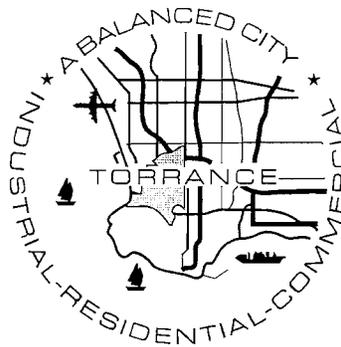


**PROJECT MANUAL FOR TRANSIT OFFICE REMODEL  
AND TRAINING ROOM EXPANSION  
B 2014-09**



**JANUARY 2014**

## TABLE OF CONTENTS

	<u>Page No.</u>
<b>A. NOTICE INVITING BIDS</b>	<b>3</b>
<b>B. INSTRUCTIONS TO BIDDERS</b>	<b>6</b>
<b>C. GENERAL PROVISIONS</b>	<b>30</b>
<b>D. BID DOCUMENTS</b>	<b>42</b>
Bidder's Proposal	
Addenda Acknowledgment	
Contractor's Affidavit	
Bid Bond (10% of Bid)	
List of Subcontractors	
References	
Bidder's Information	
DBE Information Form	
Buy America Requirements and Certification	
<b>E. DOCUMENTS TO BE COMPLETED AND DELIVERED TO THE CITY AS PART OF CONTRACT WITH CITY</b>	<b>59</b>
Performance Bond (100% of Bid)	
Labor and Material Bond (100% of Bid)	
Workers' Compensation Insurance Certificate	
Contract - Public Works Agreement	
Verification of Insurance Coverage (Certificates and Endorsements)	
<b>F. WAGE DETERMINATIONS</b>	<b>76</b>
<b>G. PROJECT SPECIFICATIONS</b>	<b>102</b>

**PART A**

**NOTICE INVITING BIDS**

CITY OF TORRANCE  
CALIFORNIA

**NOTICE INVITING BIDS**

Notice is hereby given that sealed proposals for performing the following described work will be received at the office of the City Clerk of the City of Torrance, California, until **3:00 p.m. on Wednesday, February 26, 2014** after which time they will be publicly opened and read at 2:15 p.m. in the Council Chambers of said City:

**Bid for Transit Office Remodel and Training Room Expansion  
B2014-09**

Plans, Bid Proposal (for reference only) and Specifications are available for viewing and printing from the City's website at <http://www.torranceca.gov/25079.htm>.

**An official and required form of Bid Proposal must be obtained at the Office of the City Clerk (310) 618-2870, City Hall, 3031 Torrance Boulevard, Torrance, California. There is no cost if picked up at City Hall. A payment of \$5 is required if requested by mail.** Both amounts include tax and is non-refundable. A prospective bidder must provide to the City Clerk's office, the firm's name, address, telephone and fax numbers, a contact person and a valid email address. This will ensure that your firm is listed as a "Plan Holder" and that you will be informed of any and all information issued subsequent to obtaining the official form of Proposal. **Addenda will be issued only by email and only to those that provide the required information to the City Clerk.** Receipt of any Addendum must be acknowledged by a bidder in its submitted form of the Bid Proposal. Failure to acknowledge the addendum may render the proposal non-responsive and cause it to be rejected.

**There will be a pre-bid conference held on Wednesday, February 5, 2014 at 10:00 a.m.** commencing at the Torrance Transit Department located at 20500 Madrona Avenue, Torrance, CA 90503.

Full-size 24" x 36" set of Plans and a bound Specifications booklet may also be obtained at the Office of the City Clerk (310) 618-2870, City Hall, 3031 Torrance Boulevard, Torrance, California upon payment of \$35 if picked up at City Hall, or payment of \$45 if requested by mail. Both amounts include tax. Neither amount is refundable.

If requesting any item(s) by mail, please send check to the following:

**CITY OF TORRANCE  
OFFICE OF THE CITY CLERK  
3031 TORRANCE BLVD  
TORRANCE, CA 90503-2970  
ATTN: B2014-09**

The engineer's estimate is \$650,000-685,000. The work shall be completed within one hundred fifty (150) calendar days of receipt of the Notice to Proceed (NTP). Bids are required for the entire work described herein.

