteration, or excavation.
4. Effect on work of Owner or any separate contractor, or on structural or weatherproof integrity of Project.
5. Description of proposed work:
  - a. Description of why cutting-and-patching cannot (reasonably) be avoided.
  - b. Scope of cutting, patching, alteration, or excavation.
  - c. How it will be performed.
  - d. How structural elements (if any) will be reinforced.
  - e. Trades who will execute the work.
  - f. Products proposed to be used.
  - g. Extent of refinishing to be done.
  - h. Approximate dates of the work, and anticipated results in terms of variations from the work as originally completed (structural, operational, visual, and other qualities of significance).
6. Alternatives to cutting and patching.
7. Cost proposal, when applicable.
8. Written permission of any separate contractor whose work will be affected.

C. Submit written notice to Architect designating date and time the work will be uncovered.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Except as otherwise indicated or authorized by the Architect, provide materials for cutting-and-patching which will result in equal-or-better work than the work being cut-and-patched, in terms of performance characteristics and including visual effect where applicable. Comply with the requirements, and use materials identical with the original materials where feasible and where recognized that satisfactory results can be produced thereby.
- B. Comply with specifications and standards for each specific product involved.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Inspect existing conditions of Project, including elements subject to damage or to movement during cutting and patching.
- B. After uncovering work, inspect conditions affecting installation of Products, or performance of work.
- C. Report unsatisfactory or questionable conditions to Architect and Owner in writing; do not proceed with work until Architect and Owner (as applicable) has provided further instructions.

3.02 PREPARATION

- A. Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of Work.

- B. Provide devices and methods to protect other portions of Project from damage.
- C. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching work, and maintain excavations free from water.

3.03 PERFORMANCE

- A. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
  - 1. In general, where mechanical cutting is required, cut work with sawing and grinding tools, not with hammering and chopping tools. Core drill openings through concrete.
- B. Employ original installer or fabricator to perform cutting and patching for:
  - 1. Weather-exposed or moisture-resistant elements.
  - 2. Sight-exposed finished surfaces.
- C. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances, and finishes.
- D. Restore work which has been cut or removed; install new products to provide completed Work in accordance with requirements of Contract Documents.
- E. Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.
- F. Restore exposed finishes of patched areas; and, where necessary extend finish restoration onto retained work adjoining, in a manner which will eliminate evidence of patching.
  - 1. Where patch occurs in a smooth painted surface, extend final paint coat over the entire unbroken surface containing the patch.
- G. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
  - 1. For continuous surfaces, refinish to nearest intersection.
  - 2. For an assembly, refinish entire unit.

END OF SECTION

SECTION 01120

ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 REQUIREMENTS INCLUDED

- A. Coordinate Work and schedule elements of alterations and renovation work by procedures and methods that expedite completion of the Work.
- B. In addition to demolition specified in Section 02070, SELECTIVE DEMOLITION, and indicated on Drawings, cut, move and remove miscellaneous existing work as necessary to provide access and to allow alterations and new work to proceed. Include but do not limit work to:
  - 1. Repair and removal of hazardous and unsanitary conditions and materials.
  - 2. Removal of abandoned items and items that serve no useful purpose, such as abandoned piping, conduit and wiring.
  - 3. Removal of unsuitable and extraneous materials not marked for salvage, such as abandoned equipment, and debris such as rotted wood, rusted metals and deteriorated concrete.
  - 4. Cleaning of surfaces, and removal of surface finishes as needed to install new work and finishes.
- C. Patching, repair, and refinishing existing work intended for reuse, to specified condition for each material, with suitable transition to adjacent new items of construction.

1.02 ALTERATIONS, CUTTING, AND PROTECTION

- A. Ensure that work is performed by workers qualified for each condition and material encountered.
- B. Cutting of existing construction required to install equipment under various Sections shall be done by coring or sawing method under Section appropriate to materials and construction.
- C. Cut and remove minimum materials necessary and avoid damage to adjacent work intended for reuse.
- D. Cut finish surfaces such as masonry, tile, plaster and metals by methods that terminate surfaces in a straight line at natural points of division.
- E. Cutting and patching work shall comply with requirements of Section 01045, CUTTING AND PATCHING.
- F. Protect existing finishes, equipment, and adjacent work scheduled to remain from damage from weather and extremes of temperature.
  - 1. Maintain existing interior work above 60oF.

## PART 2 - PRODUCTS

### 2.01 SALVAGED MATERIALS FOR REUSE

- A. Salvage sufficient quantities of cut and removed materials to replace damaged work of existing construction when material is not readily obtainable on current markets.
  - 1. Store salvaged items in dry, secure place on site.
  - 2. Items not required for use in repair of existing work shall remain Owner's property.
  - 3. Do not incorporate salvaged or used materials in new construction without Architect's approval and approval of Owner.

### 2.02 PATCHING, EXTENDING, AND MATCHING

- A. Provide same products or types of construction as those in existing structure, as needed to patch, extend, and match existing work.
- B. Generally, Contract Documents do not define products or standards of workmanship present in existing construction; determine products and workmanship by inspection and testing. Architect will judge workmanship and materials against existing as a sample of comparison.
- C. Provide products, finishes, and types of construction for patching, extending and matching shall be performed as necessary to make work complete and consistent to identical standards of quality.

## PART 3 - EXECUTION

### 3.01 PERFORMANCE

- A. Patching of existing construction to accommodate work of various Sections shall be performed under Sections that specify methods and materials similar to adjacent existing construction, in the following areas:
  - 1. Holes adjacent to penetrations for conduit, pipes and ductwork where exposed to view.
  - 2. Holes adjacent to penetrations through fire walls for conduit, pipes and ductwork through fire walls as required by code.
  - 3. Areas adjacent to installation of new doors and windows and other framed wall and partition penetrations.
  - 4. Removal and patching of damaged material where indicated.
- B. Patch areas exposed to view after removal of existing construction such as chair rails, base, cove and intersecting walls as indicated.
- C. Patch and extend existing work using skilled workers who are capable of matching existing quality of workmanship. Quality of patched or extended work shall be equal to that specified for new work.

### 3.02 ADJUSTMENTS

- A. Where partitions are removed, patch floors, walls, and ceilings, with finish materials to match existing.
  - 1. Where removal of partitions results in adjacent spaces becoming one, rework floors and ceilings to provide smooth planes without breaks, steps, or bulkheads. Where extreme change of plane of two inches or more occurs, request instructions from Architect as to method of making transition.

3.03 DAMAGED SURFACES

- A. Patch and replace parts of existing finished surfaces which are found to be damaged, lifted, discolored, or otherwise imperfect, with matching materials.
  - 1. Provide adequate support of substrate before patching finish.
  - 2. Refinish patched portions of painted and coated surfaces to produce uniform color and texture over entire surface.
  - 3. When existing surface finish cannot be matched, refinish entire surface to nearest intersections.

3.04 TRANSITION FROM EXISTING TO NEW WORK

- A. When new work abuts or finishes flush with existing work, make smooth transition. Patched work shall match existing adjacent work in texture and appearance so that patch or transition is not visible from 5 ft. away.
- B. When finished surfaces are cut so that smooth transition with new work is not possible, terminate existing surface in a neat manner along straight line at natural line of division. Provide trim appropriate to finished surface.

3.05 CLEANING

- A. Perform periodic and final cleaning as specified in Section 01700, CONTRACT CLOSEOUT.
- B. At completion of work of each Section, clean area and prepare surfaces for work of other Sections.
- C. At completion of alterations work in each area, provide final cleaning and return space to condition suitable for use by Owner.

END OF SECTION

SECTION 01200

PROJECT MEETINGS

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 SUMMARY

- A. This Section specifies administrative and procedural requirements for project meetings, including but not limited to:
  - 1. Pre-Construction Meeting.
  - 2. Pre-Installation Conference.
  - 3. Progress Meetings.
  - 4. Coordination Meetings.
  - 5. Special Meetings.
- B. Representatives of contractors, subcontractors, and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.
- C. Architect may attend meetings to ascertain that Work is expedited consistent with Contract Documents and construction schedules.
- D. NOTE: The requirements of Project Meetings will be established following award of Contract and will be consistent with the requirements of a Contract of this duration.

1.02 RELATED REQUIREMENTS

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Section 01300, SUBMITTALS.
  - 2. Section 01700, CONTRACT CLOSEOUT.

1.03 PROJECT MEETINGS, GENERAL

- A. Agendas: Prepare agendas for Project Meetings. Distribute copies to parties in attendance.
- B. Meeting Notices: Prepare and distribute written notices of Project Meetings four working days in advance of each meeting.
- C. Arrangements: Make physical arrangements for Project Meetings, including but not limited to:
  - 1. Arranging space and seating.
- D. Preside at Project Meetings.
- E. Minutes: Record minutes of Project Meetings, including significant procedures and decisions.

- F. Distribution of Minutes: Reproduce and distribute copies of Project Meeting minutes within three working days after each meeting to participants of meeting, to parties affected by decisions made at meetings, and to Architect.

1.04 PRE-CONSTRUCTION MEETING

- A. Schedule within three (3) days after date of Notice to Proceed.
- B. Location: A central site, convenient for all parties, designated by Contractor.
- C. Attendance: Require and notify the following to attend
1. Owner's Representative.
  2. Architect and his Professional Consultants.
  3. Clerk of the Works.
  4. Contractor's Superintendent.
  5. Major subcontractors.
  6. Major suppliers.
  7. Others as appropriate.
- D. Suggested Agenda:
1. Discussion of major subcontractors and suppliers.
  2. Projected Construction Progress Schedules.
  3. Critical work sequencing.
  4. Major equipment deliveries and priorities.
  5. Project Coordination, including designation of responsible personnel.
  6. Procedures and processing of:
    - a. Field decisions.
    - b. Proposal Requests.
    - c. Submittals.
    - d. Change Orders.
    - e. Application for Payment.
  7. Adequacy of distribution of Contract Documents.
  8. Procedures for maintaining Record Documents.
  9. Use of premises:
    - a. Office, work, and storage areas.
    - b. Owner's requirements.
    - c. Maintenance of access and use of existing fire department operations.
  10. Communications protocol.
  11. Construction facilities, controls, and construction aids.
  12. Temporary utilities including interruptions of existing utilities.
  13. Safety and first-aid procedures.
  14. Security procedures.
  15. Housekeeping procedures.
  16. Demolition coordination.

1.05 PRE-INSTALLATION CONFERENCES

- A. Conduct pre-installation conferences at site prior to construction activities which require coordination. Installers, manufacturer's representatives, and fabricators of materials or systems affected shall be required to attend. Advise Architect of scheduled meeting dates.



- B. Do not allow affected work to proceed if the conference cannot be successfully concluded. Initiate actions necessary to resolve impediments to performance of the work and reconvene the conference at the earliest feasible date.

1.06 PROGRESS MEETINGS

- A. Schedule regular weekly progress meetings or as otherwise directed.
- B. Hold called meetings as required by progress of the Work.
- C. Location of the meetings: Project field office of Contractor.
- D. Attendance: Require and notify the following to attend:
  - 1. Architect and his professional consultants, as needed.
  - 2. Subcontractors, as appropriate to the agenda.
  - 3. Suppliers, as appropriate to the agenda.
  - 4. Others.
- E. Suggested Agenda:
  - 1. Review and approval of minutes of previous meeting.
  - 2. Review of Work progress since previous meeting.
  - 3. Field observations, problems, and conflicts.
  - 4. Problems which impede Construction Progress Schedule.
  - 5. Review of off-site fabrication and delivery schedules.
  - 6. Corrective measures and procedures to regain projected schedule.
  - 7. Revisions to Construction Progress Schedule.
  - 8. Progress schedule during succeeding work period.
  - 9. Coordination of schedules.
  - 10. Review submittal schedules; expedite as required.
  - 11. Maintenance of quality standards.
  - 12. Pending changes and substitutions.
  - 13. Review proposed changes for:
    - a. Effect on Construction Progress Schedule and on completion date.
    - b. Effect on other contracts of the Project.
  - 14. Other business.

1.07 COORDINATION MEETINGS

- A. Conduct Coordination Meetings as necessary to properly coordinate the trades. Require representation of parties involved in coordination or planning of activities involved.

1.08 SPECIAL MEETINGS

- A. Conduct Special Meetings as required throughout the course of the Work. Special meeting issues may include, but are not limited to:
  - 1. Safety issues.
  - 2. Labor issues.
  - 3. Special schedule issues.

MILLBURY PUBLIC SCHOOLS  
BID #0186-2101

ELMWOOD FRONT ENTRY VESTIBULE PROJECT  
ELMWOOD STREET ELEMENTARY SCHOOL  
40 Elmwood Street  
Millbury, Massachusetts 01527

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 SUMMARY

- A. This Section specifies administrative and procedural requirements for submittals required for performance of Work, including:

- 1. Progress schedules.
- 2. Submittal schedule.
- 3. Shop drawings.
- 4. Product data.
- 5. Samples.
- 6. Progress reports.
- 7. Schedule of values.

- B. Administrative Submittals: Refer to requirements specified in other Division 1 Specification Sections, and other Contract Documents, for administrative submittals, including:

- 1. Permits.
- 2. Applications for payment.
- 3. Performance and payment bonds (where required).
- 4. Insurance certificates.
- 5. List of subcontractors.

1.02 RELATED REQUIREMENTS

- A. Examine Contract Documents for requirements that affect Work of this Section. Other Specification Sections that directly relate to Work of this Section include, but are not limited to:

- 1. Section 01010, SUMMARY OF WORK.
- 2. Section 01040, COORDINATION.
- 3. Section 01700, CONTRACT CLOSEOUT; Closeout submittals.

1.03 SUBMITTAL PROCEDURES

- A. Coordination of Submittals: Coordinate timing of submittals with construction activities. Transmit submittals well enough in advance of performance of Work to avoid delays. Coordinate submittals of related elements of Work.

- B. Processing of Submittals: Allow sufficient review time to ensure installation will not be delayed because of time required to process submittals. Minimum processing times are as follows:

- 1. Review by Architect's Office Only: Allow three business days for review and processing.

2. Reprocessing of Submittals: For submittals not approved initially, allow ten business days for review and reprocessing of submittals by Architect, and an additional five business days for review by each consultant.
  4. No extension of Contract Time will be authorized due to failure to transmit submittals sufficiently in advance of scheduled performance of Work.
  5. Review of submittals shall include the Architect's Action Stamp where only Architect's review is required. On submittals where Consultants' review is required, submittal should have both the Architect's review (action) Stamp and the Consultant's review (action) Stamp.
- C. Contractor's Preparation of Submittals: Place permanent label or title block on each submittal for identification. Indicate Project Name, Architect's Project Number, Specification Section number and title, date of submittal, name and address of Architect, name and Address of Contractor, name and address of subcontractor and/or supplier, name of manufacturer, Drawing number and detail reference.
1. Contractor's Review and Action Stamp: Provide suitable space on label or title block for Contractor's review and action stamp. Stamp and sign each submittal to show Contractor's review and approval prior to transmittal to Architect. Submittals not signed and stamped by Contractor will be returned without action.
  2. Architect's Review and Action Stamp: Provide minimum 4 in. x 4 in. space on label or title block for Architect's review and action stamp. Deliver submittals to Architect at address listed on cover of Project Manual.
  3. Architect's Consultants Review and Action Stamp: Provide minimum 4 in. x 4 in. space on label or title block for Architect's Consultants review and action stamp. Deliver submittals to Consultant at address listed on cover of Project Manual.
  4. Modify and customize submittals as required to show interface with adjacent work and attachment to building.
- D. Transmittal of Submittals: Transmit each item with Architect-accepted transmittal form. Submittals requiring only review and approval by Architect shall be transmitted directly to the Architect for review and approval by the Architect. Where submittals require primary review and approval by Architect's consultant (such as electrical equipment submittal requiring primary review by Electrical Engineer), submittal should be transmitted directly to that consultant, with copy of transmittal sent and (1) copy of submittal simultaneously to the Architect.
1. Each submittal shall identify Project, Contractor, subcontractor, major supplier; identify pertinent Drawing sheet and detail number, and Specification section number, as appropriate, on transmittal form.
  2. Source: Submittals received from sources other than Contractor will be returned without action.
  3. Deviations from Contract Documents: When products, materials, or systems submitted deviate from Contract Documents, record deviations clearly on transmittal form, or separate attached sheet.
- E. Comply with progress schedule for submittals related to Work progress.
- F. Each submittal shall be reviewed by the appropriate parties. Submittals requiring only Architect's review will be marked with Architect's Action Review Stamp; on submittals requiring Architect's Consultant review, the submittal should contain the Action Stamp of Architect's Consultant.
1. On submittals requiring Consultant's review, Consultant will review submittal and forward reviewed submittal, containing Consultant's review action stamp to Architect. Architect will then review submittal.
  2. After Architect and/or Architect's Consultant (as appropriate) reviews submittal, reviewed submittal will be copied by the Architect with sufficient copies made for all parties. The Architect will then forward the reviewed submittal to Contractor.
  3. The Contractor shall revise and resubmit as required. Identify changes made since previous submittal.

- G. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report inability to comply with provisions.

1.04 PROGRESS SCHEDULE

- A. Timing: Submit progress schedule within two calendar days of Award of Contract.
- B. Preparation of Progress Schedule: Prepare horizontal bar type schedule or CPM Schedule.
- C. Format of Listings: Order chronologically by start of each unit of Work. List units of Work by Specification Section title.
- D. Content of Progress Schedule: Show complete sequence of construction by activity. Show dates of beginning and completion of each major element of construction.
- E. Distribution: Print and distribute progress schedule to Architect, Owner, subcontractors, and other parties affected. Post copies in field office. Instruct recipients to report promptly to Contractor in writing problems apparent from projections shown on schedule.
- F. Revisions: Update and reissue progress schedule monthly in conjunction with Application for Payment.

1.05 SUBMITTAL SCHEDULE

- A. Timing: Prepare and issue complete Submittal Schedule no later than ten working days after Architect accepts Progress Schedule.
- B. Preparation: Coordinate Submittal Schedule with Progress Schedule, and Schedule of Values.
- C. Content of Submittal Schedule: Prepare schedule in order by Specification Section. Provide the following information for each submittal:
  - 1. Scheduled date of initial submittal.
  - 2. Specification Section number.
  - 3. Submittal type.
  - 4. Name of subcontractor or supplier.
- D. Distribution: Print and distribute Submittal Schedule to Architect, Owner, subcontractors, and other parties affected. Post copies in field office.
- E. Revisions: Update and reissue Submittal Schedule monthly in conjunction with Application for Payment.

1.06 SHOP DRAWINGS

- A. Provide accurately prepared, large scale and detailed shop drawings prepared specifically for this Project on reproducible sheets. Show adjacent conditions and related work. Show accurate field dimensions where appropriate. Identify materials and products shown. Note special coordination required. Standard information prepared without specific reference to Project is not considered shop drawings.
- B. Shop drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates, and similar drawings.
- C. Show every component of fabricated item, notes regarding manufacturing process, coatings and finishes, identifying numbers conforming to Contract Documents, (i.e. stair numbers, door numbers, etc.) dimensions, and appropriate trade names. Show anchorage and fastening details, including type, size and spacing. Show material gage and thickness. Indicate welding details and joint types.

- D. Shop Drawing Sheet Size: Except for templates, patterns, and other full-size drawings, submit shop drawings on sheets at least 8-1/2 in. x 11 in., but no larger than 36 in. x 48 in.
- E. Submittal Quantities: Submit shop drawings in following quantities:
  - 1. Submit one (1) reproducible and three (3) blackline prints of each sheet.