The City has determined the bidder must have a valid "B" General Contracting License. Bidder must have at least five (5) years experience in public works projects of a similar size and scope.

Per Division 2, Chapter 2 of the Torrance Municipal Code, the Torrance City Council may reject any and all bids, waive any informality or irregularity in such bids, and determine the lowest responsible bidder.

No Facsimile Bids shall be accepted by the City.

Project is subject to Federal Davis Bacon Wages.

Federal Transit Administration (FTA) Section 5307 funds are being utilized for this project. The work will be financed with Federal funds and therefore all of the statutes, rules and regulations promulgated by the Federal Government will apply.

By order of the City Council of the City of Torrance, California.

Bidders with pre-bid inquiries should contact Diane Megerdichian, Sr. Business Manager, General Services Department at 310-781-7151 or email [dmegerdichian@torranceca.gov](mailto:dmegerdichian@torranceca.gov). If emailing questions, please put project title in the subject line.

**PART B**  
**INSTRUCTIONS TO BIDDERS**

**CITY OF TORRANCE  
CALIFORNIA**

**INSTRUCTIONS TO BIDDERS**

A. QUALIFICATION OF BIDDERS

1. Competency of Bidders

The Bidder shall be thoroughly competent and capable of satisfactorily performing the Work covered by the Bid. As specified in the Bid Documents, the Bidder shall furnish statements of previous experience on similar work. When requested, the Bidder shall also furnish a plan of procedure proposed; organization, machinery, plant and other equipment available for the Work; evidence of financial condition and resources; and any other documentation as may be required by the City to determine if the Bidder is responsible.

2. Contractor's License

At the time of submitting the Bid, the Bidder shall be licensed as a contractor in accordance with the provisions of Chapter 9, Division 3, of the California Business and Professions Code. The required prime contractor license class for the Work is shown in the project Notice Inviting Bids. However, the City reserves the right to award the Contract to a contractor with another class if the City determines that the license is proper for the work.

B. BIDDER RESPONSIBILITY

A responsible Bidder is a Bidder who has demonstrated the attribute of trustworthiness, as well as ability, fitness, capacity and experience to satisfactorily perform the work.

Bidders are notified that, in accordance with Division 2, Chapter 2 of the Torrance Municipal Code, the City Council may determine whether the Bidder is responsible based on a review of the Bidder's performance on other contracts.

If, based on the provision and criteria in Division 2, Chapter 2 of the Torrance Municipal Code, the General Services Director proposes not to recommend the award of contract to the apparent low bidder, the Director shall notify the Bidder in writing of its intention to recommend to the City Council that the Council award the contract to the next lowest responsible bidder. If the Bidder presents evidence in rebuttal to the recommendation, the Director shall evaluate the merits of such evidence, and based on that evaluation, make a recommendation to the City Council.

C. ADDENDA TO THE CONTRACT DOCUMENTS

The City reserves the right to revise or amend these specifications prior to the date set for opening bids. Revisions and amendments, if any, will be announced by an addendum to this bid. If the revisions require additional time to enable Bidders to respond, the City may postpone the opening date accordingly. In such case, the addendum will include an announcement of the new opening date.

All addenda must be attached to the bid. Failure to attach any addendum may render the bid non-responsive and cause it to be rejected.

D. PREPARATION OF THE BID

1. Examination of Site, Plans and Specifications

Bidders shall examine the site of the work and acquaint themselves with all conditions affecting the work. By submitting a bid, the bidder shall be held to have personally examined the site and the drawings, to have carefully read the specifications, and to have satisfied itself as to its ability to meet all the difficulties attending the execution of the proposed contract before the delivery of this proposal, and agrees that if awarded the contract, will make no claim against the City based on ignorance or misunderstanding of the plans, specifications, site conditions and/or contract provisions.

The Contractor shall have included in the contract price a sufficient sum to cover all items, including labor, materials, tools, equipment and incidentals, that are implied or required for the complete improvements as contemplated by the drawings, specifications, and other contract documents.