1.07 PRODUCT DATA

- A. Definition: Product data includes manufacturer's standard published literature, such as installation instructions, catalog cuts, color charts, rough-in diagrams and wiring diagrams. When product data must be prepared specifically because standard published data is not suitable for use, submit as shop drawing.
- B. Preparation: Mark each copy of product data to show applicable choices and options. Where published product data includes information on several products and choices, mark copies to clearly indicate information applicable to this Project.
- C. Do not submit product data until compliance with requirements of Contract Documents has been confirmed.
- D. Submittal Quantities: Submit product data in following quantities:
  - 1. Submit number of copies required by Contractor, plus additional one copy to be retained by Architect.
- E. Installer Copy: Verify that installer of Work possesses a current copy of Architect-approved product data prior to installation.

1.08 SAMPLES

- A. Submit samples identical with materials and products to be installed. Where indicated, prepare samples to match Owner's sample. Label sample with description, source, manufacturer's name, and catalog number. Submit samples along with certifications that products comply with referenced standards.
- B. Architect Review: Architect will review samples for confirmation of visual intent, color, pattern, texture, and type. Architect will not test samples for compliance with other specified requirements, which shall remain exclusive responsibility of Contractor.
- C. Submittal Quantities: When variation in color, pattern, or texture can be expected in finish work, submit multiple samples (minimum of three) to show approximate limits of variations. Submit samples in following quantities:
  - 1. Initial Selection: For initial selection of color, texture, and pattern, submit one full set of manufacturer's available samples.
  - 2. Verification Samples: Submit three sets of samples selected. One set will be returned to Contractor for use at Project Site for quality control comparisons.
- D. Distribution: Distribute additional sets of approved samples to subcontractors, suppliers, installers, and others required for proper performance of Work. Indicate distribution on transmittal forms.

1.09 DAILY PROGRESS REPORTS

- A. Prepare daily construction Progress Reports. Record following information concerning events on Project Site:

1. List of subcontractors at site.
2. Accidents and unusual events.
3. Meetings and significant decisions.
4. Orders and requests by governing authorities.
5. Change orders received.
6. Equipment or system tests and start-ups.
7. Partial completions and occupancies.
8. Authorized substantial completions.

B. Distribution: Distribute copies to Architect weekly.

#### 1.10 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.

1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
  - a. Application for Payment forms with Continuation Sheets.
  - b. Submittals Schedule.
2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
3. Sub-schedules: Where the Work is separated into phases requiring separately phased payments, provide sub-schedules showing values correlated with each phase of payment.

B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the Schedule of Values:
  - a. Project name and location.
  - b. Name of Architect.
  - c. Architect's project number.
  - d. Contractor's name and address.
  - e. Date of submittal.
2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
  - a. Related Specification Section or Division.
  - b. Description of the Work.
  - c. Name of subcontractor.
  - d. Name of manufacturer or fabricator.
  - e. Name of supplier.
  - f. Change Orders (numbers) that affect value.
  - g. Dollar value.
    - 1). Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.

5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
  - a. Differentiate between items stored on-site and items stored off-site. Include evidence of insurance or bonded warehousing if required.
6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
  - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
8. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.11 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return the submittal without action.
- B. Architect's Review: Architect will review submittals, stamp and indicate action, and return to Contractor. Architect will review submittals for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Architect's review and approval of submittals shall be held to limitations stated in the CONTRACT and SPECIFICATIONS. In no case shall approval or acceptance by Architect be interpreted as release of Contractor of responsibility to fulfill requirements of Contract Documents. No acceptance or approval of submittals, nor any indication or note marked by Architect on submittals, shall constitute authorization for increase in Contract Sum.
- C. Action Stamp: Architect will stamp each submittal with an action stamp. Stamp will indicate action taken as follows:
  1. REVIEWED: No notations.
  2. REVIEWED AS NOTED: Resubmission not required. Minor notations; items may be fabricated without corrections of original drawings; review is complete, and all notations are deemed obvious without ambiguity.
  3. REVISE AND RESUBMIT: Resubmission required. Minor notations; no items should be fabricated without further corrections of original drawings; review is not complete; details of items noted by checker must be clarified further before full review can be completed. Submit new transparencies.
  4. REJECTED: Drawing is rejected as not in accord with the Contract; too many notations, or other justifiable reason. When returning drawings, Architect will state reasons for rejection. Revise and resubmit. Do not fabricate.
- D. Informational Submittals: Architect will review each submittal and will not return it, or will reject and return if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- E. Submittals not required by the Contract Documents will not be reviewed and may be discarded.



- F. Required Resubmittals: Make corrections or changes to submittals required by Architect and resubmit until approved. Revise initial shop drawings or product data, and resubmit as specified for initial submittal. Indicate changes made other than those requested by Architect. Submit new samples as required for initial submittal.

1.12 DISTRIBUTION BY CONTRACTOR

- A. Distribution: When submittal is marked "REVIEWED" or "REVIEWED AS NOTED", make prints and copies and distribute to Owner, subcontractors, suppliers, fabricators, and other parties requiring information from submittal for proper coordination and performance of Work. Print copies of shop drawings from approved reproducible only.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 SUMMARY

- A. This Section specifies construction facilities and temporary controls required throughout construction period.

1.02 RELATED REQUIREMENTS

- A. Examine Contract Documents for requirements that affect the Work of this Section. Other Specification Sections that directly relate to Work of this Section include, but are not limited to:
  - 1. CONTRACT and SPECIFICATIONS; Conditions of the Contract.
  - 2. Section 01010, SUMMARY OF WORK; Description of work and work of separate contracts.

1.03 SUBMITTALS

- A. Schedule: Submit a schedule indicating implementation and termination of each temporary utility within fifteen days of date established for Commencement of the Work.

1.04 QUALITY ASSURANCE

- A. Comply with requirements of authorities having jurisdiction, codes, utility companies, OSHA, and industry standards including, but not limited to:
  - 1. NFPA 241.
  - 2. NFPA 70.
  - 3. ANSI A10.
  - 4. NECA NJG-6.

1.05 PROJECT CONDITIONS

- A. Temporary Utilities: Existing building services may be used as source for temporary power for proposed renovation work including the following: electric power and water service. The Owner will permit tie in to these services at locations authorized by the Owner. The Owner reserves the right to limit services should the temporary utilities interrupt Owner's existing uses at the school building or when in the opinion of the Owner there is evidence of waste or abuse.
- B. Conditions of Use: Maintain temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload temporary facilities. Do not allow hazardous, dangerous, or unsanitary conditions to develop on site.
- C. Comply with requirements of the Owner.

1.06 NOISE CONTROL

- A. Develop and maintain a noise-abatement program and enforce strict discipline over all personnel to keep noise to a minimum.
- B. Execute construction work by methods and by use of equipment which will reduce excess noise.
  - 1. Equip air compressors with silencers, and power equipment with mufflers.
  - 2. Manage vehicular traffic and scheduling to reduce noise.
  - 3. No heavy equipment may be started or idled before 7:00 A.M.

1.07 ACCEPTABLE HOURS OF OPERATION

- A. Contractor shall conduct construction in compliance with applicable Town of Millbury ordinances or bylaws relative to acceptable hours of operation.
  - 1. Except where approved by the Owner, no work shall occur prior to 7:00 AM, Monday through Friday.
  - 2. Where required to meet project schedule, the Owner may permit Contractor to work on Saturdays or may extend Contractor's work hours if permitted by local authorities having jurisdiction.

PART 2 - PRODUCTS

2.02 TEMPORARY UTILITIES

- A. Scope: Temporary utility work includes, but is not limited to:
  - 1. Water service and distribution.
  - 2. Electric power and light.
  - 3. Telephone service.
- B. Temporary Water Service and Distribution: Water service is available at the building. Install water service and distribution piping in sizes and pressures adequate for construction.
  - 1. Provide water for construction purposes, including water for drinking and fire protection.
  - 2. Pay costs for installation, maintenance, removal, and service charges for water used. Install branch piping with taps located so water is available through hoses throughout construction.
  - 3. Protect piping and fittings against freezing.
  - 4. The Owner will pay costs for water used.
- C. Electric Power Service: Electrical service is available at the building. Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations. Pay costs to bring extend service to project site, including service charges, installation, maintenance, and removal of this temporary electric service.
  - 1. Provide circuit and branch wiring, with area distribution boxes located so power and lighting is available throughout construction by use of construction-type power cords.
  - 2. Provide adequate artificial lighting where natural light is not adequate for work, and for areas accessible to public.
  - 3. Work shall meet applicable requirements of NFPA 70.
  - 4. Cost of electricity will be borne by the Owner.
  - 5. The electrical power supply at the site is single phase, 110/120 volt. All other power requirements including 208 volt service or 3-phase service for tools and equipment necessary to perform the work shall be the responsibility of the Contractor.
  - 6. All power cords for electrical power shall be furnished by the Contractor.

2.03 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES

- A. Scope: Temporary construction and support facilities include, without limitation:
1. Sanitary facilities.
  2. Temporary enclosures.
  3. Construction aids.
  4. Waste disposal services.
  5. Water control.
  6. Pollution and dust control.
  7. Temporary ventilation.
- B. Sanitary Facilities: Provide and maintain clean portable toilet facilities. Do not use permanent facilities within the building unless permitted by Owner in writing.
1. If use of permanent facilities is permitted, maintain washrooms in clean and sanitary condition and supply exhaustible materials such as soap, hand towels, and toilet tissue.
- C. Temporary Enclosures: Provide temporary enclosures to separate work areas from occupied school areas. Design and construct temporary enclosures to provide acceptable working conditions, to allow effective temporary ventilation, and to prevent entry of unauthorized persons.
1. Provide temporary exterior doors with self-closing hardware and padlocks.
  2. Design enclosures to be removable to allow handling of materials.
- D. Construction Aids: Provide construction aids and equipment required by personnel to facilitate execution of the Work; scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes, and other such facilities and equipment.
1. Refer to respective sections for particular requirements for each trade.
- E. Waste Disposal: Maintain all areas under Contractor's control free of extraneous debris. Initiate and maintain a specific program to prevent accumulation of debris at construction site, storage and parking areas, or along access roads and haul routes.
1. Provide containers for deposit of debris.
  2. Provide periodic inspection of traffic areas to enforce requirements.
  3. Schedule daily collection and disposal of debris within building.
  4. Provide additional collections and disposals of debris whenever the periodic schedule is inadequate to prevent accumulation of debris on-site.
  5. Coordinate dumpster locations with Owner.
- F. Pollution Control: Provide methods, means, and facilities required to prevent contamination of soil, water, or atmosphere by the discharge of noxious substances from construction operations. Provide equipment and personnel, perform emergency measures required to contain any spillage and to remove contaminated soils or liquids.
1. Take special measures to prevent harmful substances from entering public waters.
  2. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.
  3. Provide systems for control of atmospheric pollutants.
  4. Prevent toxic concentrations of chemicals.
  5. Prevent harmful dispersal of pollutants to atmosphere.

- G. Dust Control: Provide positive methods and apply dust control materials to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into the atmosphere.

2.04 TEMPORARY SIGNAGE

- A. Scope: Temporary signage includes, but is not limited to:
  - 1. Informational signs.
- B. Informational Signs: Provide painted signs with painted lettering, or standard products. Erect at appropriate locations to provide required information.
  - 1. Size of signs and lettering: as required by regulatory agencies, or as appropriate to usage.
  - 2. Colors: as required by regulatory agencies, otherwise of uniform color throughout Project.

2.05 SECURITY AND PROTECTION FACILITIES

- A. Scope: Security and protection facilities includes but is not limited to:
  - 1. Temporary fire protection.
  - 2. Barricades, warning signs, lights.
  - 3. Security procedures.
- B. Temporary Fire Protection: Provide and maintain suitable fire protection equipment and services. Establish procedures for fire protection for welding and other potentially hazardous construction operations. Ascertain and comply with requirements of Project insurance carrier, Town of Millbury Fire Department and the Commonwealth of Massachusetts State Fire Marshal. Permanent fire protection system may be activated to meet these requirements. Replace fusible link heads and other expended or discharged components at time of Substantial Completion.
  - 1. Coordinate fire protection program with Owner and Millbury Fire Department.
  - 2. Locate temporary portable fire extinguishers in convenient locations, not less than one extinguisher per floor.
  - 3. Store combustible materials in containers in fire-safe locations.
  - 4. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways, and other access routes.
- C. Barricades, Warning Signs, and Lights: Provide and maintain barricades, warning signs, warning lights, railings, walkways, and the like. Paint signs and barricades with appropriate colors, graphics, and warnings to inform public and job-site personnel of hazards.
- D. Construction Parking: Per General Contractor plan, subject to review and approval by the Owner.
- E. Security Procedures: Secure project against unauthorized entry at all times. Provide secure, locked, temporary entrances to prevent vandalism, theft, and similar violations of security.
  - 1. Storage: Provide secure, locked facilities for areas where materials and equipment are stored.
  - 2. Comply with Owner's security program and requirements.

PART 3 - EXECUTION

3.01 MAINTENANCE, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit waste and abuse.

- B. Maintenance: Maintain temporary facilities in operating condition; repair damages immediately upon discovery. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour per day basis.
- C. Termination and Removal: Unless otherwise requested by Owner or Architect, remove each temporary facility when no longer useful, or when replaced by permanent facility.
- D. Final Cleaning: Provide final cleaning of building per Contract Documents.

END OF SECTION

SECTION 01600

MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 SUMMARY

- A. This Section specifies administrative and procedural requirements for materials and equipment used for the Project.

1.02 RELATED REQUIREMENTS

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. CONTRACT; Conditions of the Contract.
  - 2. Section 01010, SUMMARY OF WORK.
  - 3. Section 01300, SUBMITTALS.
  - 4. Section 01700, CONTRACT CLOSEOUT.

1.03 PRODUCTS

- A. Products include material, equipment, and systems.
- B. Comply with Specifications and referenced standards as minimum requirements.
- C. Components required to be supplied in quantity within a Specification Section shall be the same, and shall be interchangeable.
- D. Do not use materials and equipment removed from existing structures, except as specifically required, or allowed, by the Contract Documents.
- E. In the case of an inconsistency between Drawings and the Project Manual, or within either document which is not clarified by addendum, the product of greater quality or greater quantity of work shall be provided in accordance with the Architect's interpretation.

1.04 WORKMANSHIP

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.
- B. Perform work by persons qualified to produce workmanship of specified quality.
- C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

1.05 MANUFACTURERS' INSTRUCTIONS

- A. When work is specified to comply with manufacturers' instructions, submit copies as specified in Section 01300, SUBMITTALS, distribute copies to persons involved, and maintain one set in field office.
- B. Perform work in accordance with details of instructions and specified requirements.

1.06 TRANSPORTATION AND HANDLING

- A. Refer to CONTRACT and Specifications Sections for requirements pertaining to transportation and handling of materials and equipment.
- B. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturers' unopened containers or packaging, dry
- C. Provide equipment and personnel to handle products by methods to prevent soiling or damage.
- D. Promptly inspect shipments to assure that products comply with requirements, that quantities are correct, and products are undamaged.

1.07 STORAGE AND PROTECTION

- A. Refer to CONTRACT and SPECIFICATIONS and Technical Specifications Sections for requirements pertaining to storage and protection of materials and equipment.
- B. Store products in accordance with manufacturers' instruction, with seals and labels intact and legible. Store sensitive products in weather tight enclosures; maintain within temperature and humidity ranges required by manufacturers' instructions.
- C. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
- D. Arrange storage to provide access for inspection. Periodically inspect to assure that products are undamaged, and are maintained under required conditions.
- E. General Contractor shall protect all loose and installed materials from damage until final acceptance of the Project.

1.08 PRODUCT STANDARDS

- A. Any product specified by reference to the number, symbol, or title of a standard, such as Commercial Standard, a Federal Specification, an ASTM Standard, an ANSI Standard, a trade association standard, or other similar standard, shall comply with the requirements of the latest issue of such standard or revision thereof, including any amendment or supplement thereto, as listed in the latest official index in effect as of the bid date.
- B. The standards referred to, except as modified in the Specifications, shall have full force and effect as though printed in the Specifications. The Architect will furnish, upon request, information as to how copies of the standards referred to may be obtained.
- C. All manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned, in accordance with the manufacturer's printed instructions, unless otherwise specified.



1.09 SUBSTITUTIONS OF SPECIFIED PRODUCTS AND SYSTEMS

- A. Substitutions of specified products and systems shall comply with requirements of Chapter 30, Section 39M of General Laws, and additional requirements and procedures specified herein.
- B. The Contract Documents are intended to produce a building of consistent character and quality of design. All components of the building including visible items of mechanical and electrical equipment have been selected to have a coordinated design in relation to the overall appearance of the building. The Architect will judge the design, functionality, and appearance of proposed substitutes on the basis of their suitability in relation to the overall design of the project, as well as for their intrinsic merits. The Architect will not approve, as equal to materials specified, proposed substitutes which, in the Architect's opinion, would be out of character, obtrusive, or otherwise inconsistent with the character or quality of design of the Work. With respect to interior or exterior finishes value or effect, the Architect may not approve as equal any proposed substitute which, in the Architect's sole opinion, would not produce the same artistic or aesthetic value or effect. In order to permit coordinated design of color and finishes the General Contractor shall, if required by the Architect, furnish the substituted material in any color, finish, texture, or pattern which would have been available from the manufacturer originally specified, at no additional cost to the Owner.
- C. Specific reference in the Specification to any product, material, or process by name, make, or catalog number shall be interpreted as establishing a standard of quality. An item will be considered equal to the item so named or described if (1) it is at least equal in quality, durability, appearance, strength and design; (2) it will performs at least equally the function imposed by the general design for the work; and (3) it conforms substantially, even with deviations to the detailed requirements for the item in the Specification. [M.G.L. Chapter 30, Section 39M (b).] The Architect shall be the sole judge of whether and proposed substitute product, material, process, or method is equal to that specified according to this standard, and his decision shall be final and binding on the General Contractor and any Subcontractor or Sub-Subcontractor.
- D. If the General Contractor proposes to use a material which, while suitable for the intended use, deviates in any way from the detailed requirements of the Contract Documents, the General Contractor shall inform the Architect in writing of the nature of such deviations at the time the material is submitted for approval, and shall request written approval of the deviation from the requirements of the Contract Documents.
- E. In requesting approval of deviations of substitutions, the General Contractor shall provide, upon request, evidence leading to a reasonable certainty that the proposed substitution or deviation will provide a quality or result at least equal to that otherwise attainable. If in the opinion of the Architect, the evidence presented by the General Contractor does not provide a sufficient basis for such reasonable certainty, the Architect may reject such substitution or deviation without further investigation.
- F. Any additional cost, loss, or damage arising from the substitution of any material or any method for those originally specified shall be borne by the General Contractor, notwithstanding approval or acceptance of such substitution by Owner or the Architect, unless such substitution was made at the written request or direction of Owner or the Architect.

1.10 IDENTIFICATION OF EQUIPMENT

- A. All electrical equipment shall be properly identified including manufacturer's nameplate, serial number, model, capacity, size, etc., as appropriate for the equipment. In addition, furnish the manufacturer's operating instructions and preventative maintenance manual and recommendations. Refer to Section 01700, CONTRACT CLOSEOUT for submittal requirements.