2. Bid Instructions and Submissions

The Bid shall be submitted on the Bid Proposal forms included in the Specifications. All Bid Documents must be completed, executed and submitted with Bid by Bidder. Required nine (9) Bid Proposal Documents:

1. Bidder's Proposal
2. Addenda Acknowledgment
3. Contractor's Affidavit
4. Bid Bond (10% of Bid)
5. List of Subcontractors
6. Bidder's References/Experience (2 pages)
7. Bidder's Information (2 pages)
8. Disadvantage Business Enterprise Form (3 pages)
9. Buy America Requirements and Certification (3 pages)

All prices submitted will be considered as including any and all sales or use taxes.

E. BID FORM/BOND

The Bid must be accompanied by cash, a certified or cashier's check, or a surety bond (bid bond) payable to the City of Torrance. Bids must be submitted on the proposal

forms furnished by the City Clerk's office. The Bid Guaranty shall be in an amount equivalent to at least 10% of the Total Contract Bid Price.

Within ten (10) days after the award of the contract, the City Clerk will return the proposal guarantees accompanying those proposals, which are not to be considered in making the award. All other proposal guarantees will be held until the contract has been finally executed, after which they will be returned to the respective bidders whose proposals they accompany.

F. AFFIDAVIT.

An affidavit form is enclosed. It must be completed signifying that the bid is genuine and not collusive or made in the interest or on behalf of any person not named in the bid, that the bid has not directly or indirectly induced or solicited any other Bidder to put in a sham bid or any other person, firm, or corporation to refrain from bidding, and that the Bidder has not in any manner sought by collusion to secure for itself an advantage over any other Bidder. Any bid submitted without an affidavit or in violation of this requirement will be rejected.

G. NONRESPONSIVE BIDS AND BID REJECTION

1. A Bid in which any one (1) of the required eight (8) Bid proposal documents are not completed, executed and submitted may be considered non-responsive and be rejected.
2. A Bid in which the Contract Unit Prices are unbalanced, which is incomplete or which shows alteration of form or irregularities of any kind, or which contains any additions or conditional or alternate Bids that are not called for, may be considered non-responsive and be rejected.

H. AWARD OF CONTRACT

In accordance with Division 2, Chapter 2 of the Torrance Municipal Code, the City Council reserves the right to reject any and all bids received, to take all bids under advisement for a period not-to-exceed sixty (60) days after date of opening thereof, to waive any informality or irregularity in the Bid, and to be the sole judge of the merits of material included in the respective bids received. This bid does not commit the City to award a contract or to pay any cost incurred in the preparation of a bid. All responses to this bid become the property of the City of Torrance.

I. EXECUTION OF CONTRACT

After the Contract is awarded, the awarded bidder shall execute the following six (6) documents:

1. Performance Bond (100% of Bid)
2. Labor and Material Bond (100% of Bid)
3. Contract - Public Works Agreement
4. Verification of Insurance Coverage (Certificates and Endorsements)
5. Workers' Compensation Insurance Certificate
6. Business License Application Form

J. PERMITS, LICENSES AND PUBLIC WORKS AGREEMENT

The Contractor shall procure and execute all permits, licenses, pay all charges and fees, and give all notices necessary and incidental to completion of Work. The Contractor shall execute a Public Works Agreement. No fee is charged for a permits issued by the City of Torrance Building and Safety Department for a public works project. The Contractor shall obtain a City of Torrance Business License. To obtain a Torrance Business License please call 310-618-5923.

K. INSURANCE

The Contractor shall maintain Automobile Liability, General Liability and Workers' Compensation Insurance as specified in the Public Works Agreement included in the Project Specifications. The contractor must include all subcontractors as insured under its policies or must furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors will be subject to all of the insurance requirements.

L. SUBCONTRACTS

Each Bidder shall comply with the Chapter of the Public Contract Code including sections 4100 through 4113. The Contractor shall perform, with its own organization, Contract work amounting to at least 50 percent of the Contract price. When a portion of an item is subcontracted, the value of the work subcontracted will be based on the estimated percentage of the Contract Unit Price, determined from information submitted by the Contractor, subject to approval by the City Manager.

M. TRAFFIC CONTROL PLAN

Not applicable

N. PRE-BID INQUIRIES

Bidders with pre-bid inquiries should contact Diane Megerdichian, Sr. Business Manager, General Services Department at 310-781-7151 or email [dmegerdichian@torranceca.gov](mailto:dmegerdichian@torranceca.gov). If emailing, please put project title in the subject line.

**DO NOT RETURN PLANS AND SPECIFICATIONS.**

**ALL BIDS MUST BE SEALED AND MARKED:**

"BID FOR TRANSIT OFFICE REMODEL  
AND TRAINING ROOM EXPANSION, B2014-09 "

O. EXECUTION OF CONTRACT

1. The contract shall be signed by the successful bidder and returned, together with the contract bonds and evidence of required insurance coverage, **within ten (10) working days**, not including Sundays, after the bidder has received notice that the

contract has been awarded. Failure to execute the contract as specified above shall be just cause for annulment of the award and forfeiture of the proposal guarantee. The Contract shall not be considered binding upon the CITY until executed by the authorized CITY officials.

2. Bond amounts shall be as provided in Section 2-4 of the Standard Specifications for Public Works Construction. The Performance Bond shall be required to remain in effect for one (1) year following the date specified in the City's Notice of Completion, or, if no Notice of Completion is recorded for one (1) year following the date of final acceptance by the City Manager.

P. INSURANCE REQUIREMENTS FOR CONTRACTORS.

Please refer to the attached Public Works Agreement for insurance requirements.

Q. RESPONSIBILITY OF CITY.

The City of Torrance shall not be held responsible for the care or protection of any material or parts of the work prior to final acceptance, except as expressly provided in these specifications.

R. CONSTRUCTION SCHEDULE AND PRECONSTRUCTION CONFERENCE.

**The office staff of the City is currently operating on a 9/80 work week; therefore, City Hall is closed every other Friday.**

In accordance with the herein Special Provisions, after notification of award and prior to start of any work, **the Contractor shall submit to the City Manager for approval its proposed Construction Schedule within ten (10) working days from the date of Notice to Proceed.** At least two (2) days, exclusive of Saturdays, Sundays and holidays, prior to commencement of work, the Contractor shall attend a pre-construction conference.

**The Contractor will provide all product and equipment submittals to the City of Torrance or designated consultant within ten (10) working days from the date of Notice to Proceed.** The Contractor shall immediately order materials requiring a delivery delay upon receipt of a written notice from the City that the City Council has approved an Award of Contract. Contractor shall provide written proof(s) of timely material order(s) and shall include any delivery delays in the Construction Schedule.

S. PROGRESS OF THE WORK AND TIME FOR COMPLETION

The Contractor shall begin work after the mailing, from the City Manager to the Contractor, by first class mail, postage prepaid, of a Notice to Proceed. **The Contractor shall diligently prosecute the same to completion within one hundred fifty (150) calendar days of the start date specified in said Notice.** The one hundred eighty calendar day schedule includes, completion of contractual paper work, equipment/material submittal review, the lead time for materials and equipment, and on site work.

During periods when weather or other conditions are unfavorable for construction, the Contractor shall pursue only such portions of the work as shall not be damaged thereby.

No portions of the work whose acceptable quality or efficiency will be affected by any unfavorable conditions shall be constructed while those conditions exist. It is expressly understood and agreed by and between the Contractor and the City that the Contract time for completion of the work described herein is a reasonable time taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the work.

#### T. LIQUIDATED DAMAGES

The Contractor agrees that failure to complete work within the time allowed will result in damages being sustained by the City. Contractor and City agree that failure to complete the project will result in inconvenience to the citizens of Torrance and the City of Torrance and their customers using the affected areas. Such delay will also result in the necessity of several inspections each day to ensure that the project is properly progressing. The parties also agree that failure to complete the project on time will prevent the City from having the use of the facility. Therefore, the parties agree such damages among others are, and will continue to be, impracticable and extremely difficult to determine, but that Seven Hundred and Fifty Dollars (\$750) a calendar day is the minimum value of such costs to the City and is a reasonable amount that the Contractor agrees to reimburse the City for each calendar day of delay in finishing the work in excess of the time specified for completion, plus any authorized time extensions.