MILLBURY PUBLIC SCHOOLS  
BID #0186-2101

ELMWOOD FRONT ENTRY VESTIBULE PROJECT  
ELMWOOD STREET ELEMENTARY SCHOOL  
40 Elmwood Street  
Millbury, Massachusetts 01527

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 FINAL CLEANING

- A. Unless otherwise specified under the various Sections of the Specifications, the General Contractor shall perform final cleaning operations as herein specified prior to final inspection.
- B. Maintain project site free from accumulations of waste, debris, and rubbish, caused by operations. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave project clean and ready for occupancy.
- C. Cleaning shall include all surfaces, interior and exterior in which the General Contractor has had access whether existing or new and in the areas used by the Contractor in conducting the improvements required of this Contract.
- D. Refer to Sections of the Specifications for cleaning of specific products or work.
- E. Use only those materials which will not create hazards to health or property and which will not damage surfaces.
- F. Use only those cleaning materials and methods that are recommended by the manufacturer of surface material to be cleaned.
- G. Employ experienced workmen or professional cleaners for final cleaning operations.
- H. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
- I. Glass and plastic surfaces within the project area shall be thoroughly cleaned and washed by qualified window cleaners at the expense of the General Contractor just prior to acceptance of the Work.
- J. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.
- K. Polish glossy surfaces to a clear shine and provide wax where necessary.
- L. Ventilating Systems: Clean permanent filters and replace disposable filters if units were operated during construction. Clean ducts, blowers, and coils if units were operated without filters during construction.
- M. Broom clean exterior paved surfaces and rake clean other surfaces of the grounds.
- O. At the end of the project, General Contractor and each Subcontractor shall remove all his tools, equipment, machinery, and surplus materials from the job site. The General Contractor shall remove all waste materials and rubbish from the project at this time. All temporary structures shall be removed and the project shall be left clean.

1.02 RECORD DRAWINGS

- A. Record Drawings shall consist of all the Contract Drawings.
- B. The General Contractor and all Subcontractors shall be required to maintain one set of Record Drawings, as the work relates to their Sections of the Specifications, at the site.
- C. The Record Drawings shall be stored and maintained in the General Contractor's field office apart from other documents used for construction. The Record Drawings shall be maintained in a clean, dry and legible condition and shall not be used for construction purposes.
- D. Record Drawings, as submitted by the General Contractor shall be verified in the field by the Architect or his Consultants. Verification by the Architect shall occur during the construction process and prior to the related work being completed and covered up.
- E. The Record Drawings shall be available at all time for inspection by the Owner or Architect. All deficiencies noted shall be promptly corrected.
- F. The following information shall be indicated on the Record Drawings:
  - 1. Record all changes, including change orders, in the location, size, number and type both horizontally and vertically of all elements of the project which deviate from those indicated on all the Contract Drawings.

1.03 PUNCH LIST

- A. The Contractor shall supervise and direct the work, using his best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the work under Contract.
- B. The Contractor shall carefully check his own work and that of subcontractors as the work is being performed. Unsatisfactory work shall be corrected immediately.
- C. During the finishing stages of the project, the Contractor shall make frequent inspections with subcontractors so as to progressively check for and correct faulty work.
- D. When the Contractor determines that he is substantially complete, that is, less than one percent of his contract remaining to be completed, he shall prepare for submission to the Architect a "punch list" which includes a list of items to be completed or corrected. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all work in accordance with the Contract Documents.
- E. Upon receipt of the Contractor's list of items to be completed or corrected, the Architect will promptly make a thorough inspection to verify the "punch list", setting forth in accurate detail any items on the Contractor's list and additional items that are not acceptable.
- F. When the "punch list" has been reviewed, the Architect will arrange a meeting with the Contractor and Subcontractors to identify and explain all "punch list" items, and answer questions on the work which must be done before final acceptance.
- G. When the Contractor gives notice that the punch list has been completed, the Architect will inspect that portion of the work and, if the items are found to be satisfactorily completed, advise the Contractor accordingly.

- H. The General Contractor shall correct all "punch list" items or shall cause the correction of the "punch list" items within a time frame to be established when the "punch list" is made. The time frame for the completion of "punch list" shall not exceed the completion date of the Contract. Should the "punch list" not be completed within the specified time frame, the Owner may invoke the rights given under General Conditions.

1.04 CLOSEOUT REQUIREMENTS AND SUBMITTALS

- A. Final Inspection: The General Contractor shall submit written certification that:
1. Project has been inspected for compliance with Contract Documents and has satisfied the local authorities having jurisdiction.
  2. Project is completed, and ready for final inspection.
- B. Closeout Documents Required: The General Contractor shall provide all required documents as part of the Record Documents including but not limited to the following:
1. All permit inspection records.
  2. All warranties required by the Contract Documents.
  3. Certificate of Occupancy from authorities having jurisdiction.
  4. Equipment test reports.
  5. Operation and Maintenance Manuals including Spare Parts list and related items.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 02070

SELECTIVE DEMOLITION

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 WORK INCLUDED

- A. Selectively demolish and remove materials, systems, equipment, and structures indicated on the Drawings and specified herein as required to construct work indicated.
- B. Selective demolition shall include, but not be limited to the following:
  - 1. Selective demolition as indicated for construction of fire alarm and door replacement project work including removing existing doors as indicated.
  - 2. All other selective demolition work required to construct the work.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Section 01045, CUTTING AND PATCHING.

1.03 SUBMITTALS

- A. The following shall be submitted:
  - 1. Permit for transport and legal disposal off-site of demolition material and debris.
  - 2. Selective demolition procedures and operational sequence for review and acceptance by the Owner and Architect.

1.04 JOB CONDITIONS

- A. Occupancy: Areas adjacent to where selective demolition occurs will be occupied prior to and following commencement of demolition. Comply with Owner requirements regarding maintenance of existing facilities and working conditions. Provide barriers that will minimize the spread of dust, debris, and other materials and as necessary to prevent damage to adjacent areas of the building. Provide for the safe passage of School and Town employees and visitors. Where existing finishes are to remain, provide adequate protection to prevent damage.
- B. Condition of Items and Structures: The Owner assumes no responsibility for the actual condition of items and structures to be demolished.
- C. Partial Demolition and Removal: Items indicated to be removed but having salvage value to the Owner may be removed from the building as work progresses. Transport items from site as they are removed. Sale or storage of items by the Contractor at the site will not be permitted.

1.05 PROTECTION

- A. Do not interfere with use of adjacent occupied spaces. Maintain free and safe passage to and from. Provide safe passage for all users of building. Specific requirements regarding work areas and maintenance of egress will be of primary importance.
- B. Prevent movement or settlement of adjacent structures. Provide and place bracing or shoring and be responsible for safety and support of structures. Assume liability for such movement, settlement, damage, or injury.
- C. Cease operations and notify Owner and Architect immediately if safety of adjacent facilities or structures appears to be endangered. Take precautions to properly support structures. Do not resume operations until safety is restored.
- D. Temporary Protections: Provide temporary barricades and other forms of protection as required to for protection of personnel from injury due to selective demolition operations.
  - 1. Protect existing finish work that is to remain from damage from demolition operations.
  - 2. Construct temporary dustproof and insulated partitions where required to separate areas where noisy and dusty operations are performed.
  - 3. Remove temporary protections at completion of the work.
  - 4. Comply with applicable requirements specified in Section 01500, CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS.
- E. Utility Services: Maintain existing utilities serving occupied or used facilities and other areas occupied by the Owner. Any interruptions to service shall be coordinated with the Owner so as to minimize disruption of building services, Owner's daily operations, and related services.

PART 2 - PRODUCTS

2.01 SALVAGING

- A. Materials indicated on the Drawings or designated in the field by the Owner to be salvaged shall be carefully removed and delivered to the Owner at locations determined by Owner.
- B. Mechanical and electrical items to be salvaged shall be protected from the weather.
- C. Salvaged items shall include the following:
  - 1. Existing doors where indicated or where Owner so directs.
  - 2. All other materials and equipment indicated.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Prior to commencement of selective demolition work, inspect areas in which work will be performed. Note or photograph existing conditions which could be misconstrued as damaged resulting from selective demolition work.

3.02 PREPARATION

- A. Cover and protect existing finishes, fixtures and equipment to remain. Protect from soiling, dust, or damage during demolition work.

- B. Erect and maintain dust and noise proof partitions as required to separate occupied areas from work areas.
- C. Locate, identify, stub-off, and disconnect utility services that are indicated not to remain. Provide by-pass services as necessary to maintain continuity of service to occupied areas.

3.03 SELECTIVE DEMOLITION

- A. Perform selective demolition work in a systematic manner. Items indicated to be removed shall be completely removed.
- B. Remove debris from site and dispose of legally.
- C. Cover and protect existing finishes, fixtures and equipment to remain. Protect from soiling, dust, or damage during demolition work.

3.04 SALVAGE MATERIALS

- A. Where items are indicated to be salvaged, carefully remove indicated items, clean items, and deliver to storage area designated by the Owner.
- B. The Owner reserves the right to identify salvage of materials which are removed should the Owner wish to retain these removed items for Owner's use.

3.05 DISPOSAL OF MATERIALS

- A. Material resulting from selective demolition and not identified for salvaging shall become the property of the Contractor and shall be legally transported and disposed of off-site.
- B. Disposal shall be performed as promptly as possible and not left until the final clean up.

END OF SECTION



SECTION 06105

MISCELLANEOUS CARPENTRY

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 WORK INCLUDED

- A. This Section includes the following:
  - 1. Wood blocking and nailers.
  - 2. Oak shelf and brackets at transaction window.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect Work of this Section. Other Specification Sections that directly relate to Work of this Section include, but are not limited to:

- 1 Section 02070, SELECTIVE DEMOLITION; Removal of windows to be replaced.

1.03 DEFINITIONS

- A. Lumber grading agencies, and the abbreviations used to reference them, include the following:
  - 1. NELMA - Northeastern Lumber Manufacturers Association.
  - 2. NLGA - National Lumber Grades Authority.
  - 3. SPIB - Southern Pine Inspection Bureau.
  - 4. WCLIB - West Coast Lumber Inspection Bureau.
  - 5. WWPA - Western Wood Products Association.

1.04 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
  - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used, net amount of preservative retained, and chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.
  - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials, both before and after exposure to elevated temperatures when tested according to ASTM D 5516 and ASTM D 5664.
  - 3. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
  - 4. Include copies of warranties from chemical treatment manufacturers for each type of treatment.
  - 5. Research/Evaluation Reports: For the following, showing compliance with building code in effect for Project:

- a. Preservative-treated wood.
  - b. Fire-retardant-treated wood.
  - c. Power-driven fasteners.
  - d. Expansion anchors.
- B. Shop Drawings: Provide large scale shop drawings for fabrication, installation and erection of all parts of the work. Provide large scale detailed plans, elevations, and details of anchorages, connections and accessory items.
- C. Field Measurements: Take accurate field measurements before preparation of shop drawings and fabrication. Do not delay job progress; allow for field cutting and fitting where taking field measurements before fabrication is not possible.
- D. Verification Samples: Submit at least two fully finished representative samples of each material that is to be exposed in the finished work, showing the full range of color and finish variations expected. Provide samples having minimum area of 144 square inches.

#### 1.04 QUALITY STANDARDS

- A. Quality Standard: Provide work complying with applicable requirements of AWI Quality Standards. Where not otherwise indicated, fabricator may choose among options permitted by AWI for grade of work specified.
- B. Mock-ups: Before beginning primary work of this Section, provide mock-ups of the following items of work at locations acceptable to Architect and obtain Architect's acceptance of visual qualities. Protect and maintain acceptable mock-ups throughout the work of this section to serve as criteria for acceptance of this work. Acceptable mock-ups may be incorporated into the finished work.
  - 1. Typical shelving and hardware.

#### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials and products only after wet work has been completed and environmental conditions similar to those of the finished work are established and maintained. Store and handle work to prevent deterioration and damage. Comply with AWI Quality Standards and recommendations. Sequence deliveries to avoid delays, but minimize on-site storage.

#### 1.06 PROJECT CONDITIONS

- A. Maintain optimum environmental conditions to prevent woodwork from shrinkage, swelling and all other forms of damage.

### PART 2 - PRODUCTS

#### 2.01 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by the American Lumber Standards Committee Board of Review.
  - 1. Factory mark each piece of lumber with grade stamp of grading agency.
  - 2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
  - 3. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal (38-mm actual) thickness or less, unless otherwise indicated.

2.02 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWPAC2 (lumber) except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWPAC31 with inorganic boron (SBX).
  - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and one of the following:
    - a. Ammoniacal, or amine, copper quat (ACQ).
    - b. Ammoniacal copper citrate (CC).
    - c. Copper azole, Type A (CBA-A).
- B. Mark each treated item with the treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review.
  - 1. Application: Treat items indicated on Drawings, and the following:
    - a. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.

2.03 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Where fire-retardant-treated materials are indicated, provide materials that comply with performance requirements in AWPAC20 (lumber). Identify fire-retardant-treated wood with appropriate classification marking of UL, U.S. Testing, Timber Products Inspection, or another testing and inspecting agency acceptable to authorities having jurisdiction.
  - 1. Use treatment for which chemical manufacturer publishes physical properties of treated wood after exposure to elevated temperatures, when tested by a qualified independent testing agency according to ASTM D 5664, for lumber.
  - 2. Use treatment that does not promote corrosion of metal fasteners.

2.04 DIMENSION LUMBER

- A. General: Provide dimension lumber of grades indicated according to the American Lumber Standards Committee National Grading Rule provisions of the grading agency indicated.
  - 1. Grade: Construction, Stud, or No. 2 grade.
  - 2. Species: Provide any of the following species:
    - a. Mixed southern pine; SPIB.
    - b. Hem-fir or Hem-fir (north); NLGA, WCLIB, or WWPAC.
    - c. Spruce-pine-fir (south) or Spruce-pine-fir; NELMA, NLGA, WCLIB, or WWPAC.

2.05 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
  - 1. Where carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M or Type 304 stainless steel.
- B. Power-Driven Fasteners: CABO NER-272.

- C. Screws for Fastening to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
- D. Lag Bolts: ASME B18.2.1. (ASME B18.2.3.8M).
- E. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.
- F. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
  - 1. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 (ASTM F 738M and ASTM F 836M, Grade A1 or A4).

## 2.06 METAL FRAMING ANCHORS

- A. General: Provide galvanized steel framing anchors of structural capacity, type, and size indicated and acceptable to authorities having jurisdiction.
  - 1. Galvanized Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating designation.

## 2.07 FINISH CARPENTRY, MATERIALS - GENERAL

- A. Materials:
  - 1. Solid stock hardwood for exposed transparent finish shall be plain sawn Red Oak, conforming to AWI Quality Standards for Premium Grade.
- B. Quality Standards: Provide AWI Premium Grade materials and workmanship.
- C. Shelving: Provide as follows:
  - 1. Wood Shelves: Provide 3/4 in. Red Oak shelf and matching solid wood Red Oak brackets.

## 2.08 FINISHING

- A. Scope: Shop finishing work includes, but is not limited to, the following:
  - 1. Transparent Finished Work: Provide sealer coat complying with Section 09900, PAINTING.

## PART 3- EXECUTION

### 3.01 INSTALLATION, GENERAL

- A. Discard units of material with defects that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.
- B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.

- C. Apply field treatment complying with AWPAC M4 to cut surfaces of preservative-treated lumber and plywood.
- D. Securely attach carpentry work as indicated and according to applicable codes and recognized standards.
- E. Countersink fastener heads on exposed carpentry work and fill holes with wood filler.
- F. Use fasteners of appropriate type and length. Pre-drill members when necessary to avoid splitting wood.

3.02 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.

3.03 WORKMANSHIP AND INSTALLATION REQUIREMENTS

- A. Dressed and sand finish carpentry work free from machine and tool marks, abrasions, raised grain, or other defects on surfaces exposed to view.
- B. Provide tight joints formed to conceal shrinkage. Fit butt joints with concealed spline. Glue and dowel shop miters which are four inches or greater. Glue and spline miters less than 4 in., with spline concealed.
- C. Blind nail finish work to the greatest extent possible. Where surface nailing is used, set and fill nails to match adjacent wood.
- D. Wherever nailing into concrete is done, care shall be taken to protect pipes or conduits embedded in the slab. No puncturing of pipes or conduits will be allowed. Damage to embedded work shall be corrected without further cost to Owner. Inserts and anchor bolts shall be placed before the pouring of concrete.
- E. Secure work to prevent checks or warps. Finish carpentry work shall be properly framed, closely fitted, and accurately set to the required lines and levels and shall be rigidly secured in place.

3.04 PAINTING AND FINISHING

- A. Field painting and finishing is specified under Section 09900, PAINTING. All finish carpentry items shall be primed or sealed, as work of this section, before installation. Paint or seal coats must be dry before items are installed.
- B. Sand all finish work at field joints and where required by installation.

3.05 SPECIFIC INSTRUCTIONS

- A. Important Note: No attempt is made in the following specific instructions to list all elements of finish carpentry required on this project. It is the responsibility of the Contractor to determine for himself from the Drawings the scope and nature of the work required. These specific instructions are intended only to provide additional instructions regarding those portions of the finished carpentry for which information beyond that given on the Drawings or covered in the AWI Quality Standards seems needed to properly describe the work. Where the scope of a category is listed it is done in a general manner to assist the Contractor in determining the general nature of work he shall look for as being required in said category, and not to limit the work.

3.06 FINISH CARPENTRY WORK

- A. Fabricate and install finish carpentry work in accordance with the Drawings, the specifications, and AWI Quality Standards applicable or referenced to this work.
- B. Miscellaneous Items: Install all required shelf, shelf brackets, and other miscellaneous items throughout, as indicated on the Drawings and as required to satisfactorily complete the entire work, whether or not each and every required piece is specifically indicated on the Drawings.
- C. The Installer shall examine substrates, supports, and conditions under which this work is to be performed and notify Contractor, in writing, of conditions detrimental to the proper completion of the work. Do not proceed with work until unsatisfactory conditions are corrected. Beginning of installation work means Installer's acceptance of substrates and conditions.

3.07 COMPLETION

- A. Just prior to completion of work of this Section, inspect work in the company of Architect and make adjustments and corrections to work leaving operating parts in perfect operating condition, all jointing to adjacent material tight, all surfaces without blemishes or stains, all work properly executed and complete, and all defects and damaged work replaced or corrected.

END OF SECTION

SECTION 07900

JOINT SEALERS

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 WORK INCLUDED

- A. Caulk and seal joints as indicated on the Drawings and as specified. Include, but do not limit to:
  - 1. Sealing of interior perimeter joints at newly installed door frames.
  - 2. Sealing of all openings and all joints at all door units (Smoke Doors) within the scope of this Contract including sealing of all surfaces above doors.
  - 3. All other interior sealing called for, or reasonably inferred from the Drawings.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Section 02070, SELECTIVE DEMOLITION.
  - 2. Section 09900, PAINTING.

1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's printed product data, specifications, standard details, installation instructions, use limitations and recommendations for each sealant material used. Provide certifications that sealant materials comply with specified requirements.
- B. Initial Selection Samples: Submit samples manufacturer's color charts showing complete range of colors, textures, and finishes available for each material used.
- C. Verification Samples: Submit actual representative samples of each sealant material that is to be exposed in the completed work. Show full color ranges and finish variations expected. Provide sealant samples having minimum size of 4 in. long.
- D. Test Reports: Provide certified reports for all specified tests.

1.04 COMPATIBILITY

- A. Provide sealant and sealant joint backing materials suitable for the use intended and compatible with the materials with which they will be in contact. Compatibility of sealant and accessories shall be verified by the sealant manufacturer.

1.05 QUALITY ASSURANCE

- A. Source: For each sealant material type required for the work of this section, provide primary materials which are the product of one manufacturer. Provide secondary or accessory materials which are acceptable to the manufacturers of the primary materials.

- B. Installer: A firm with a minimum of five years experience in type of work required by this Section and which is acceptable to the manufacturers of the primary materials.
- C. Mock-Ups: Prior to commencing the primary work of this Section, provide mock-ups at locations acceptable to Architect. Obtain Architect's acceptance of visual qualities. Protect and maintain accepted mock-ups throughout the remainder of the work of this section to serve as criteria for acceptance of the work.

1.06 PROJECT CONDITIONS

- A. Weather: Perform work of this Section only when existing or forecasted weather conditions are within the limits established by manufacturers of the materials and products used.
- B. Substrates: Proceed with work only when substrate construction and penetration work is complete.

1.07 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Materials under this Section shall be delivered to, and stored at, the job site in unbroken factory sealed containers with labels intact.

1.08 WARRANTY

- A. Furnish joint sealant manufacturer's written single-source performance warranty that joint sealant work will be free of defects related to workmanship or material deficiency for five years from date of Substantial Completion of the Project.

PART 2 - PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Before installation check each sealant for compatibility with adjacent materials and surfaces and with indicated exposures. Select sealers which are recommended by manufacturer for each application indicated. Where exposed to pedestrian or vehicular traffic, provide sealants which are non-tracking and are strong enough to withstand the traffic without damage.
- B. Provide colors as selected by Architect from manufacturer's standard colors. Where specifically requested, provide custom color matches.

2.02 NON-SAG POLYURETHANE SEALANT

- A. Provide multi-part, non-sag, polyurethane based elastomeric sealant, complying with ASTM C 920 Type M, Grade NS, Class 25, Fed. Spec. TT-S-00227E Class A, having Shore A hardness of 20 to 30, cured modulus of elasticity at 100% elongation of not more than 75 psi, and tear resistance of not less than 50 lbs./inch when tested according to ASTM D 624.
- B. Provide one of the following products that meet or exceed specified requirements:
  - 1. Mameco International Vulkem 227.
  - 2. Sika Sikaflex 2c NS.
  - 3. Sonneborn Sonolastic NP 2.
  - 4. Tremco Dymeric.
- C. Where joint requires 50% movement capabilities, provide Tremco Dymeric Plus, or equal product approved by Architect.



- D. Extent: Provide non-sag polyurethane sealant for all masonry to metal joints, and other joints not indicated to be sealed with another type of sealant.

## 2.03 MISCELLANEOUS MATERIALS

- A. Primer: Provide primer recommended by sealant manufacturer for surfaces to be adhered to.
- B. Bond Breaker Tape: Provide polyethylene or other plastic tape recommended by sealant manufacturer to prevent three-sided adhesion.
- C. Backer Rod: Provide compressible rod of durable nonabsorptive material recommended by sealant manufacturer for compatibility with sealant. Provide products of one of the following manufacturers:
  - 1. Backer Rod Manufacturing and Supply Co.
  - 2. Dow Chemical Co.
  - 3. W. R. Meadows, Inc.
  - 4. Williams Products, Inc.
  - 5. Woodmont Products, Inc.
- D. Provide miscellaneous materials of type that will not bleed through sealant, discolor surface, or produce other deleterious effects. Select size to provide compression to approximately 2/3 original width when in place. Provide backing material profile concave to the rear of the sealant, and equipped with a bond-breaking film.

## PART 3 - EXECUTION

### 3.01 INSPECTION

- A. The Installer shall examine substrates and conditions under which this work is to be performed and notify Contractor, in writing, of conditions detrimental to proper completion of work. Do not proceed with work until unsatisfactory conditions are corrected. Beginning of sealant work means Installer's acceptance of joint surfaces and conditions.

### 3.02 PREPARATION

- A. Strictly comply with manufacturers' instructions and recommendations, except where more restrictive requirements are specified in this Section.
- B. Clean joint surfaces immediately before installation of sealants, primers, tapes and fillers. Remove substances which could interfere with bond. Etch or roughen joint surfaces to improve bond. Surfaces which have been given protective coatings and those that contain oil or grease shall be thoroughly cleaned with xylol or MEK solvent, with due precautions taken to minimize hazards.
- C. Unless otherwise indicated, use of sealants shall conform to ASTM C 962.
- D. Tape or mask adjoining surfaces to prevent spillage and migration problems.
- E. Prime surfaces as recommended by sealant manufacturer.

### 3.03 INSTALLATION

- A. Provide backer rods for sealants except where specifically recommended against by sealant manufacturers.
- B. Prevent three sided adhesion by use of bond breaker tapes or backer rods.

- C. Force sealant into joints to provide uniform, dense, continuous ribbons free from gaps and air pockets. Completely wet both joint surfaces equally on opposite sides.
- D. Except in hot weather, make sealant surface slightly concave. Install sealants so that compressed sealants do not protrude from joints. Dry tool sealants to form a smooth dense surface. At horizontal joints form a slight cove to prevent trapping water.
- E. Provide sealants to depths indicated, or if not indicated, follow manufacturer's recommendations. For joints up to 3/8 in. width, depth of joint shall not exceed 1/2 in.; for joints larger than 1/2 in. width, depth of joint shall not exceed 5/8 in.

#### 3.04 EXTENT OF SEALANT WORK

- A. General Extent: Seal joints indicated, and all interior joints, seams, and intersections between dissimilar materials.
- B. Interior Sealing: Without limitation, the work of this Section includes sealing the following:
  - 1. Perimeter of door frames.
  - 2. All openings and all joints at all door units (Smoke Doors) within the scope of this Contract including sealing of all surfaces above doors.

#### 3.05 CURING

- A. Cure sealants in strict compliance with manufacturers' instructions and recommendations to obtain highest quality surface and maximum adhesion. Make every effort to minimize accelerated aging effects and increase in modulus of elasticity.

#### 3.06 CLEANING AND PROTECTION

- A. Remove smears from adjacent surfaces immediately, as the work progresses. Exercise particular care to prevent smearing or staining of surrounding surfaces which will be exposed in the finished work, and repair any damage done to same as result of this work without additional cost to Owner.
- B. Remove and replace work that is damaged or deteriorated.
- C. Clean adjacent surfaces using materials and methods recommended by sealant manufacturer. Remove and replace work that cannot be successfully cleaned.
- D. Provide temporary protection to ensure work being without damage or deterioration at time of final acceptance. Remove protection immediately before final acceptance.

END OF SECTION

SECTION 08520

MEWTAL WINDOWS

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 WORK INCLUDED

- A. Provide aluminum window system, as indicated on Drawings and as specified herein. Aluminum windows shall include:
  - 1. Sliding window at counter
  - 2. Fixed window unit.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
  - 1. Section 06105, MISCELLANEOUS CARPENTRY; Wood blocking.
  - 2. Section 07900, JOINT SEALERS.
  - 3. Section 08800, GLASS AND GLAZING.

1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's printed product data, specifications, standard details, installation instructions, use limitations and recommendations for each material used. Provide certifications that windows comply with specified requirements. Product data for each type of window required shall include:
  - 1. Construction details and fabrication methods.
  - 2. Profiles and dimensions of individual components.
  - 3. Recommendations for maintenance and cleaning of exterior surfaces.
- B. Shop Drawings: Provide large scale shop drawings for fabrication, installation and erection of all parts of the work. Provide plans, elevations, and details of anchorage, connections and accessory items. Provide installation templates for work installed by others. Show all interfaces and relationships to work of other trades. Include information not fully detailed in manufacturer's standard product data and the following:
  - 1. Layout and installation details, including relationship to adjacent work.
  - 2. Elevations at 1/4-inch scale.
  - 3. Detail sections of typical composite members.
  - 4. Anchors and reinforcement.
  - 5. Hardware mounting heights.
  - 6. Provisions for expansion and contraction.
  - 7. Glazing details.
- C. Field Measurements: To the greatest extent possible, take all necessary field measurements before preparation of shop drawings and fabrication. Do not delay progress of the job.

- D. Certification: Provide certification by a recognized independent testing laboratory or agency showing that each type, grade, and size of window unit complies with performance requirements indicated.
- E. Initial Selection Samples: Submit samples showing complete range of colors, textures, and finishes available for each material used.
- F. Verification Samples: Submit representative samples of each material that is to be exposed in the completed work. Show full color ranges and finish variations expected. Provide samples having minimum size of 144 sq. in.
- G. Calculations: Provide professionally prepared calculations and certification of performance of this work. Indicate how design requirements for loading and other performance criteria have been satisfied.
- H. Test Reports: Provide certified test reports for specified tests.

#### 1.05 QUALITY ASSURANCE

- A. Source: For each material type required for the work of this section, provide primary materials which are the product of one manufacturer. Provide secondary or accessory materials which are acceptable to the manufacturers of the primary materials.
- B. Installer: A firm with a minimum of ten years experience in type of work required by this section and which is acceptable to the manufacturers of the primary materials.
- C. Mock-Ups: Prior to commencing the primary work of this section, provide mock-ups of each window type at locations acceptable to Architect. Obtain Architect's acceptance of visual qualities. Mock-ups may be used for required field tests. Protect and maintain accepted mock-ups throughout the remainder of the work of this section to serve as criteria for acceptance of the work. Approved mock-ups may be incorporated into the finished work.
- D. Testing for Performance: Test the manufacturer's stock assemblies which most closely correspond to applications and configurations indicated for this project.
- E. Design Criteria: The drawings indicate the size, profile, and dimensional requirements of aluminum window work required and are based on the specific types and models indicated. Aluminum window system by other manufacturers may be considered, provided deviations in dimensions and profiles are minor and do not change the design concept as judged by the Architect. The burden of proof of equality is on the proposer.

#### 1.06 TESTS AND PERFORMANCE REQUIREMENTS

- A. Manufacturer's Standard Tests: Provide manufacturer's standard test data showing compliance with specified requirements. Provide specified tests if manufacturer's standard windows have been modified, or when custom windows are used.
- B. Test Units: Provide units for testing fully glazed and assembled in accordance with Contract Documents. Provide test unit sizes at least as large as the largest unit used on this project, and in no case smaller than unit sizes listed in Chart A of AAMA 101.
- C. Test Sequence: Test sequence is optional, except that air infiltration tests shall precede water resistance tests.
- D. Air Infiltration Test unit in accordance with ASTM E 283, as follows:
  - 1. Static Air Pressure Difference: 5% of specified Design Wind Pressure, but never less than 12.0 pounds per square foot.

2. Air Infiltration: Air infiltration shall not exceed 0.03 cfm/sq. ft. of fixed area when tested at 6.24 psf (50 mph wind speed equivalent) in accordance with ASTM E 283.
3. Performance: Maximum air leakage shall not exceed amount shown in Section 2.1 of AAMA GS-001.

E. Thermal Movement: Design the aluminum framing systems to provide for expansion and contraction of the component materials.

1. The system shall be capable of withstanding a metal surface temperature range of 180 deg F (100 deg C) without buckling, failure of joint seals, undue stress on structural elements, damaging loads on fasteners, reduction of performance, stress on glass, or other detrimental effects.

#### 1.07 PROJECT CONDITIONS

A. Field Measurements: Check openings by accurate field measurement before fabrication. Show recorded measurements on shop drawings. Coordinate fabrication schedule with construction progress to avoid delay of the work.

1. Where necessary, proceed with fabrication without field measurements, and coordinate fabrication tolerances to ensure proper fit.

#### 1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials and products in unopened, factory labeled packages. Store and handle in strict compliance with manufacturer's instructions and recommendations. Store under cover and protect from weather damage.

1. Deliver aluminum framing system components in the manufacturer's original protective packaging.
2. Store aluminum components in a clean dry location away from uncured masonry or concrete. Cover components with waterproof paper, tarpaulin or polyethylene sheeting in a manner to permit circulation of air. Stack framing components in a manner that will prevent bending and avoid significant or permanent damage.

B. Sequence deliveries to avoid delays, but minimize on-site storage.

#### 1.09 WARRANTIES

A. Provide written warranty, signed by manufacturer, installer, and Contractor, agreeing to repair or replace work that exhibits defects in materials or workmanship. "Defects" is defined to include, but not limited to, leakage of water, abnormal aging or deterioration, abnormal deterioration or fading of finishes, and failure to perform as required. Include requirement for removal and replacement of covering and connected adjacent work.

1. Warranty Period: Three years from date of Substantial Completion.

B. Finish Warranty: Provide a written warranty, signed by the manufacturer, installer, and Contractor, agreeing to repair or replace metal finishes which have deteriorated from chalking, fading, cracking, peeling, and chipping.

1. Warranty period: Ten (10) years from date of Substantial Completion.

## PART 2 PRODUCTS

### 2.01 ACCEPTABLE MANUFACTURERS/TYPE

- A. Provide windows of one of the following manufacturers that meet or exceed specified requirements:
  - 1. EFCO Corporation.
  - 2. Kawneer Company, Inc.
  - 3. Vistawall.
  - 4. Traco
- B. System: Provide thermally improved, outside glazed sliding and fixed window systems. Windows shall meet the following classifications:
  - 1. AW-80.

### 2.02 MATERIALS

- A. Aluminum Members: Alloy 6063, temper T5, or other alloy and temper of equal strength, recommended by the framing system manufacturer for corrosion resistance, and application of required finish; comply with ASTM B 221 for aluminum extrusions, ASTM B 209 for aluminum sheet or plate, and ASTM B 211 for aluminum bars, rods and wire.
- B. Carbon steel for reinforcement: ASTM A 36 for structural shapes, plates and bars, ASTM A 611 for cold rolled sheet and strip, and ASTM A 570 for hot rolled sheet and strip.
- C. Glazing Gaskets: Manufacturer's standard resilient elastomeric material.
- D. Fasteners: Provide fasteners of aluminum or nonmagnetic stainless steel.
  - 1. Reinforcement: Where fasteners screw-anchor into aluminum members less than 0.125 in. thick, reinforce the interior with aluminum or nonmagnetic stainless steel to receive screw threads, or provide standard noncorrosive pressed-in splined grommet nuts.
  - 2. Fasteners: Conceal fasteners, except that exposed Phillips flat-head machine screws that match the finish of member or hardware being fastened may be used for application of hardware.
  - F. Concealed Flashing: 0.0179 in. minimum dead-soft stainless steel, or 0.026 in. thick minimum extruded aluminum of alloy and type selected by manufacturer for compatibility with other components.
- E. Brackets and Reinforcements: Provide high-strength aluminum brackets and reinforcements; where use of aluminum is not feasible provide nonmagnetic stainless steel or hot-dip galvanized steel complying with ASTM A 123.
- F. Concrete and Masonry Inserts: Provide cast iron, malleable iron, or hot-dip galvanized steel inserts complying with ASTM A 123.
- G. Sealant: High range type sealants. Comply with requirements of Section 07900, JOINT SEALERS.

### 2.04 FABRICATION

- A. General: Fabricate aluminum components to designs, sizes, and thicknesses indicated and to comply with indicated standards.
- B. Prefabrication: Complete fabrication, assembly, finishing, and other work to the greatest extent possible before shipment to the Project site. Disassemble components only as necessary for shipment and installation.

1. Perform fabrication operations, including cutting, fitting, forming, drilling and grinding of metal work to prevent damage to exposed finish surfaces. Complete these operations for hardware prior to application of finishes.
  2. Do not drill and tap for surface-mounted hardware items until time of installation at project site.
- C. Welding: Comply with AWS recommendations. When welding behind finished surfaces, minimize distortion and discoloration on the finished surface. Grind exposed welds smooth to remove weld spatter and welding oxides. Restore mechanical finish.
- D. Reinforcing: Install reinforcing as required and as necessary for performance requirements.
- E. Dissimilar Metals: Separate dissimilar metals with bituminous paint, or a suitable sealant, or a nonabsorptive plastic or elastomeric tape, or a gasket between the surfaces. Do not use coatings containing lead.
- F. Continuity: Maintain accurate relation of planes and angles with hairline fit of contacting members.

## 2.05 FINISHES

- A. Finish - Fluorocarbon Coating: Properly prepare substrates by inhibited chemical cleaning, conversion coating, and priming in compliance with coating manufacturer's instructions and recommendations. Provide minimum 1.0 dry film thickness of thermo-cured fluorocarbon coating containing minimum 70% of one of the following resins, complying with AAMA 2605:
1. Hylar 5000; Ausimont USA, Inc., Morristown, NJ 07962-1838.
  2. Kynar 500; Atochem North America, Inc., Philadelphia, PA 19102.
- B. Colors: Match existing.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Examine substrates and supports, with the Installer present, for compliance with requirements indicated, installation tolerances, and other conditions that affect installation of aluminum entrances and storefront. Correct unsatisfactory conditions before proceeding with the installation.
- B. Do not proceed with installation until unsatisfactory conditions are corrected.

### 3.02 INSTALLATION

- A. Comply with manufacturer's instructions and recommendations for installation.
- B. Set units plumb, level, and true to line, without warp or rack. Install components in proper alignment and relation to established lines and grades indicated. Provide proper support and anchor securely in place.
- C. Construction Tolerances:
1. Variation from Plane: Do not exceed 1/8 inch in 12 feet of length or 1/4 inch in any total length.
  2. Offset from Alignment: 1/16 inch maximum offset from true alignment between two identical members abutting end to end in line.
  3. Diagonal Measurements: 1/8 inch maximum difference in diagonal measurements.
  4. Offset at Corners: 1/32 inch maximum out-of-plane offset of framing at corners.
- D. Separate aluminum and other corrodible metal surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

1. Zinc or cadmium plate steel anchors and other unexposed fasteners after fabrication.
  2. Paint dissimilar metals where drainage from them passes over aluminum.
  3. Paint aluminum surfaces in contact with mortar, concrete or other masonry with alkali resistant coating.
  4. Paint wood and similar absorptive material in contact with aluminum and exposed to the elements or otherwise subject to wetting, with two coats of aluminum house paint. Seal joints between the materials with sealant.
- E. Drill and tap frames and apply surface-mounted hardware items which were not applied in the factory. Comply with hardware manufacturer's instructions and template requirements. Use concealed fasteners wherever possible.
- F. Set sill members in bed of sealant to provide weathertight construction. Comply with requirements of Section 07900, JOINT SEALERS.
- G. Glazing: Install glass in accordance with framing manufacturer's recommendations and with Section 08800, GLASS AND GLAZING. Use gaskets, fasteners and accessories furnished with the framing system. Adjust pressure plates as required to provide watertight assembly, but do not overtighten and chip or damage glazing units.
- 3.04 CLEANING AND PROTECTION
- A. Clean the completed system, inside and out, promptly after installation, taking care to avoid damage to coatings. Promptly remove mortar, paint, and other contaminants from metal surfaces.
- B. Clean glass surfaces after installation, complying with requirements contained in Section 08800, GLASS AND GLAZING. Clean aluminum framing system; comply with coating manufacturer's recommendations for cleaning.

END OF SECTION



SECTION 08710

DOOR HARDWARE

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 WORK INCLUDED

- A. Provide Door Hardware to provide correct functions for intended use. Provide related items and services as indicated on the Drawings and as specified. Furnish hardware schedules and templates as required for fabrication of doors and frames under other Sections. Provide hardware that complies with applicable codes and requirements of authorities which have jurisdiction.
- B. Coordinate hardware requirements for new doors and frames and hardware requirements of existing openings and frames with supplier of these items.
- C. Labeled Openings: For field modified hardware applied to existing steel frames comply with referenced standards relative to labeled openings. Where existing frames are to be modified to accept new hardware and new doors, provide a qualified third party certification of opening and of frame assembly to verify the required rated assembly in accordance with the Contract Documents.
  - 1. Cost of third party agency inspection and required fees for each opening will be borne by the Contractor as part of the work of this Section.
  - 2. Third party agency shall be a qualified and licensed firm acceptable to Owner and Architect and local authorities having jurisdiction.
  - 3. Provide qualifications of agency relative to fire door assemblies and certification.
  - 4. Unless otherwise indicated, agency shall be thoroughly trained and qualified to provide field certification and shall have successfully completed the DHI Annual Fire Door Assembly Inspection Program (AFDAIP) and is qualified as a Fire Door Assembly Inspector (FDAI). Where applicable agency shall employ qualified certification technicians who have completed the Intertek Certification Program.
- D. Drawings: Refer to Architectural Drawings for Door Schedules and for additional hardware requirements and hardware sets.

1.02 RELATED WORK

- A. Carefully examine all of the Contract Documents for requirements which affect the work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to, the following:
  - 1. Section 02070, SELECTIVE DEMOLITION.