Execution of the contract under these specifications shall constitute agreement by the Contractor and the City that Seven Hundred and Fifty Dollars (\$750) per calendar day is the minimum value of the costs and actual damage caused by failure of the Contractor to complete the work within the allotted time, that such sum is liquidated damages and shall not be construed as a penalty, and that such sum may be deducted from payments due the Contractor if such delay occurs. Said amount may be reduced by the City if work is sufficiently completed within the allotted time so that the damages are minimized.

The Contractor will not be assessed liquidated damages for any delay in completion of the work when such delay was caused by the failure of the City or the owner of a utility to provide for removal or relocation of the existing utility facilities; provided, however, that the Contractor shall have given the City and the owner of a utility timely notice of the interference. "Timely notice" shall be defined as a verbal notice (to be followed up in writing) no later than one (1) hour after initial discovery of the interference unless the City Representative is present, in which case notice shall be given immediately in writing to the City Manager.

#### U. GENERAL PREVAILING WAGE RATE

Pursuant to Section 1770 et seq. of the California Labor Code, the minimum prevailing rate of per diem wages for each craft, classification, or type of workman needed to execute the Contract shall be those determined by the Director of Industrial Relations of the State of California. These wages are set forth in the General Prevailing Wage Rates for this project, and available from the California Department of Industrial Relations' internet site at <http://www.dir.ca.gov>.

The Federal minimum wage rates (Davis Bacon Act) for this project as predetermined by the United States Secretary of Labor are attached titled " Wage Determinations, Part F". Addenda to modify the Federal minimum wage rates, if necessary, will be issued to holders of the proposal and specifications. Future effective general prevailing wage

rates which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the general prevailing wage rates.

If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, the Contractor and subcontractors shall pay not less than the higher wage rate. The Department will not accept lower state wage rates not specifically included in the Federal minimum wage determinations. This includes "helper" (or classifications based on hours of experience) or any other classifications not appearing in the Federal wage determinations. Where Federal wage determinations do not contain the State wage rate determination otherwise available for use by the Contractor and subcontractors, the Contractor and subcontractors shall pay not less than the Federal minimum wage rate which most closely approximates the duties of the employee in question.

APPRENTICESHIP EMPLOYMENT STANDARDS. Attention is directed to the provisions in Sections 1776, 1777.5 and 1777.6 of the California Labor Code concerning the employment of apprentices by the Contractor or any subcontractor under them.

Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex officio the Administrator of Apprenticeship, San Francisco, California, or from the division of Apprenticeship Standards and its branch offices.

V. PRELIMINARY NOTICES

Preliminary Notices should be mailed to the following address.

Diane Megerdichian  
General Services Department  
3350 Civic Center Drive  
Torrance, CA 90503

W. NOTICE OF INTENT TO AWARD:

Approximately two (2) weeks prior to the anticipated City Council meeting awarding a contract/purchase order as a result of this Notice Inviting Bids, the City will notify all bidder's of its intent to award. Results will be posted on the City of Torrance Web site [http://www.torranceca.gov/PDF/Recommendation to Award Notification.pdf](http://www.torranceca.gov/PDF/Recommendation_to_Award_Notification.pdf)

X. BID/RFP PROTEST PROCEDURES:

The City of Torrance Bid/RFP Protest Procedures may be found on the City of Torrance Web site:  
[http://www.torranceca.gov/PDF/Bid\\_RFP\\_Protest\\_Procedures.pdf](http://www.torranceca.gov/PDF/Bid_RFP_Protest_Procedures.pdf)

## **Federal Transit Administration (FTA) Requirements**

Because Federal Transit Administration (FTA) funds are being utilized for the implementation of this project, proposers are asked to carefully review the following requirements to ensure full compliance (wherever applicable).

### **BUY AMERICA REQUIREMENTS**

**Buy America** - The contractor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11. Rolling stock must be assembled in the United States and have a 60 percent domestic content. Please fill out and return Attachment 3 ("Buy America Requirements & Certification Form") as part of your proposal response.

### **ENERGY CONSERVATION REQUIREMENTS**

**Energy Conservation** - The contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

### **CLEAN WATER REQUIREMENTS**

**Clean Water** - (1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 *et seq.* The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

(2) The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

### **LOBBYING**

Clause and specific language therein are mandated by 49 CFR Part 19, Appendix A.