1.03 QUALITY ASSURANCE

- A. Consultant: In order to qualify for work under this Section, supplying firm must employ on a fulltime basis a regular member of the Society of Architectural Hardware Consultants, or equal acceptable to the Architect, to prepare detailed hardware and keying schedules, check drawings, and supervise installation.

1.04 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.
  - 1. Americans with Disabilities Act (ADA):  
Providing Accessibility and Usability for Physically Handicapped People.
  - 2. Door and Hardware Institute (DHI):  
Ref. 1 - Recommended Locations for Builders Hardware.
  - 3. MAAB – Massachusetts Architectural Access Board.
  - 4. NFPA 80/101 – National Fire Protection Association.

1.05 SUBMITTALS

- A. Hardware Schedules: Within 10 days after written notice of the award of the Contract is received from the Contractor, prepare and submit to the Architect for approval six copies of a complete Hardware Schedule. The Schedule shall be in DHI vertical format and shall include the manufacturers' numbers, types, sizes, and installation location of all hardware required to complete the job. The Hardware Schedule shall list the Specification Hardware Set Number next to the Schedule Heading Number and shall include a Door Index listing the Schedule Heading Number.
- B. Catalogue Cuts: Include with the Schedule two sets of catalogue cuts, together with product data sheets, of all hardware items.
- C. Templates: Furnish templates to door and frame manufacturers sufficiently in advance so as not to impede the progress of the work. However, no templates shall be issued or materials ordered until the Hardware Schedule has been approved.
- D. Samples: Submit samples as requested by the Architect of any materials specified herein. Samples shall be clearly marked with the manufacturer's name and number and with the schedule number. Samples shall be returned to the supplier after being reviewed.

1.06 WARRANTY/GUARANTEE

- A. Attention is directed to the provisions of the AGREEMENT regarding warranties for the Work.
- B. Manufacturers shall provide their standard warranties/guarantees for work under this Section. However, such warranties/guarantees shall be in addition to, and not in lieu of, all other liabilities which the manufacturers may have by law or by other provisions of the Contract Documents.

1.07 MARKING AND PACKING

- A. All packages shall be legibly labeled indicating manufacturers numbers, types, sizes and Hardware Schedule reference number. All hardware shall be wrapped in paper and shall be packed in the same package as all screws, bolts and fastenings necessary for proper installation.

1.08 DELIVERY AND STORAGE

- A. The Contractor shall receive, check against invoices, and store all hardware at the job.
- B. Delivery of hardware for the job shall be made in accordance with the Contractor's instructions.

- C. The Contractor shall furnish the supplier of the hardware with receipts for all hardware received.
- D. The Contractor shall provide adequate locked storage space with shelving for all items of hardware and shall be responsible for such hardware after receipt from the Supplier. He shall replace all lost or damaged hardware at his own expense.

1.09 SPECIAL REQUIREMENTS

- A. Hardware Supplier shall determine conditions and materials for all the doors and frames for proper application of hardware.
- B. Hardware Supplier shall be responsible for the accuracy of the quantities, sizes, finish and proper hardware to be furnished, whether specifically mentioned or not, and shall be responsible for determining all details, such as hand of doors, bevel of locks, etc.
- C. All trim for door locks to hazardous areas such as Mechanical Rooms, Electrical Rooms, etc., shall have a tactile surface to comply with requirements of the Authority Having Jurisdiction.
- D. Tools for Maintenance: All special tools packed with hardware items shall be saved and turned over to the Owner upon completion of the work.
- E. Lock fronts, flush bolt faces, and strikes shall be beveled in accordance with manufacturers' standards.
- F. Handing of doors shall be verified by this Supplier.
- G. Hardware not specifically listed for a particular opening shall be the same as hardware scheduled for similar openings.
- H. Hardware shall match existing School facility hardware including the following:
  - 1. Locksets/Latchsets: Von Duprin to match existing.
  - 2. Panic Hardware: Von Duprin to match existing.

PART 2 - PRODUCTS

2.01 QUALITY OF MATERIALS

- A. It is the responsibility of the Hardware Supplier to furnish the specified size and weight of hardware and fastenings, and the proper function of hardware in each case. If doors are labeled, proper UL approved hardware shall be supplied.
- B. Hardware shall be furnished as specified. Where only one manufacturer is listed, no substitution shall be allowed. Hardware for locksets/latchsets and for panic (exit) devices shall match existing (Von Duprin).

<u>Item</u>	<u>Manufacturers</u>
Electromagnetic Locks	(Sargent), Von Duprin, Locknetics
Electromechanical Closer-Holder Release Devices:	(Sargent), Von Duprin, Locknetics
Exit Devices, Rim Type	Von Duprin (NO SUBSTITUTES)
Exit Devices, Mortise Type	Von Duprin (NO SUBSTITUTES)
Butts/Hinges	(Stanley) Hager, PBB
Continuous Hinges	(Marker Architectural Products), McKinney Hinge, Hager, Roton

<u>Item</u>	<u>Manufacturers</u>
Locksets/Latchsets	Von Duprin (NO SUBSTITUTES)
Closers	(LCN)
Protection Plates	(Burns) Hager, Rockwood
Wall and Floor Stops/Silencers	(Burns) Hager, Rockwood
Overhead Stays and Holders	(Dorma) ABH, Glynn Johnson
Flush Bolts	(Door Controls, Intl.)
Gasketing	(NGP) Pemko, Zero
Automatic Door Bottoms/Rain Drips	(NGP) Pemko, Zero
Thresholds	(NGP) Pemko, Zero
Astragals	(NGP) Pemko, Zero

## 2.02 SPECIFIC HARDWARE ITEMS

- A. Electromagnetic Locks: Equal to Sargent 1584, 1585, 1586 as applicable for door application. Provide 24 VDC units. Hardware shall be UL-listed.
- B. Electromechanical Closer-Holder Release Devices: Equal to Sargent 351 EHT/EHTD as applicable for door application. Provide 24 VDC units. Hardware shall be UL-listed and shall conform to ANSI/BHMA A156.15. Provide applications as indicated including (1) Pull Side; (2) Pull Side – Double Egress. Provide 24 volt DC Power Supplies, switches, and transformers. Provide all arms and components as required, as scheduled, or as necessary for proper operation of each door unit and as acceptable to local authorities having jurisdiction.
- C. Exit Devices, Rim Type: Von Duprin Exit Devices for UL Fire Rated Doors. Rim devices shall be Von Duprin Series 98/99 Rim Exit Device meeting ANSI A 156.3, Grade 1. Provide all required trim, strikes, retrofit kits, and related items for a complete installation acceptable to local authorities having jurisdiction. Unless otherwise indicated, provide Sargent ETL Lever Design.
- D. Exit Devices, Mortise Type: Von Duprin Exit Devices for UL Fire Rated Doors. Mortise lock type devices shall be Von Duprin Series 88 Mortise Lock Exit Device meeting ANSI A 156.3, Grade 1. Provide all required trim, strikes, retrofit kits, and related items for a complete installation acceptable to local authorities having jurisdiction.
- E. Continuous Hinges: Marker Architectural Products, McKinney-Hinge, or Hager-Roton to comply with project requirements.

## 2.03 HINGES AND PIVOTS

- A. Hinges are to be of three-knuckle design, equipped with full radial thrust and lateral bearing assemblies. The bearing assemblies are to be permanently lubricated and sealed. All hinges are to have positive non-rising pins and a hole in the bottom tip for easy pin removal. Hinges shall have flush tips. Pins shall be through hardened and polished stainless steel.
- B. Number of hinges or pivots per door: Two hinges or pivots are to be provided for doors up to and including five feet (5') in height, and an additional hinge for each two-and-one-half feet (2-1/2'), of fraction thereof, of the height of the door.
- C. Hinges for exterior doors shall be Stanley CB1961R 5" x 4-1/2" x NRP x US32D.
- D. Hinges for interior doors shall be steel, Stanley CB Series, sized as follows:

<u>Door Thickness</u>	<u>Door Width</u>	<u>Hinge Weight</u>	<u>Hinge Height</u>
1-3/4 in.	Under 39 in.	Regular Weight	4-1/2 inches
1-3/4 in.	39-in. and over	Extra Heavy Wt.	5 inches

Width of hinges shall be determined by trim conditions.

- E. Furnish Non-Removable Pins (NRP) at all interior locked doors that are reverse bevel.
- F. Continuous Hinges shall be Hager Roton 1200-600-XHD.

#### 2.03 LOCKSETS AND LATCHSETS

- A. Unless noted otherwise, locksets and latchsets shall be heavy-duty cylindrical type, matching existing and as identified on the Hardware Sets included on the Drawings.
- B. Locks and latches shall be 2-3/4 in. backset and shall have wrought box strikes.
- C. Furnish strikes with extended lips where required to protect trim from being marred by latchbolt.
- D. Provide cylinders for all locking devices on this job.
- E. At pairs of doors, furnish strike lips 7/8" lip to center.

#### 2.04 EXIT DEVICES

- A. Exit Devices shall be Von Duprin "98" Series, in functions as listed in the sets below.
- B. Lever trim shall match that of locksets.
- C. Furnish Fire Rated Devices, as required. Furnish Cylinder Dogging (CD) for all non- fire rated devices.

#### 2.05 CLOSERS

- A. Surface Closers shall be LCN, non-sized, ADA approved, as follows:
  - 1. Interior Doors: 4040 Series. Where "SC" is noted, furnish with built in spring/stop feature.
- B. Unless specified otherwise, closers shall be mounted on that side of the opening least objectionable to the public view, unless otherwise specified. Provide parallel arm type at reverse bevel conditions.
- C. Furnish all Door Closers with LCN 4040-18 Back Plates.
- D. Furnish all closers with Full Metal Covers.
- E. For all doors that can swing 180 degrees, template closers as required (unless built in stop is specified in the sets below).
- F. Coordinating Systems shall be Dorma TS93GSR.

#### 2.06 PROTECTION PLATES

- A. Kick Plates shall be 8-in. high. Width of plate shall be 2-in. Less Width of Door on single doors, and 1-in. LWOD on pairs of doors.

- B. Armor Plates shall be 36-in. high. Width of plates shall be as determined above.
- C. Furnish all plates with opucssms.

2.07 STOPS AND STAYS (INTERIOR DOORS)

- A. Furnish a stop or stay for each single door and each leaf of a pair of doors.
- B. Floor Stops shall be Burns 535.
- C. Where floor stops cannot be used, furnish an Overhead Stop ABH 9034.
- D. Floor Stop and Holders shall be Rockwood 491.

2.08 FLUSH BOLTS

- A. Flush Bolts shall be Door Controls International as follows:
  - 1. Automatic Flush Bolts for Wood and Metal Doors – 842/942.
- B. Furnish 80 Dustproof Strikes for all flush bolts.

2.09 THRESHOLDS

- A. Thresholds for interior doors shall be NGP 513.
- B. Thresholds for exterior doors shall be NGP 896S (silicon).
- C. All thresholds shall be cut-in around mullions, frame members, stops, mullions (not butted up against) and shall provide a continuous surface across the full width of the opening from jamb to jamb. Strikes for exit device bottom rods shall be installed in field. All thresholds shall be properly sealed, grouted and/or caulked and set in a full bed of mastic.

2.10 GASKETING/AUTOMATIC DOOR BOTTOMS/ASTRAGALS

- A. Gasketing shall be NGP 2525, applied at head and jambs.
- B. Automatic Door Bottoms shall be NGP 320/423. If mortise type conflicts with material construction or other hardware, furnish 520, surface type.
- C. Where an overlapping astragal is noted, furnish NGP 139SP (if not provided by Door Manufacturer).
- D. Sweeps shall be NGP 200SA.
- E. Furnish gasketing and door bottoms as noted herein and/or as noted on the Door Schedule.

2.11 MISCELLANEOUS

- A. Silencers: All interior metal and wood frames shall be provided with door silencers, three (3) for each single door and two (2) for each pair of doors. Silencers shall be Burns 500/501.

2.12 FINISHES

- A. Unless noted otherwise, finish of hardware shall be as follows:

1. Exit Devices, Protection Plates shall be satin stainless steel, US32D. Plates shall be BS 0.062 ga., 18-8 alloy.
2. Cylindrical Locksets, Flush Bolts, Floor Stops, etc, shall be satin chrome, US26D.
3. Closers shall be painted to match.
4. Thresholds shall be Aluminum.

### PART 3 – EXECUTION

#### 3.01 MOUNTING POSITIONS

- A. Mounting heights given are center line heights from finished floor.
- B. Hinges: Position top hinge five inches below head, bottom hinge ten inches above finished floor and intermediate hinge equally spaced between top and bottom hinges.
- C. Locksets and Latchsets: Unless shown otherwise, locate center of levers 40 inches above finished floor.
- D. Overhead Closers:
  1. Verify each head condition prior to furnishing door closers.
  2. Surface-mounted on Door: Surface shoe application for standard operation and soffit plate application for parallel arms. Provide special shoe plates and brackets where specified or where required by job conditions.
  3. Set hardware plumb, level and in exact alignment and location. Conceal and countersink fasteners wherever possible.

#### 3.02 ADJUSTING, CLEANING AND PROTECTION

- A. Adjust hardware items to work smoothly, easily and correctly.
- B. Clean exposed surfaces using non-abrasive materials and methods recommended by the manufacturer of the hardware being cleaned. Remove and replace work which cannot be successfully cleaned, as judged solely by the Architect.
- C. Provide temporary protection to ensure work being done without damage or deterioration at time of Final Acceptance. Levers shall be kept covered with heavy cloth, and other hardware shall be protected against damage until Substantial Completion of the Project. Remove protections and reclean as necessary immediately prior to Final Acceptance.

#### 3.03 COMPLETION AND CONTINUED MAINTENANCE

- A. Before completion of work of this Section, inspect work with Architect and adjust and correct work to leave operating parts in perfect operating condition, jointing to adjacent material tight, surface without blemishes or stains, work properly executed and complete, and defects and damaged work replaced or corrected.

#### 3.04 HARDWARE SETS

- A. Each Hardware Set listed below represents the complete hardware requirements for one opening (single door or pair of doors). Furnish the quantities required of each set for the work.
- B. Refer to the Hardware Sets and Door Schedules included as part of the Contract Drawings.

END OF SECTION

SECTION 08800

GLASS AND GLAZING

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 WORK INCLUDED

- A. Furnish and install glass and glazing, as indicated on Drawings and as specified herein. Include, but do not limit to glass and glazing for the following:
  - 1. Interior glass windows (fixed and sliding).
  - 2. All other glass and glazing indicated on the Drawings.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect Work of this Section. Other Specification Sections that directly relate to Work of this Section include, but are not limited to:
  - 1. Section 085200, METAL WINDOWS; Window frames to receive glazing.

1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's printed product data, specifications, standard details, installation instructions, use limitations and recommendations for each material used. Provide certifications that materials and systems comply with specified requirements.
- B. Test Reports: Provide certified reports for specified tests.

1.04 QUALITY ASSURANCE

- A. Source: For each glass and glazing type required for work of this Section, provide primary materials which are products of one manufacturer. Provide secondary or accessory materials which are acceptable to manufacturers of primary materials.
- B. Installer: A firm with a minimum of three years experience in type of work required by this Section and which is acceptable to manufacturers of primary materials.
- C. Referenced Standards: Work and materials shall meet or exceed the requirements of all referenced standards. Include Commonwealth of Massachusetts State Building Code, ANSI Z97.1, ASTM E 774, and GANA Glazing Manual.
- D. Safety Glass: At hazardous locations including, but not limited to those listed below and as defined in the Commonwealth of Massachusetts State Building Code, provide laminated glass.
  - 1. All glazing included as part of this Contract.



1.05 TESTS

- A. Preconstruction Sealant Test: Submit samples of materials to be used to glazing sealant manufacturer to determine sealant compatibility. Include samples of glass, gaskets, glazing materials, framing members, and other components and accessories of glazing work. Test in accordance with ASTM C 794 to verify what type of primers (if any) are required to ensure sealant adhesion to substrates.
  - 1. Submit minimum of nine pieces of each type and finish of framing member, and nine pieces of each type, class, kind, condition, and form of glass, including monolithic, laminated, and insulating glass for adhesion tests.
  - 2. Provide manufacturer's written report and recommendations regarding proper sealant choice and use.

1.06 PROJECT CONDITIONS

- A. Weather: Perform work of this Section only when existing or forecasted weather conditions are within limits established by manufacturers of materials and products used.
- B. Temperature Limits: Install sealants only when temperatures are within limits recommended by sealant manufacturer, except, never install sealants when temperatures are below 40°F.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials and products in unopened, factory labeled packages. Store and handle in strict compliance with manufacturer's instructions and recommendations and GANA Manual.
  - 1. Protect materials from moisture, sunlight, excess heat, sparks and flame.
  - 2. Sequence deliveries to avoid delays, but minimize on-site storage.

1.08 WARRANTIES

- A. Provide a written warranty, signed by the manufacturer, installer, and Contractor, agreeing to repair or replace work which exhibits defects in materials or workmanship. "Defects" is defined to include, but not limited to, leakage of water, abnormal aging or deterioration, failure of hermetic seals, edge separation or delamination of laminated glass, peeling, cracking, or crazing of metallic coatings, and failure to perform as required. Include requirement for removal and replacement of covering and connected adjacent work. Provide warranty periods standard with manufacturer.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS/FABRICATORS

- A. Glass: Provide glass products of one of the following manufacturers/fabricators that meet or exceed the requirements of these specifications:
  - 1. AFG Industries.
  - 2. Falcomer Glass Industries.
  - 3. Guardian Industries.
  - 4. Cardinal Glass.
  - 5. Libbey Owens Ford.

2.02 GLASS MATERIALS AND PRODUCTS

- A. Clear Tempered Glass: ASTM C1048, Condition A-Uncoated, Type I-Transparent, Flat, Class 1-Clear, Quality q3, Kind FT.

## 2.03 GLAZING MATERIALS AND PRODUCTS

- A. General: Provide sealants and gaskets with performance characteristics suitable for applications indicated. Ensure compatibility of glazing sealants with insulated glass sealants, with laminated glass interlayers, and with any other surfaces in contact.
- B. General Glazing and Cap Bead Sealant: Provide sealant with maximum Shore A hardness of 50. Provide one of the following:
  - 1. Dow Corning 795.
  - 2. General Electric Silglaze N 2500 or Contractors SCS-1000.
  - 3. Tremco Proglaze.
- C. Preformed Glazing Tape: Provide solvent-free butyl-polyisobutylene rubber with 100% solids content complying with AAMA A 804.1. Provide preformed glazing tape in extruded tape form. Provide one of the following:
  - 1. Protective Treatments 303 or 606.
  - 2. Tremco Preshimmed 440.
  - 3. Woodmont Chem-Tape 40.
- D. Setting Blocks: Provide neoprene or silicone blocks with Shore A hardness of 80-90. Provide products certified by manufacturer to be compatible with silicone sealants.
  - 1. Shims: For shims used with setting blocks, provide same materials, hardness, length and width as setting blocks.
- E. Edge Blocks: Provide neoprene or silicone as required for compatibility with glazing sealants. Provide blocks with Shore A hardness of 55±5.
- F. Miscellaneous Glazing Materials: Provide sealant backer rods, primers, cleaners, and sealers of type recommended by glass and sealant manufacturers.

## PART 3 - EXECUTION

### 3.01 INSPECTION

- A. The Installer/Glazier shall examine substrates, supports, and conditions under which this work is to be performed. Notify Contractor in writing, outlining conditions detrimental to proper completion of work. Do not proceed with work until unsatisfactory conditions are corrected. Beginning of installation will be construed as glazier accepting substrates and conditions.

### 3.02 INSTALLATION

- A. General Installation Requirements: Strictly comply with manufacturer's instructions and recommendations, except where more restrictive requirements are specified in this Section. Comply with GANA Manual. Do not glaze when ambient temperature is below 40°F.
  - 1. Prior to installing glass, clean glazing channels and framing members.
  - 2. Remove coatings not completely bonded to substrates.
  - 3. Remove lacquer from metal surfaces where in contact with sealants.
  - 4. Protect glass from edge damage at all times. Use roller blocks and suction cups.
  - 5. Replace glass with edge damage or other imperfections which could weaken glass.
  - 6. Install setting and side blocks in locations recommended by referenced standards, and as required to prevent glass displacement.

7. Center glass in openings. Provide 1/2 in. minimum glass bite and 1/8 in. edge clearances.
8. Install glass and glazing in such a manner as to allow for easy replacement of glass and glazing without dismantling of frames.
9. Install glazing tapes and gaskets. Prepare for exterior cap seal.
10. Prevent metal to glass contact at all times. Protect edges of insulated units from moisture and solvents.
11. Clean, prime, and install stops.

3.03 CLEANING AND PROTECTION

- A. Clean exposed surfaces using manufacturer recommended materials and methods. Remove and replace work which cannot be successfully cleaned. Clean glass and framing members frequently to protect from build-up of harmful construction contaminants.
- B. Touch-up damaged coatings and finishes. Eliminate visible evidence of repair.
- C. Re-clean glass within one week of final acceptance.
- D. Provide temporary protection at all times during course of work, and immediately after completion to ensure work of this Section is not damaged or deteriorated in any way at time of final acceptance. Remove temporary protections and reclean as necessary immediately prior to final acceptance.
- E. Remove and replace broken, chipped, cracked, or otherwise damaged glass.

3.04 GLASS SCHEDULE

- A. Provide following glass types. Types are keyed to Drawings:
  1. Type 1 Glass: 1/4 in. clear tempered safety glass.

END OF SECTION

SECTION 09250

GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 WORK INCLUDED

- A. Furnish and install gypsum drywall work, as indicated on the Drawings and as specified. Include, but do not limit to:
1. 'Paperless' faced gypsum board finish for interior wall finish.
  2. Gypsum board ceiling / soffits as indicated.
  3. All necessary trim, accessories, and related work.
  4. Other gypsum drywall work called for on the Drawings or reasonably required to complete the Project intent.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
1. Section 02070, SELECTIVE DEMOLITION.
  2. Section 06100, ROUGH CARPENTRY; Wood framing, blocking, furring, grounds, etc., except fixture support blocking.
  3. Section 07840, THROUGH PENETRATION FIRESTOP SYSTEM.
  4. Section 09510, ACOUSTICAL CEILINGS; Acoustical ceilings.
  5. Section 09650, RESILIENT WALL BASE; Resilient base.
  6. Section 09900, PAINTING; Painting.

1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's printed product data, specifications, standard details, installation instructions, use limitations and recommendations for each system component used. Provide certifications that materials and systems comply with specified requirements.

1.04 QUALITY ASSURANCE

- A. Reference Standards: Conform to governing laws, building code and manufacturer's printed standards.
- B. Structural Performance: Limit deflection to L/240 for all other work.
- C. Sound Transmission Performance: Provide shaft wall assemblies with minimum STC of 47 tested in conformance with ASTM E 90, unless indicated otherwise on Drawings. Provide drywall partitions with minimum STC ratings indicated on Drawings tested in conformance with ASTM E 90.
- D. Fire Resistance Ratings: Where indicated provide materials and assemblies identical to those tested and rated for fire resistance per ASTM E 119 by testing and inspecting organization acceptable to authorities that have jurisdiction

1. Fire Resistance Ratings: As indicated by reference to GA File Numbers in GA-600 "Fire Resistance Design Manual" or to design designations in UL "Fire Resistance Directory" or in the listing of another testing and inspecting agency acceptable to authorities having jurisdiction.
  - E. Gypsum Board Construction Terminology: Refer to ASTM C 11 and GA-505 for definitions of terms related to gypsum board assemblies not defined in this Section or in other referenced standards.
  - F. Adhesives, adhesive bonding primers, and adhesive primers and sealants shall meet or exceed the VOC content limits of the State of California South Coast Air Quality Management District (SCAQMD) Rule #1168 – Adhesive and Sealant Applications’.
  - G. Volatile organic compound (VOC) content of sealants and sealant primers used on this Project shall not exceed the limits defined in Regulation 8 (Organic Compounds), Rule 51 (Adhesive and Sealant Products) of the Bay Area Air Quality Management District (BAAQMD) of the State of California.
- 1.05 COORDINATION
- A. Work of this Section shall be coordinated with the work of other Sections to assure the steady progress of all the work of the Contract. Obtain complete information regarding wall and ceiling mounted fixtures, grilles, registers, equipment, accessories, etc. to be used on the work from other trades. In no case shall work of other Sections be concealed until it has been inspected.
- 1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING
- A. Deliver all manufactured materials to site in original packages, containers, or bundles bearing the manufacturer's name and brand names, type of material, and contents.
  - B. Store materials in interior spaces, above floors, under cover, away from sweating walls and other damp surfaces, and with good ventilation.
  - C. Handle gypsum boards to prevent damage to edges, ends, or surfaces. Protect metal corner beads, casing beads, and trim from being bent or damaged.
- 1.07 PROJECT CONDITIONS
- A. Environmental Conditions, General: Establish and maintain environmental conditions for applying and finishing gypsum board to comply with ASTM C 840 and with gypsum board manufacturer's recommendations.
  - B. Room Temperatures: For non-adhesive attachment of gypsum board to framing, maintain not less than 40 deg F. For adhesive attachment and finishing of gypsum board, maintain not less than 50 deg F for 48 hours prior to application and continuously after until dry. Do not exceed 95 deg F when using temporary heat sources.
  - C. Ventilation: Ventilate building spaces, as required, for drying joint treatment materials. Avoid drafts during hot dry weather to prevent finishing materials from drying too rapidly.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURERS

- A. Metal Framing and Furring Systems: Provide materials, products, and systems from one of the following manufacturers that meet or exceed specified requirements:
  1. Dietrich Industries, Inc.
  2. Gold Bond Building Products Div., National Gypsum Co.

3. Marino/Ware Industries Corporation.
  4. United States Gypsum Co.
  5. Dale Industries, Inc.
- B. Grid Suspension Systems: Provide materials, products, and systems from one of the following manufacturers that meet or exceed specified requirements:
1. Chicago Metallic Corp.
  2. National Rolling Mills Co.
  3. USG Interiors, Inc.
- C. Unistrut-Type Framing Systems: Provide materials, products, and systems from one of the following manufacturers that meet or exceed specified requirements:
1. Unistrut Corporation.
  2. Power-Strut.
- D. Paper Faced Gypsum Boards and Related Products: Provide materials, products, and systems from one of the following manufacturers that meet or exceed specified requirements:
1. United States Gypsum Co.
  2. Georgia-Pacific Corp.
  3. Gold Bond Building Products Div., National Gypsum Co.
- E. Paperless Faced (Mat Faced) Moisture Resistant Gypsum Boards and Related Products: Provide materials, products, and systems from one of the following manufacturers that meet or exceed specified requirements:
1. G-P Gypsum Corp., or approved equal.
- F. Resilient Channels at STC Rated Assemblies: Provide materials, products, and systems from one of the following manufacturers that meet or exceed specified requirements:
1. United States Gypsum Co.
  2. Gold Bond Building Products Div., National Gypsum Co.
- 2.02 METAL FRAMING SYSTEMS FOR SUSPENDED AND FURRED CEILINGS AND SOFFITS
- A. General: Provide components that conform to ASTM C 754 for materials and sizes, unless indicated otherwise. Provide all metal runners, hangers, studs, and channels hot-dip galvanized conforming to ASTM A 525, G60, unless noted otherwise.
- B. Wire for Hangers and Ties: ASTM A 641, Class 1 zinc coating, soft temper, 12 gauge minimum.
- C. Hanger Rods: Where required for loading or by local authorities, provide mild-steel rods, sized as required, hot-dip galvanized.
- D. Flat Hangers: Where required for loading or by local authorities, provide mild-steel flat hangers, sized as required, hot-dip galvanized.
- E. Angle-Type Hangers: Provide steel angles with legs not less than 7/8 in. wide, formed from 0.0635 in thick galvanized steel sheet conforming to ASTM A 446, G 90, with bolted connections.
- F. Channels: Provide cold-rolled steel channels, minimum 16 gauge with 7/16 in. wide flanges, protected with corrosion-resistant coating, and as follows:

1. Carrying Channels: 1-1/2 in. deep, 475 lb. per 1,000 lin. ft., hot-dip galvanized.
  2. Furring Channels: 25 gage hot-dip galvanized, screwable, pressed steel furring channels, 7/8 in. thick, hat section.
  3. Steel Studs for Furring Channels: ASTM C 645, minimum 25 gage, hot-dip galvanized, with flange edges bent back 90 degrees and doubled over to form minimum 3/16 in. lip, depth as indicated.
  4. Clips for attachment of steel furring channels to steel carrying channels shall be proprietary clips as recommended by manufacturer.
  5. Resilient channels for use at STC rated ceilings and soffits and as indicated shall be equal to USG RC-1 Resilient Channels.
- G. Ceiling Suspension System: Provide a complete, mechanical suspension system, conforming to ASTM C 645. System shall be double-web, direct hung system, consisting of cold-rolled steel channel main runners, screwable steel furring channels hangers, anchors, required clips and other components, required for complete installation.
1. Ceiling suspension system shall be equal to Series 640 for non-fire-rated ceilings and to Series 650 for fire-rated ceilings, manufactured by Chicago Metallic Corporation, or approved equal.
- H. Unistrut-Type Framing System: Provide framing systems with required attachment devices, fittings, and accessories for a complete installation.
1. Steel: ASTM A 446, Grade A; ASTM A 570, Grade 33; ASTM A 575; ASTM A 675, Grade 50; SAE J 429, Grade 2. Materials shall be stamped and identified by manufacturer's name and part number (where appropriate).
  2. Ceiling Support Structure: Support members at the ceiling plane shall consist of continuous slot metal framing channels. Spacing shall allow installation of ceiling fixtures and equipment as indicated. It shall be possible to attach the ceiling panels or equipment at any point of the support system.
- 2.03 GYPSUM BOARDS
- A. Regular Gypsum Wallboard: Provide gypsum board 48 in. width by lengths as required, tapered edge, paper finish, conforming to ASTM C 36.
1. Unless otherwise indicated, gypsum board shall be 5/8 in. thick.
  2. Where used in fire-rated assemblies, provide Type X fire resistant type.
- B. Glass Mat, Moisture-Resistant Interior Gypsum Wall Panel: Coated glass mat-faced, moisture-resistant, treated core gypsum wallboard. Physical properties conforming to the applicable sections of ASTM C 1177 and ASTM C 630.
1. Product: Subject to compliance with requirements, provide DensArmor Plus Interior Panels manufactured by G-P Gypsum Corp.
  2. Core: As indicated. 1/2 in. (12.7 mm), regular.
  3. Long Edges: Tapered.
- C. Joint Treatment Materials: Joint treatment materials shall conform to ASTM C 475.
1. Laminating Adhesive and Joint Finishing Compound: As recommended by gypsum board manufacturer.
  2. Joint Tape: 2 in. to 2-1/2 in. wide paper tape, as recommended by gypsum board manufacturer.

2.04 FASTENERS

- A. Screws for Attachment of Gypsum Wallboard to Wood Framing or Blocking: Self-drilling Type W screws conforming to ASTM C 1002, with bugle-type Phillips-head. Screw length and size in each case shall be as recommended by gypsum wallboard manufacturer.

2.05 METAL TRIM AND ACCESSORIES

- A. General: Provide metal trim and accessories conforming to ASTM C 840.
- B. Control Joint: 26 gauge, galvanized steel, "Vee" type, with perforated flanges, for compound finishing.
- C. Corner Bead: 1 in. by 1 in. perforated flange, standard type, 26 gauge, galvanized steel, for compound finishing.
- D. Metal Trim: 24 gauge, galvanized steel, with perforated flanges, for compound finishing.

2.06 MISCELLANEOUS MATERIALS

- A. General: Provide auxiliary materials for gypsum board construction that comply with referenced standards and recommendations of gypsum board manufacturer.
- B. Asphalt-Saturated Organic Felt: ASTM D 226, Type I (No. 15 asphalt felt), nonperforated.
- C. Sound Attenuation Insulation: Provide mineral wool type insulation, minimum 2.5 pcf density, equal to 'Thermafiber' Insulation, manufactured by Owens Corning, or approved equal.
- D. Polyethylene Vapor Retarder: ASTM D 4397, thickness and maximum permeance rating as follows:
  - 1. 6.0 mils, 0.13 perms.
- E. Vapor Retarder Tape: Pressure-sensitive tape of type recommended by vapor retarder manufacturer for sealing joints and penetrations in vapor retarder.
- F. Acoustical Sealant for Concealed Applications: Provide "BA-98 Acoustical Sealant", manufactured by Pecora Chemical Corp., equivalent product manufactured by U.S. Gypsum Co., National Gypsum Co., or approved equal.
- G. Acoustical Sealant for Exposed Applications: Provide paintable "AC-20 Acrylic Latex Caulk", manufactured by Pecora Chemical Corp., equivalent product manufactured by DAP or Gibson Homans Co., or approved equal.

PART 3 - EXECUTION

3.01 INSPECTION AND COORDINATION

- A. Inspect job conditions and related work and report to Architect in writing, all conditions interfering with the proper installation of work of this Section. Commencement of work in any given area shall constitute acceptance of conditions in that area as acceptable to receive work of this Section.
- B. Change and adjust work of this Section to accommodate work of other Sections, providing cutting and patching until it has been inspected.



3.02 GENERAL REQUIREMENTS

- A. Provide work conforming to published specifications and installation instructions of each manufacturer, the approved shop drawings, above-referenced quality assurance standards, the governing laws and code. Refer to Drawings to determine location of fire-resistive, fire-protective, and acoustically-rated work, and construct this work to conform to the specifications and installation instructions of UL or other testing agency(ies). Also refer to the Drawings to determine the number of layers of gypsum board, thickness of board, etc., for each of the installations.
- B. Erect gypsum drywall work, rigidly supported, and securely fastened in place, in such a manner that plumb, level, and true finished lines and surfaces will result in the finished work in accordance with the requirements of ASTM C 754 and ASTM C 840.
- C. Construct gypsum drywall work only after all windows and door openings are enclosed and a temperature of not less than 55°F. is maintained during and up to completion of the drywall work.

3.03 STEEL CEILING FRAMING AND FURRING

- A. Suspended Ceilings: Install complete suspended steel framing system for soffits in accordance with ASTM C 754, and the following:
- B. Suspend ceiling hangers from building structural members and as follows:
  - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
  - 2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
  - 3. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause them to deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
  - 4. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for structure as well as for type of hanger involved, and in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
  - 5. Do not attach hangers to roof deck. Attach hangers to structural members.
  - 6. Do not connect or suspend steel framing from ducts, pipes or conduit.
- C. Sway-brace suspended steel framing with hangers used for support.
- D. Unless otherwise indicated, install suspended steel framing components in sizes and at spacings indicated but not less than that required by the referenced steel framing installation standard.
  - 1. Wire Hangers: 0.1620-inch (8-gage) diameter, 4 feet o.c.
  - 2. Carrying Channels (Main Runners): 1-1/2 inch, 4 feet o.c.
  - 3. Rigid Furring Channels (Furring Members): 16 inches o.c.
- E. Installation Tolerances: Install steel framing components for soffits so that cross-furring members or grid suspension members are level to within 1/8 inch in 12 feet as measured both lengthwise on each member and transversely between parallel members.

- F. Wire-tie or clip furring members to main runners and to other structural supports as indicated.
- G. Grid Suspension System: Attach perimeter wall track or angle where grid suspension system meets vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.
- H. Unistrut-Type Framing System: Install secondary supports and bracing using engineered Unistrut-type framing system in accordance with approved shop drawings. Provide modifications to existing structure and supports, as well as new supports and new framing, as required.

#### 3.04 APPLYING AND FINISHING GYPSUM BOARD, GENERAL

- A. Gypsum Board Application and Finishing Standards: Install and finish gypsum panels to comply with ASTM C 840 and GA-216.
- B. Apply thicknesses and layers of gypsum wallboard at ceilings, walls, partitions, column and beam enclosures as indicated. Stagger joints in each layer. Locate joints in first layer on opposite sides of partitions to occur on different studs. Apply wallboard at ceilings with long dimension perpendicular to furring channels, with each end occurring over a framing member. Install wallboard at walls and partitions with long dimension vertical, and with each end and edge lying over a framing member.
- C. Spacing and installation of drywall screws for the various applications and fire-rating requirements shall conform to the printed standards of the manufacturer.
- D. Set heads of fasteners flush with surface of the paper, but not breaking the paper. Where attached loosely to a framing or furring member, a second fastener shall be installed within 1-1/2 in.
- E. Cut gypsum wallboard neatly at corners, edges, etc., and for pipes, electrical outlets, electrical conduit and raceway, recessed cabinets, and other projections.

#### 3.05 INSULATION

- A. Walls and partitions indicated to receive insulation shall have a single, continuous layer of insulation installed as indicated and specified, filling the entire open space between the framing members. Carry insulation behind backs of all electrical boxes and similar appurtenances.

#### 3.06 INSTALLATION OF WALLBOARD ACCESSORIES

- A. Install accessories at gypsum wallboard installations, as follows, in strict accordance with manufacturer's instructions.
  - 1. Install joint reinforcement tape at all joints, and at all internal corners where abutting surfaces are both gypsum wallboard construction.
  - 2. Install corner beads at all external wallboard corners.
  - 3. Install casing bead wherever finish wallboard abuts dissimilar materials and other places where specifically called for on the Drawings.
  - 4. Install metal edge trim and metal reveal trim where indicated in accordance with the manufacturer's recommendations.

#### 3.07 JOINT FINISHING

- A. Finish all corners, joints, and edges of gypsum wallboard and gypsum soffit board work, and all corner beads, casing beads, control joints and other trim to provide complete finishing of all exposed wallboard surfaces, in strict accordance with manufacturer's printed instructions and ASTM C 840. Finish to absolutely flush, true surface showing no irregularity when tested by light source parallel to the plane of the nominal wallboard face.

B. Levels of Gypsum Board Finish: Provide the following levels of gypsum board finish per GA-214.

1. Provide Level 4 for all gypsum board surfaces, except as outlined below.
2. Level 1 for ceiling plenum areas, concealed areas, and where indicated, unless a higher level of finish is required for fire-resistive-rated assemblies and sound-rated assemblies.
3. Level 5 for all public areas indicated for 'Level 5' finish.

3.08 PROTECTION AND CLEANING

- A. Protect the work of other Sections and work of this Section already installed against soiling and damage by the exercise of reasonable care and precautions. Repair or replace any work so damaged or soiled.

3.09 ACOUSTICAL SEALING

- A. Walls and partitions designated on the Drawings with an STC Rating and/or indicated to receive acoustical or thermal insulation, including interior faces of exterior steel framed walls, do all sealing work required, as indicated on the Drawing and generally as listed below.

1. Seal all joints between the gypsum wallboard and surrounding construction.
2. Seal full perimeters of all frames, sleeves, ducts, and other items set into, or passing through, gypsum wallboard construction.
3. Seal full perimeters of all projections through the gypsum wallboard construction, such as pipes, conduits, etc.
4. Seal all control joints in the gypsum wallboard work.
5. Seal all joints between gypsum wallboard and adjoining gypsum wallboard panels at corners and intersections.
6. Seal all joints between gypsum wallboard and adjoining door and window frames in exterior walls.
7. Do all other sealing called for on the Drawings or reasonably required to produce maximum thermal and sound transmission reduction through the walls and partitions.