Modifications have been made to the Clause pursuant to Section 10 of the Lobbying Disclosure Act of 1995, P.L. 104-65 [to be codified at 2 U.S.C. § 1601, *et seq.*]

- Lobbying Certification and Disclosure of Lobbying Activities for third party contractors are mandated by 31 U.S.C. 1352(b)(5), as amended by Section 10 of the Lobbying Disclosure Act of 1995, and DOT implementing regulation, "New Restrictions on Lobbying," at 49 CFR § 20.110(d)

- Language in Lobbying Certification is mandated by 49 CFR Part 19, Appendix A, Section 7, which provides that contractors file the certification required by 49 CFR Part 20, Appendix A.

Modifications have been made to the Lobbying Certification pursuant to Section 10 of the Lobbying Disclosure Act of 1995.

- Use of "Disclosure of Lobbying Activities," Standard Form-LLL set forth in Appendix B of 49 CFR Part 20, as amended by "Government wide Guidance For New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96) is mandated by 49 CFR Part 20, Appendix A.

**Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, as amended by the Lobbying Disclosure Act of 1995, P.L. 104-65 [to be codified at 2 U.S.C. § 1601, et seq.] –**

Contractors who apply or bid for an award of \$100,000 or more shall file the certification required by 49 CFR part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient.

**ACCESS TO RECORDS AND REPORTS**

**Access to Records** - The following access to records requirements apply to this Contract:

1. Where the Purchaser is not a State but a local government and is the FTA Recipient or a sub grantee of the FTA Recipient in accordance with 49 C.F.R. 18.36(i), the Contractor agrees to provide the Purchaser, the FTA Administrator, the Comptroller General of the United States or any of their authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions. Contractor also agrees, pursuant to 49 C.F.R. 633.17 to provide the FTA Administrator or his authorized representatives including any PMO Contractor access to Contractor's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311.
2. Where any Purchaser which is the FTA Recipient or a sub grantee of the FTA Recipient in accordance with 49 U.S.C. 5325(a) enters into a contract for a capital project or improvement (defined at 49 U.S.C. 5302(a)1) through other than competitive bidding, the Contractor shall make available records related to the contract to the Purchaser, the Secretary of Transportation and the Comptroller General or any authorized officer or employee of any of them for the purposes of conducting an audit and inspection.
3. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
4. The Contractor agrees to maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case Contractor agrees to maintain same until the Purchaser, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto. Reference 49 CFR 18.39(i)(11).

5. FTA does not require the inclusion of these requirements in subcontracts.

**Requirements for Access to Records and Reports by Types of Contract**

<b>Contract Characteristics</b>	<b>Operational Service Contract</b>	<b>Turnkey</b>	<b>Construction</b>	<b>Architectural Engineering</b>	<b>Acquisition of Rolling Stock</b>	<b>Professional Services</b>
<b>I <u>State Grantees</u></b>						
a. Contracts below SAT (\$100,000)	None	Those imposed on state pass thru to Contract or	None	None	None	None
b. Contracts above \$100,000/Capital Projects	None unless <sup>1</sup> non-competitive award		Yes, if non-competitive award or if funded thru <sup>2</sup> 5307/5309/5311	None unless non-competitive award	None unless non-competitive award	None unless non-competitive award
<b>II <u>Non State Grantees</u></b>						
a. Contracts below SAT (\$100,000)	Yes <sup>3</sup>	Those imposed on non-state Grantee pass thru to Contract or	Yes	Yes	Yes	Yes
b. Contracts above \$100,000/Capital Projects	Yes <sup>3</sup>		Yes	Yes	Yes	Yes

Sources of Authority:

<sup>1</sup> 49 USC 5325 (a)

<sup>2</sup> 49 CFR 633.17

<sup>3</sup> 18 CFR 18.36 (i)

**FEDERAL CHANGES**

**Federal Changes** - Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Master Agreement between Purchaser and FTA, as they may be amended or promulgated from time to time during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this contract.