- B. Seal joints in partitions continuing above suspended ceilings, in similar manner, for acoustical purposes.

- C. Sealing shall be done using sealant of type specified hereinbefore, in strict accordance with manufacturer's printed instructions and applicable requirements of ASTM C 919. Sealant shall thoroughly fill void for a complete sound and thermal seal, and shall be tooled to dense, smooth, concave finish.

3.10 PROTECTION AND CLEANING

- A. Protect the work of other Sections and work of this Section already installed against soiling and damage by the exercise of reasonable care and precautions. Repair or replace any work so damaged or soiled.

END OF SECTION

SECTION 09510

ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 WORK INCLUDED

- A. Provide suspended acoustical ceilings as indicated on Drawings and as specified. Work of this Section includes, but is not limited to:
  - 1. Acoustical panel lay-in ceiling with exposed suspension system.
  - 2. Removal and reinstallation of ACT as indicated and as required to construct the proposed renovations including reinstallation of existing panels and grid suitable for reuse and providing new acoustical panels to match for replacement of existing panels damaged or otherwise unsuitable for reinstallation.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that relate directly to work of this Section include, but are not limited to:
  - 1. Section 02 41 19, SELECTIVE DEMOLITION.
  - 2. Section 09 21 16, GYPSUM BOARD; Gypsum drywall ceilings and acoustical batt insulation.
  - 3. Division 23 – HEATING, VENTILATING, AND AIR CONDITIONING (HVAC) and Division 26 - ELECTRICAL; Mechanical and electrical fixtures and appurtenances at acoustical ceilings, including independent suspension.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's product data, installation instructions, use limitations and recommendations for each material used. Provide certifications that materials comply with requirements.
- B. Shop Drawings: Submit shop drawings of ceiling system including all components and special conditions including soffit construction and perimeter molding.
- C. Initial Selection Samples: Submit samples showing complete range of colors, textures, and finishes available for each material used.
- D. Verification Samples: Submit representative samples of each material to be exposed in the finish work, showing full range of color and finish work, showing full range of color and finish variations expected. Provide minimum 12 in. x 12 in. samples of each panel type. Provide minimum 12 in. long samples of each exposed suspension systems
- E. Test Reports: Submit certified reports for tests required.
- F. Fire Rated Assemblies: Where UL Design Assemblies are indicated as part of floor/ceiling or roof ceiling construction, provide substantiating data and certifications from the ceiling system manufacturer that the acoustical ceiling system components provided as part of that assembly have been tested and meet the

requirements contained in UL Fire Resistance Directory or are otherwise suitable as part of the indicated Design Assembly.

1.05 QUALITY ASSURANCE

- A. Comply with governing laws and building codes and the requirements of Cisca Handbook and ASTM C 636.
- B. Installer: A firm with minimum three years' experience in work of type required by this Section, and which is authorized, certified or licensed by the manufacturers of the primary materials.
- C. Source: For each type of material required for the work of this Section, provide primary materials which are the products of a single manufacturer. Provide secondary materials which are acceptable to the manufacturers of primary materials.
- D. All ceiling panels shall be from the same run at production facility and shall be manufactured within acceptable tolerances for color consistency.

1.06 TESTS

- A. Fire Resistance: Where fire-resistance ratings are indicated or required by authorities having jurisdiction, provide materials and construction which are identical to assemblies whose fire-resistance ratings have been tested in compliance with ASTM E 119 by independent agencies acceptable to the Architect and authorities having jurisdiction.
- B. Surface Burning Characteristics: Provide materials whose surface burning characteristics, when tested in compliance with ASTM E 84 are Class A.
- C. Noise Reduction Coefficient (NRC): Where NRC ratings are indicated or required by authorities having jurisdiction, provide materials and construction which are identical to assemblies whose NRC ratings have been tested in compliance with ASTM C 423 by independent agencies acceptable to the Architect and authorities having jurisdiction.
  - 1. All acoustical ceiling systems shall provide a NRC of 0.70 or higher.
- D. Ceiling Attenuation Class (CAC): Where CAC ratings are indicated or required by authorities having jurisdiction, provide materials and construction which are identical to assemblies whose CAC ratings have been tested in accordance with ASTM E 1414 by Underwriters Laboratories, Inc.
- E. Light Reflectance (LR): Where LR rating is indicated or required by authorities having jurisdiction, provide materials and construction which are identical to assemblies whose LR rating has been tested in compliance with ASTM C 523 by independent agencies acceptable to the Architect and authorities having jurisdiction.

1.07 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages, containers, or bundles bearing manufacturer's name, brand names, type of material, and contents.
- B. Store materials in interior spaces, above floors, under cover, away from sweating walls and other damp surfaces. Provide ventilation.

1.08 PROJECT CONDITIONS, SEQUENCING, AND SCHEDULING

- A. Environment: Perform work only when temperature and humidity conditions are within the limits established by manufacturers of the materials and products used.

- B. Conference: Convene a pre-installation conference to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work.
1. Proceed with installation of ceiling only when construction above ceilings and penetrating work is complete. Delay installation of ceiling tiles or panels until near time of Substantial Completion.
  2. Perform work of this Section coordinated with the layout of light fixtures, HVAC equipment and fixtures, fire suppression system components and all other related work. In general, every penetration shall occur at the center of a ceiling tile or panel.

1.09 EXTRA MATERIAL

- A. Provide packaged, wrapped and labeled maintenance stock equal to 2% of the actual quantity installed (minimum of one box of panels) for the following items of work:
1. Each type of ceiling panel.
  2. Each type of suspension system component.
  3. Each type of trim component.

PART 2 PRODUCTS

2.01 SUSPENSION SYSTEM

- A. Provide products of the following manufacturer that meet or exceed requirements specified:
1. Armstrong World Industries, Inc. (Armstrong).
  2. Chicago Metallic Corp.
  3. USG Interiors, Inc. (USG).
- B. Exposed Suspension Systems - General
1. Where fire rated assembly is indicated, provide a fire-rated ceiling suspension system manufactured by one of the above-named manufacturers.
  2. Provide grid modules to match ceiling panel sizes.
  3. Unless otherwise indicated, provide manufacturer's standard white baked enamel finish on steel exposed surfaces.
- C. Suspension System Types: Provide the following suspension system types:
1. Exposed Grid Suspension System Type 1a (GR-1a) – Non-rated interior grid system indicated for 2 ft. x 4 ft. grid: Standard non-rated, 15/16 in. exposed "tee" 2 ft. x 4 ft. double-web hot dipped galvanized steel suspension system, equal to Armstrong 'Prelude XL Suspension System', 15/16 in. Exposed Tee, manufactured by Armstrong World Industries.
    - a. Main grid shall be Armstrong 7300 Series Main Grid.
    - b. Cross tees shall be Armstrong XL-7342 Cross Tees.
  2. Exposed Grid Suspension System Type 1b (GR-1b) – Non-rated interior grid system indicated for 2 ft. x 2 ft. grid: Standard non-rated, 15/16 in. exposed "tee" 2 ft. x 2 ft. double-web hot dipped galvanized steel suspension system, equal to Armstrong 'Prelude XL Suspension System', 15/16 in. Exposed Tee, manufactured by Armstrong World Industries.
    - a. Main grid shall be Armstrong 7300 Series Main Grid.
    - b. Cross tees shall be Armstrong XL-7342 Cross Tees.

3. Exposed Grid Suspension System Type 2a (GR-2a) – Fire-rated interior grid system indicated for 2 ft. x 4 ft. grid: Fire rated 15/16 in. exposed "tee" 2 ft. x 4 ft. double-web hot dipped galvanized steel suspension system, equal to Armstrong 'Prelude XL Fire Guard Suspension System', 15/16 in. Exposed Tee, manufactured by Armstrong World Industries.
    - a. Main grid shall be Armstrong 8300 Series Main Grid.
    - b. Cross tees shall be Armstrong XL-8340 Cross Tees.
  4. Exposed Grid Suspension System Type 2b (GR-2b) – Fire-rated interior grid system indicated for 2 ft. x 2 ft. grid: Fire rated 15/16 in. exposed "tee" 2 ft. x 2 ft. double-web hot dipped galvanized steel suspension system, equal to Armstrong 'Prelude XL Fire Guard Suspension System', 15/16 in. Exposed Tee, manufactured by Armstrong World Industries.
    - a. Main grid shall be Armstrong 8300 Series Main Grid.
    - b. Cross tees shall be Armstrong XL-8340 Cross Tees.
  - D. Attachment Devices: Provide attachment devices sized for five times design load indicated by ASTM C 635, Table 1, for Direct Hung.
  - E. Hanger Wire: ASTM A 641, galvanized, soft temper, prestretched, Class 1 Coating, minimum 12 gage. Size wire so that stress at three times hanger design load given in ASTM C 635, Table 1, Direct Hung, will be less than the yield stress of the wire.
  - F. Moldings and Trim: Provide manufacturer's standard profiles to suit edge conditions, panel profile and penetrations.
    1. At ceiling perimeters provide Armstrong's 'Shadow Molding' finished to match suspension system finish.
- 2.02 ACOUSTICAL PANEL
- A. Provide ceiling panel products of the following manufacturer that meet or exceed requirements specified:
    1. Armstrong.
    2. USG Interiors.
  - B. Interior Ceiling Panels: Provide the following ceiling panel products:
    1. Acoustical Ceiling Panel Type 1 (ACT-1): Panel shall match existing.
    2. Acoustical Ceiling Panel Type 2 (ACT-2): 24 in. x 48 in. panel x 3/4 in. thick, square edge, lay-in wet-formed mineral fiber ceiling panel with DuraBrite acoustically transparent membrane and fine texture, equal to Armstrong World Industries "Ultima Square Lay-In Edge, Item No. 1913. Panel shall have the following characteristics:
      - a. Light Reflectance: LR 0.75 according to ASTM E 1477.
      - b. Flame Spread Rating: Class A (UL Labeled) according to ASTM E 84.
      - c. Noise Reduction Coefficient (NRC): 0.70, according to ASTM C 423.
      - d. CAC: 35.
      - e. Color: White.
    3. Acoustical Ceiling Panel Type 3 (ACT-3): 24 in. x 24 in. panel x 3/4 in. thick, beveled tegular edge, lay-in wet-formed mineral fiber ceiling panel with DuraBrite acoustically transparent membrane and fine texture, equal to Armstrong World Industries "Ultima Square Lay-In Edge, Item No. 1910. Panel shall have the following characteristics:

- a. Light Reflectance: LR 0.75 according to ASTM E 1477.
- b. Flame Spread Rating: Class A (UL Labeled) according to ASTM E 84.
- c. Noise Reduction Coefficient (NRC): 0.70, according to ASTM C 423.
- d. CAC: 35.
- e. Color: White.

### PART 3 - EXECUTION

#### 3.01 INSPECTION

- A. The Installer shall examine substrates, supports, and conditions under which this work will be performed and notify Contractor in writing, of conditions detrimental to proper completion of the work. Do not proceed with work until unsatisfactory conditions are corrected. Beginning work means Installer accepts substrates and conditions.

#### 3.02 PREPARATION AND INSTALLATION - GENERAL

- A. General: Strictly comply with manufacturer's recommendations and instructions.
- B. Conditioning: Condition acoustical ceiling materials to temperature and humidity conditions which approximate those that will be present when spaces are occupied by unpackaging and separating material at least 24 hours prior to installation.
- C. Exterior doors and windows shall be in place and glazed prior to ceiling installation. Cleaning, concrete, masonry, plaster, and other "wet-work" shall be complete and dry. A minimum temperature of 65°F. shall be maintained before, during, and after the installation of acoustical work.
- D. Coordination: Coordinate installation with other work to ensure proper locations of related work such as light fixtures, mechanical fixtures, fire protection systems and the like.
- E. Layout: Measure each area and layout ceilings to balance panel widths on opposite edges of each ceiling in both directions. Avoid use of less than 1/2 width ceiling units wherever possible.
- F. Suspension Installation: Erect suspension system in accordance with ASTM C 636, supported only from building structure. Level main suspension members to within tolerance of 1/8 in. in 10 ft. Splay hangers where necessary and countersplay to balance resulting horizontal forces. Cross brace suspension to prevent lateral sway and displacement during full seismic loads prescribed by code.
- G. Install acoustical units flush and level with joints in perfect alignment. Maintain direction of pattern and "mill-run" of acoustical units in one direction.
- H. Finish acoustical ceilings and decorative trim shall be level to within 1/8 in. in 10 ft. with total accumulated error not to exceed 1/2 in. or L/960 of overall ceiling dimension, whichever is smaller, in any room or area.
- I. Use white, clean gloves when handling ceiling materials.

#### 3.03 INSTALLATION OF SUSPENDED EXPOSED "TEE" LAY-IN PANEL SYSTEM

- A. Install exposed "Tee" suspension system where indicated, in accordance with ASTM C 635



- B. Secure hanger anchors symmetrically to structure above areas to receive "Narrow 9/16 in. Tee" suspension grid, locating the hangers in rows directly above exposed main "Tees". Install main "Tees" at proper elevation with manufacturer's recommended ties. Install cross "Tees" 2 ft. on center, developing a 2 ft. x 4 ft., or a 2 ft. x 2 ft. grid as indicated. Install wall moldings at perimeter walls and columns where main or cross "tees" do not occur, or as otherwise called for on the Drawings. Miter corners where wall molding intersect or install corner caps.
  - C. Perimeter Molding: Install Shadow Molding at perimeter as indicated in accordance with manufacturer's recommendations.
  - D. After installation of the exposed "Tee" suspension system, install acoustical panels flush and level, with panel grain in single direction. Where ACT is cut to fit, provide cut edge to match profile of factory edge; field finish cut edge with manufacturer's recommended touch-up.
  - E. Where existing ceiling grid and acoustical panels are to be removed to allow for renovation work and for work above ceiling system; existing grid and panels shall be removed and replaced following renovation. Where panels or grid system are damaged, replace with new to match.
- 3.04 CLEANING
- A. Protect the work of other trades and work of this Section already installed against soiling and damage by the exercise of reasonable care and precautions. Repair or replace any work so damaged or soiled.

END OF SECTION

SECTION 09650

RESILIENT WALL BASE

PART 1 - GENERAL

1.00 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 WORK INCLUDED

- A. Work Included: Provide all labor, materials, and equipment necessary to complete the work of this Section. The work of this Section includes, but is not limited to the following:

- 1. Provide resilient (vinyl) wall base, as indicated on the Drawings and as specified herein.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect Work of this Section. Other Specification Sections that directly relate to Work of this Section include, but are not limited to:

- 1. Section 09250, GYPSUM BOARD ASSEMBLIES.

1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's printed product data, specifications, standard details, installation instructions, use limitations and recommendations for each material used. Provide certifications that materials and systems comply with specified requirements.

- 1. Certification by resilient flooring manufacturer that products supplied for resilient flooring installation comply with local regulations controlling use of volatile organic compounds (VOC's).

- B. Initial Selection Samples: Submit samples showing complete range of colors, textures, and finishes available for each material used.

- C. Verification Samples: Submit representative samples of each material that is to be exposed in the completed work. Show full color ranges and finish variations expected. Provide samples having minimum size of 144 sq. in.

- D. Product certificates, in lieu of laboratory test reports when permitted by Architect, signed by manufacturer certifying that each product complies with requirements.

- E. Maintenance data for resilient wall base to include in Operating and Maintenance Manual specified in Section 01 77 00, CLOSEOUT PROCEDURES.

1.04 QUALITY ASSURANCE

- A. Single-Source Responsibility for Resilient Base: Obtain resilient (vinyl) wall base from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.

- B. Fire Performance Characteristics: Provide resilient (vinyl) wall base with the following fire performance characteristics as determined by testing products per ASTM test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.

1. Critical Radiant Flux: 0.45 watts per sq. cm or more per ASTM E 648.
2. Smoke Density: Less than 450 per ASTM E 662.

- C. Adhesives shall meet or exceed the VOC content limits of the State of California South Coast Air Quality Management District (SCAQMD) Rule #1168 – Adhesive and Sealant Applications’.

#### 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver resilient (vinyl) wall base and installation accessories to Project site in original manufacturer's unopened cartons and containers each bearing names of product and manufacturer, Project identification, and shipping and handling instructions.
- B. Store resilient (vinyl) wall base materials in dry spaces protected from the weather with ambient temperatures maintained between 50 deg F (10 deg C) and 90 deg F (32 deg C).
- C. Store resilient (vinyl) wall base on flat surfaces. Move flooring and installation accessories into spaces where they will be installed at least 48 hours in advance of installation.

#### 1.06 PROJECT CONDITIONS

- A. Maintain a minimum temperature of 70 deg F (21 deg C) in spaces to receive resilient (vinyl) wall base for at least 48 hours prior to installation, during installation, and for not less than 48 hours after installation. After this period, maintain a temperature of not less than 55 deg F (13 deg C).
- B. Do not install resilient (vinyl) wall base until they are at the same temperature as the space where they are to be installed.

#### 1.07 COORDINATION, SEQUENCING, AND SCHEDULING

- A. Coordinate work of this Section with work of other Sections affecting, or affected by, this work, as necessary to ensure completion of work of the Contract on schedule.
- B. Install resilient (vinyl) wall base after other finishing operations, including painting, have been completed.

#### 1.08 WARRANTY

- A. Provide manufacturer's warranty against excessive wear in accordance with the following:
1. Vinyl Wall Base: Two year limited warranty.

### PART 2 - PRODUCTS

#### 2.01 RESILIENT WALL BASE

- A. Acceptable Manufacturers: Provide products of one of the following manufacturers that meet or exceed specified requirements:
1. Armstrong.
  2. Burke-Mercer.
  3. Johnsonite, a Division of Duramax, Inc.

- B. Resilient (Vinyl) Wall Base: Provide vinyl wall base conforming to ASTM F 1861, Type II (Vinyl), with matching end stops, and premolded corner units, and as follows:
  - 1. Height: 4 in.
  - 2. Thickness (Gauge): 1/8 in.
  - 3. Style: Top-set cove type.
  - 4. Finish: Matte.
- C. Color: Color to match existing wall base as selected by Architect.

## 2.02 INSTALLATION MATERIALS

- A. Adhesives for Resilient Base: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated. Adhesives shall meet or exceed the VOC limits (50 grams / liter) of SCAQMD Rule #1168 – Adhesive and Sealant Applications’.

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. General: Examine areas where installation of resilient (vinyl) wall base will occur, with Installer present, to verify that substrates and conditions are satisfactory for tile installation and comply with tile manufacturer's requirements and those specified in this Section.
- B. Do not proceed with installation until unsatisfactory conditions have been corrected.

### 3.02 PREPARATION OF SURFACES

- A. Initial Preparation Under Other Sections:
  - 1. Surfaces to receive resilient (vinyl) wall base shall be level, plumb, true and clean, free of projections, ridges, and waves, and free of loose dirt and dust, grease, oil, and other deleterious materials such as resin type curing compounds, paint, glue, and similar materials, ready to receive work of this Section. Filling of cracks with crack filler, as required, however, will be included as part of work of this Section.
- B. Inspection of Surfaces and Final Preparation Under this Section:
  - 1. Thoroughly examine all surfaces to receive work of this Section, and notify the Architect in writing of all conditions which would adversely affect this work. Do not commence work in any area where such notice of adverse conditions has been sent until corrective work has been completed or waived. Start of work in any area without issuances of such notice shall constitute acceptance of conditions in the area as suitable to properly receive the work of this Section.
  - 2. Fill all cracks, control joints, etc., in sub-surfaces, using approved Crack Filler in accordance with manufacturer's published instructions. Do final cleaning of surfaces just prior to installation, removing all dust, dirt, and other loose particles which may have accumulated since initial cleaning.
- C. General: Comply with manufacturer's installation specifications to prepare substrates indicated to receive resilient wall base.