**CLEAN AIR**

**Clean Air** - (1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq. The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

(2) The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

### **RECYCLED PRODUCTS**

**Recovered Materials** - The contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

### **DAVIS-BACON AND COPELAND ANTI-KICKBACK ACTS**

(1) **Minimum wages** - (i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) Except with respect to helpers as defined as 29 CFR 5.2(n)(4), the work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) With respect to helpers as defined in 29 CFR 5.2(n)(4), such a classification prevails in the area in which the work is performed.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(v)(A) The contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination with 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(v) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(2) **Withholding** - The City of Torrance shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the City of Torrance may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) **Payrolls and basic records** - (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily

and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the City of Torrance for transmission to the Federal Transit Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under section 5.5(a)(3)(i) of Regulations, 29 CFR part 5. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, DC 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be maintained under section 5.5(a)(3)(i) of Regulations, 29 CFR part 5 and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Federal Transit Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or

subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

**(4) Apprentices and trainees - (i) Apprentices** - Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division of the U.S. Department of Labor determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

**(ii) Trainees** - Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less

than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity - The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) **Compliance with Copeland Act requirements** - The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) **Subcontracts** - The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the Federal Transit Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) **Contract termination: debarment** - A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) **Compliance with Davis-Bacon and Related Act requirements** - All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) **Disputes concerning labor standards** - Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) **Certification of eligibility** - (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

## **CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

(1) **Overtime requirements** - No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) **Violation; liability for unpaid wages; liquidated damages** - In the event of any violation of the clause set forth in paragraph (1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

(3) **Withholding for unpaid wages and liquidated damages** – The City of Torrance shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

(4) **Subcontracts** - The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

## **NO GOVERNMENT OBLIGATION TO THIRD PARTIES**

### **No Obligation by the Federal Government.**

(1) The Purchaser and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the Purchaser, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

(2) The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

## **PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS AND RELATED ACTS**

(1) The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 *et seq.* and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

(2) The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.

(3) The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

## **DEBARMENT AND SUSPENSION**

This contract is a covered transaction for purposes of 49 CFR Part 29. As such, the contractor is required to verify that none of the contractor, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by the City of Torrance. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to the City of Torrance, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

## **CIVIL RIGHTS REQUIREMENTS**

**Civil Rights** - The following requirements apply to the underlying contract:

(1) Nondiscrimination - In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

(2) Equal Employment Opportunity - The following equal employment opportunity requirements apply to the underlying contract:

(a) Race, Color, Creed, National Origin, Sex - In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 et seq., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(b) Age - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § § 623 and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(c) Disabilities - In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(3) The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

## **BREACHES AND DISPUTE RESOLUTION**

**Disputes** - Disputes arising in the performance of this Contract which are not resolved by agreement of the parties shall be decided in writing by the authorized representative of (Recipient)'s [title of employee]. This decision shall be final and conclusive unless within [ten (10)] days from the date of receipt of its copy, the Contractor mails or otherwise furnishes a written appeal to the [title of employee]. In connection with any such appeal, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its position. The decision of the [title of employee] shall be binding upon the Contractor and the Contractor shall abide by the decision.

**Performance During Dispute** - Unless otherwise directed by (Recipient), Contractor shall continue performance under this Contract while matters in dispute are being resolved.

**Claims for Damages** - Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the party or of any of his employees, agents or others for whose acts he is legally liable, a claim for damages therefore shall be made in writing to such other party within a reasonable time after the first observance of such injury or damage.

**Remedies** - Unless this contract provides otherwise, all claims, counterclaims, disputes and other matters in question between the (Recipient) and the Contractor arising out of or relating to this agreement or its breach will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State in which the (Recipient) is located.

**Rights and Remedies** - The duties and obligations imposed by the Contract Documents and the rights and remedies available there under shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by the (Recipient), (Architect) or Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach there under, except as may be specifically agreed in writing.

## **PATENT AND RIGHTS IN DATA**

A. **Rights in Data** - The following requirements apply to each contract involving experimental, developmental or research work:

(1) The term "subject data" used in this clause means recorded information, whether or not copyrighted, that is delivered or specified to be delivered under the contract. The term includes graphic or pictorial delineation in media such as drawings or photographs; text in specifications or related performance or design-type documents; machine forms such as punched cards, magnetic tape, or computer memory printouts; and information retained in computer memory. Examples include, but are not limited to: computer software, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information. The term "subject data" does not include financial reports, cost analyses, and similar information incidental to contract administration.