### 3.03 INSTALLATION, GENERAL

- A. Do not begin installation until work of other sections including painting, is substantially complete. Use only experienced workmen. Strictly adhere to printed instructions of manufacturer's of various materials; if found to be in conflict refer to Architect for decision.

- B. Maintain room temperatures in installation areas at not less than 65°F. for a period of at least 48 hours prior to commencement of resilient (vinyl) wall base work, and to at least 48 hours after completion, and not less than 60°F. from that time on.

- C. Clean off surplus adhesive from resilient (vinyl) wall base materials and adjacent surfaces.

3.04 RESILIENT BASE AND ACCESSORIES - INSTALLATION

- A. Install resilient base and accessories in strict accordance with manufacturer's printed instructions, using recommended cement or other adhesive recommended by manufacturer.
  - 1. Install base in manner to ensure uniform positive contact with sub-surface, and to produce finished surfaces which are smooth, even, and in true planes, free of buckles, waves, and other imperfections.
  - 2. Store and use adhesive in accordance with manufacturer's printed instructions.

END OF SECTION

SECTION 09900

PAINTING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. The BIDDING REQUIREMENTS, CONTRACTING REQUIREMENTS, and applicable parts of DIVISION 1 - GENERAL REQUIREMENTS, as listed in the Table of Contents, shall be included in and made a part of this Section.

1.01 WORK INCLUDED

- A. Provide all labor, materials, and equipment necessary to complete the work of this Section, including but not limited to the following:
1. Provide painting and finishing work throughout interior of Project as indicated and scheduled on the Drawings and as specified including but not limited to the following:
    - a. Provide field-applied finish coats for new gypsum board installed as part of this Work.
    - b. Refinishing of existing doors where new doors are installed and new hardware is installed as part of work of this Contract.
    - c. Field-applied finish of hardwood shelf at window
  2. Examine Contract Documents to determine full extent of painting and finishing work required. Materials provided under other Sections that need painting or finishing and are left unfinished under requirements of other Specification Sections, shall be painted and finished to completion under work of this Section, unless specifically scheduled herein to be left unfinished.
  3. Preparatory work of materials and surfaces to receive paint beyond that specified to be done as work of other Sections, shall be included as work of this Section.
- B. Painting Contractor shall be responsible for insuring that all coatings and the application of all coatings conform to all federal, state, and local regulations, including VOC/VOS rules at the time of application.

1.02 RELATED WORK

- A. Examine Contract Documents for requirements that affect Work of this Section. Other Specification Sections that directly relate to Work of this Section include, but are not limited to:
1. Section 01045, CUTTING AND PATCHING.
  2. Section 09250, GYPSUM BOARD ASSEMBLIES; Gypsum board to be painted.

1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's printed product data, specifications, use limitations and recommendations for each material used. Provide certifications that materials and systems comply with specified requirements.
- B. Initial Color Selection Samples: Submit manufacturer's standard color charts or chips showing complete range of colors, textures, and finishes available for each paint system used.

- C. Verification Samples: After initial selection of colors, submit representative samples of each paint system color that is to be exposed in the completed work. Show full color ranges and finish variations expected. Provide texture to simulate actual conditions. Define each separate coat, including block fillers and primers. Resubmit samples until required sheen, color, and texture have been approved. Provide samples as follows:
  - 1. Paint Samples for Smooth Surfaces: Provide samples of painted finishes on gypsum drywall or Masonite board having minimum size of 144 sq. in.

#### 1.04 QUALITY ASSURANCE

- A. Source: Provide primers and undercoat paint produced by same manufacturer of finish coats for each substrate.
- B. Coordination: Review other Specification Sections where primers are provided to ensure compatibility with finish coatings provided under this Section.
- C. Mock-Ups: Prior to commencing work of this Section, provide 100 sq. ft. mock-ups of each color, paint system, and substrate at locations acceptable to the Architect. Obtain Architect's acceptance of visual qualities. Refinish mock-ups until Architect's acceptance is obtained. Maintain acceptable mock-ups throughout the remainder of the work to serve as criteria for acceptance of the work. Acceptable mock-ups may be incorporated into the finish work.
- D. The painting subcontractor shall submit qualifications indicating his experience as a painting contractor. These qualifications shall include a list of projects successfully completed, similar in size and scope to this Project.

#### 1.05 TESTS

- A. The Owner may employ an independent testing agency to perform tests, evaluations, and certifications of products used. Cooperate and permit samples of materials to be taken as they are used.

#### 1.06 PROJECT CONDITIONS

- A. Temperature, and Humidity: Perform work only when existing and forecasted weather conditions fall within limits established by manufacturers of materials used.
  - 1. Indoor Temperature: Maintain indoor temperature at 65°F. during application and drying of paints.
- B. Substrates: Proceed with work only when substrate construction and penetration work is complete.
- C. Lighting: Since lighting conditions can alter appearances of finish painting work, perform work of this Section under lighting conditions simulating permanent lighting system to the greatest extent possible.
- D. Where painting operations require the use of interior paints and coatings which are not latex or acrylic based materials (i.e. solvent-based materials) or paint or coating materials which when applied will produce fumes or vapors which may adversely affect the occupants of the building, the Contractor shall schedule this painting work (applying solvent-based or oil-based paints and coatings) during premium time (overtime), at no additional cost to the Owner, so as not to affect other contractors working on-site.
- E. A room shall be assigned for the storage of painting tools and materials. The floor shall be properly protected with drop cloths or building paper. Paint shall be mixed in suitable containers, and necessary precautions shall be taken to prevent fire. This room shall be locked at the completion of each day's work. The Contractor shall have duplicate keys.

- F. Protect all adjacent surfaces from damage by paint and provide all drop cloths and masking to accomplish the same.
  - G. Do not use any plumbing fixture or pipe for the disposal of waste materials. Carry all water required to the mixing room and dump all waste materials in containers outside the building. Remove oily rags and other combustible waste materials from the building daily.
  - H. Removal of Accessories
    - 1. The General Contractor will remove and replace all finished hardware applied to doors, except butts, and shall be responsible for the removal and replacement of all accessories, plates and fixtures of other trades, as necessary for the satisfactory completion of work under this Section.
    - 2. Doors already in place shall be removed and the top and bottom edges finished with two (2) coats of specified finish applied prior to finishing face of doors. Doors shall be replaced after edges are dry.
    - 3. In no case shall there be any attempt to paint around finish hardware or other new or existing removable items which are already in place.
- 1.07 PRODUCT DELIVERY, STORAGE, AND HANDLING
- A. Deliver, store, protect, and handle products in accordance with Section 01600, MATERIAL AND EQUIPMENT.
  - B. Deliver materials in unopened original containers bearing manufacturer's labels.
  - C. Store materials in fully sealed containers, outside the building, preferably in exterior storage shed, well ventilated, and with a minimum ambient temperature of 45°F. Oily rags and waste must be removed from the building every night, and under no circumstances will be allowed to accumulate. Each space containing stored paint materials shall be provided with UL labeled fire extinguisher of suitable type, class, and capacity.
- 1.08 COORDINATION
- A. Work under this section shall be properly coordinated with the work of other sections to assure the steady progress of all the work of the Contract.

## PART 2 - PRODUCTS

### 2.01 ACCEPTABLE MANUFACTURERS

- A. Interior Paints and Coatings: Provide first quality products as manufactured by one of the following manufacturers that meet or exceed specified requirements:
  - 1. Benjamin Moore and Co. (Moore).
  - 2. Devco and Raynolds (Devco).
  - 3. The Sherwin-Williams Company (S-W).
  - 4. Pratt and Lambert (P & L).
- B. Materials used shall be best grade products of their respective kinds. The Painting Schedule is based on products the above named manufacturers. These are specified to establish a standard of quality and kind of material desired. Provide these products, or equals as approved by Architect.
- C. Note: If substitutes are proposed, submit complete schedule showing materials specified and equivalent materials proposed as substitutes. Provide complete manufacturer's product data on proposed materials. Substitutes must be approved by Architect before commitment for materials is made.



- D. Assume full responsibility for proper performance of materials, for method of application, and for compatibility of materials applied over shop coats or other coats previously applied, including but limited to primers, sealers, preservative treatments, etc. Notwithstanding specific schedules in this Section, select primers which have been verified to be appropriate for each of the substrates and finishes encountered.
- E. Provide miscellaneous painting materials such as linseed oil, shellac, turpentine, and thinner of the highest quality.

## 2.02 COLORS

- A. Provide colors in accordance with approved Color Schedule. Colors designations indicated in the Color Schedule are associated with a particular paint or coating manufacturer's custom and/or standard line of available colors.
- B. Paint or coatings of other manufacturers as listed herein will be acceptable provided that the paint or coating meets or exceeds the quality of paint or coating specified and that the paint or coating may be tinted as required to provide an acceptable color match and appropriate degree of gloss, acceptable to the Architect.
- C. Tint and match colors to the satisfaction of Architect. Provide facilities for comparison and adjustment of colors.
- D. No limit is placed on number of colors that may be required; however the following maximum number of colors may be used in any one room, area, or surface:
  - 1. Three colors.

## PART 3 - EXECUTION

### 3.01 INSPECTION AND GENERAL PREPARATION

- A. Inspect surfaces to receive finishes to ensure they are in proper condition to receive work under this Section.
- B. If surfaces are not thoroughly dry, or if surfaces cannot be put in proper condition to receive paint or other finish by customary cleaning methods, sanding, or spackling, notify Architect in writing.
- C. Commencing work on any surface will be construed as acceptance of the surface as being satisfactory to properly receive the work of this Section.
- D. Furnish and lay drop cloths in all rooms and areas where painting and finishing is being done, to adequately protect flooring and other work from all damage during the painting work.
- E. Remove hardware, accessories, device plates, lighting fixtures, factory finished work, and similar items; or provide ample in-place protection. Use skilled mechanics for removal, resetting, and protection.
- F. Cleaning: Do not paint over dirt, dust, rust, grease, moisture, or other contaminants detrimental to the formation of a durable paint finish. Clean surfaces thoroughly prior to painting in any given area.
- G. Touch up bare or abraded spots on surfaces with shop or existing finishes scheduled to be painted under this Section. Use same material used for shop coat. Substrate shall be smooth, free from raised grain; putty sags, cracks, rust, grease, dirt, or other foreign matter or defect.
- H. Incompatible Shop Primers: Remove incompatible shop primers and reprime surfaces, or provide barrier coats in compliance with finish paint manufacturer's instructions.

### 3.02 SURFACE PREPARATION

- A. Prepare surfaces to receive work of this Section in strict accordance with manufacturer's instructions applicable to each material, condition, and finish.
- B. Field-Welded Metal: After installation, field-welding, and grinding, and immediately before painting, remove rust, loose mill scale, dirt, weld flux, weld spatter, weld smoke stains, burnt primer, and other foreign material with wire brushes and/or steel scrapers. Power tool clean in accordance with SSPC SP 3. Remove grease and oil by use of solvent recommended by paint manufacturer. Sand exposed surfaces, and between coats, as required to produce smooth, even finishes.
  - 1. Sand smooth and spot prime welded areas, and areas where prime coat has been damaged or abraded, using rust inhibitive primer scheduled in this Section.
- C. Other Ferrous Metal: Remove rust, mill scale, and foreign materials. Wire brush or sand damaged or rusted area to bright metal. Remove grease or dirt with solvents recommended by paint manufacturer just prior to applying paint.
  - 1. Spot prime all areas where shop coat has been damaged or abraded, using same type paint as used for shop coat.
- D. Field-Welded Galvanized Metal: After installation, field-welding, and grinding, and immediately before painting, remove rust, loose mill scale, dirt, weld flux, weld spatter, weld smoke stains, and other foreign material with wire brushes and/or steel scrapers. Power tool clean in accordance with SSPC SP 3. Remove grease and oil with solvents recommended by paint manufacturer. Sand exposed surfaces, and between coats, as required to produce smooth, even finishes.
  - 1. Sand smooth welded areas and areas where galvanized coating has been damaged or abraded. Spot prime using zinc primer scheduled in this Section.
- E. Other Galvanized Metal: Prior to installation, remove corrosion and foreign materials by sanding or other appropriate method. Remove grease or dirt with solvent recommended by paint manufacturer just prior to applying primer.
- F. Other Non-Ferrous Metal: Prepare shop primed non-ferrous metals similarly to ferrous metals, specified above.
  - 1. Prepare unprimed non-ferrous metals by thoroughly cleaning of oil, grease, and temporary protective coatings using solvent recommended by primer manufacturer. Provide additional pretreatment recommended by primer manufacturer to assure permanent adhesion of paint coats.
- G. Other Materials: Prepare other materials in strict accordance with recommendations of manufacturers of materials to be finished, and primers and finishes to be applied.
- H. Materials Preparation: Mix and prepare paint materials in accordance with manufacturer's printed instructions. Use only thinners approved by paint manufacturer, and only within recommended limits.

### 3.03 APPLICATION

- A. Painting Schedule in this Section lists minimum number of coats required. If specified minimum number of coats does not completely cover or hide base materials, provide additional coats required for coverage and uniform finish appearance, without additional cost to Owner.

- B. Apply paint in strict accordance with manufacturer's instructions. Use applicators and techniques best suited for substrates and types of materials being applied. No material shall be thinned in any way except as directed by manufacturer.
1. Workmanship shall be of the highest quality. Only skilled workmen shall be employed. All materials shall be applied under adequate illumination, evenly spread and smoothly flowed on without runs or sags. All work not conforming to the specifications shall be cleaned off and repainted at the expense of the Painting Contractor.
  2. Do not apply initial coating until moisture content of surface is within limitations recommended by manufacturer and surface is prepared in conformance with specifications and manufacturers recommendations.
  3. All materials shall be applied in accordance with the manufacturer's directions as printed on container and any thinning required shall be done in the manner and exclusively with the type of reducer recommended.
  4. No painter's finish shall be applied until the preceding coat is thoroughly dry and in no case less than six (6) days for exterior work and two (2) days for interior work, unless manufacturer of the paint material in question specifically directs otherwise. Exterior painting shall not be undertaken at temperatures below 50 degrees F. or immediately following rain, frost, or if dew is on the surface, sand and dust between each coat to remove defects.
  5. Finishing materials shall be free from skins, lumps or any foreign matter when used and shall be kept well stirred while being applied. Each coat shall be evenly brushed out.
- C. Apply paints and coatings at coverage rates and dry film thicknesses scheduled at the end of this Section. Each coat applied must be inspected and approved by Architect prior to application of succeeding coat, otherwise no credit for the coat applied will be given and work in question shall be recoated without additional expense to Owner. Notify Architect when each coat is ready for inspection.
- D. Additional Coats: Provide additional coats necessary to eliminate show through and bleed through conditions.
- E. Drying Time: Allow manufacturer's recommended drying time between successive coats. However, allow each coat to thoroughly dry prior to application of subsequent coat.
- F. Sanding: Lightly sand finishes between coats using #00 sandpaper.
- G. Tinting: Tint prime coat on gypsum wallboard and plaster to approximate color of final shade.
- H. Doors and Panels: Paint all doors, panels, access panels, etc., in the "open" position. Paint all edges, tops, bottoms, and both faces. Paint back face of access panels and removable or hinged covers to match adjacent exposed surfaces.
- I. Permanently Fixed Equipment: Paint surfaces behind permanently fixed equipment with prime coat only.
- J. Finished work shall be free from runs, sags, hairs, defective brushing, and clogging of lines and angles. Flaws visible in the completed work shall be removed and the area satisfactorily repaired.
- K. Mechanical and Electrical Work: Painting of mechanical and electrical items is limited to items exposed to view in the mechanical rooms and in occupied areas.
1. Electrical items to be painted include but are not limited to:
    - a. Conduit and fittings.
- L. Completed Work: Provide finishes that match approved samples and mock-ups for color, texture, and coverage. Remove, refinish, or repaint work not in compliance with specified requirements.

3.04 COMPLETION

- A. Cleaning: At completion of work of this Section, remove paint and varnish spots, and oil, grease, and other stains caused by this work from exposed surfaces. Leave finishes in a satisfactory condition.
- B. At completion of work of this Section, remove masking materials and other debris. Reinstall or replace fixtures, plates, etc., removed to facilitate application of paint.
- C. Retouching: Touch-up and repair applied finishes which, for any reason have been damaged during construction work. All finished work applied under this Section shall have finished surfaces as approved by finish material manufacturer.
- D. Final Inspection: Protect painted surfaces against damage until date of Substantial Completion. Architect will conduct final inspection of painting work. Areas that do not comply with requirements of these Specifications shall be repainted or retouched to satisfaction of Architect at no additional cost to Owner.
- E. Paint Schedule: Prepare Schedule which includes a schedule identifying paint manufacturer, paint type, paint color, and gloss for each painted surface in each room. Said Schedule shall be sufficiently detailed to permit the Owner to use this Schedule for future maintenance, repainting, and reordering of paints and coatings.

3.05 SURFACES NOT TO BE FINISHED

- A. Finishes for the following items are either included under other appropriate Sections or require no painting, except as otherwise specifically scheduled with subsequent Exterior and Interior Schedules.
  - 1. Chrome or nickel plating, stainless steel, bronze, brass, and aluminum other than mill finished, unless otherwise specified.
  - 2. Factory finished mechanical and electrical equipment, pumps, and machinery, which occur in mechanical or equipment rooms or areas.
  - 3. Galvanized ducts, pipes, conduits, etc., occurring within mechanical areas or spaces. Also all such items fully concealed from view in the finished work (except items located above open cell ceilings in corridors).
  - 4. Factory finished materials, specialties, and accessories unless otherwise specified.
  - 5. Ceramic and clay products, glass, plastic, and other surfaces with "integral" finishes, except as otherwise scheduled hereinbelow.

3.06 PAINT SCHEDULE

- A. Number of coats scheduled is minimum. Refer to Paragraph 3.02 for surface preparation and Paragraph 3.03A., hereinbefore.
- B. Painting of Interior Surfaces: Important Note: Notwithstanding anything in the following schedule to the contrary, interior painting and finishing shall conform to the applicable laws and building code regarding fire hazard classifications of finish materials.
  - 1. Interior Gypsum Wallboard for Acrylic Latex Finish, Eggshell or Satin:
    - One Coat                      1. Moore Pristine Eco Spec Interior Latex Primer Sealer 231
    - Two Coats                    1. Moore Pristine Eco Spec Interior Latex Eggshell Enamel 223

2. Interior Gypsum Wallboard for Acrylic Latex Finish, Semi-Gloss:
  - One Coat                      1. Moore Pristine Eco Spec Interior Latex Primer Sealer 231
  - Two Coats                    1. Moore Pristine Eco Spec Interior Latex Semi-Gloss 224
3. Interior Architectural Woodwork, Paneling, and Doors for Satin Transparent Finish (all hardwoods and hardwood veneers, except paint grade and factory-finished items):

Sand - 120 grit sandpaper.

Sand - 220 grit sandpaper.

Stain                          1. Moore Interior Wood Finishes Penetrating Stain 241

Two Coats                    1. Moore Benwood Polyurethane Finish 435

Sand Between Urethane Coats - 220 grit sandpaper.
4. Interior Metals not Specified to Receive other Coating Systems:

One Coat                    1. Approved primer, in shop under other Sections where specified), or  
Moore #M04 Acrylic Metal Primer

Note: One prime coat only is required at interior metal work, except touch-up of areas which have become rusted or damaged prior to finish painting.

Two Coats                    1. Pristine Eco Spec Interior Latex Semi-Gloss 224
5. Mechanical and Electrical Work (Paint all exposed items throughout the project except factory finished items with factory-applied baked enamel finishes which occur in mechanical rooms or areas, and excepting chrome or nickel plating, stainless steel, and aluminum other than mill finished. Paint all exposed ductwork and inner portion of all ductwork visible through grilles and registers):
  - a. Same as specified for other interior metals, hereinabove.

END OF SECTION