(2) The following restrictions apply to all subject data first produced in the performance of the contract to which this Attachment has been added:

(a) Except for its own internal use, the Purchaser or Contractor may not publish or reproduce subject data in whole or in part, or in any manner or form, nor may the Purchaser or Contractor authorize others to do so, without the written consent of the Federal Government, until such time as the Federal Government may have either released or approved the release of such data to the public; this restriction on publication, however, does not apply to any contract with an academic institution.

(b) In accordance with 49 C.F.R. § 18.34 and 49 C.F.R. § 19.36, the Federal Government reserves a royalty-free, non-exclusive and irrevocable license to reproduce, publish, or otherwise use, and to authorize others to use, for "Federal Government purposes," any subject data or copyright described in subsections (2)(b)1 and (2)(b)2 of this clause below. As used in the previous sentence, "for Federal Government purposes," means use only for the direct purposes of the Federal Government. Without the copyright owner's consent, the Federal Government may not extend its Federal license to any other party.

1. Any subject data developed under that contract, whether or not a copyright has been obtained; and
2. Any rights of copyright purchased by the Purchaser or Contractor using Federal assistance in whole or in part provided by FTA.

(c) When FTA awards Federal assistance for experimental, developmental, or research work, it is FTA's general intention to increase transportation knowledge available to the public, rather than to restrict the benefits resulting from the work to participants in that work. Therefore, unless FTA determines otherwise, the Purchaser and the Contractor performing experimental, developmental, or research work required by the underlying contract to which this Attachment is added agrees to permit FTA to make available to the public, either FTA's license in the copyright to any subject data developed in the course of that contract, or a copy of the subject data first produced under the contract for which a copyright has not been obtained. If the experimental, developmental, or research work, which is the subject of the underlying contract, is not completed for any reason whatsoever, all data developed under that contract shall become subject data as defined in subsection (a) of this clause and shall be delivered as the Federal Government may direct. This subsection (c), however, does not apply to adaptations of automatic data processing equipment or programs for the Purchaser or Contractor's use whose costs are financed in whole or in part with Federal assistance provided by FTA for transportation capital projects.

(d) Unless prohibited by state law, upon request by the Federal Government, the Purchaser and the Contractor agree to indemnify, save, and hold harmless the Federal Government, its officers, agents, and employees acting within the scope of their official duties against any liability, including costs and expenses, resulting from any willful or intentional violation by the Purchaser or Contractor of proprietary rights, copyrights, or right of privacy, arising out of the publication, translation, reproduction, delivery, use, or disposition of any data furnished under that contract. Neither the Purchaser nor the Contractor shall be required to indemnify the Federal Government for any such liability arising out of the wrongful act of any employee, official, or agents of the Federal Government.

(e) Nothing contained in this clause on rights in data shall imply a license to the Federal Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Federal Government under any patent.

(f) Data developed by the Purchaser or Contractor and financed entirely without using Federal assistance provided by the Federal Government that has been incorporated into work required

by the underlying contract to which this Attachment has been added is exempt from the requirements of subsections (b), (c), and (d) of this clause, provided that the Purchaser or Contractor identifies that data in writing at the time of delivery of the contract work.

(g) Unless FTA determines otherwise, the Contractor agrees to include these requirements in each subcontract for experimental, developmental, or research work financed in whole or in part with Federal assistance provided by FTA.

(3) Unless the Federal Government later makes a contrary determination in writing, irrespective of the Contractor's status (*i.e.*, a large business, small business, state government or state instrumentality, local government, nonprofit organization, institution of higher education, individual, etc.), the Purchaser and the Contractor agree to take the necessary actions to provide, through FTA, those rights in that invention due the Federal Government as described in

U.S. Department of Commerce regulations, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," 37 C.F.R. Part 401.

(4) The Contractor also agrees to include these requirements in each subcontract for experimental, developmental, or research work financed in whole or in part with Federal assistance provided by FTA.

**B. Patent Rights** - The following requirements apply to each contract involving experimental, developmental, or research work:

(1) General - If any invention, improvement, or discovery is conceived or first actually reduced to practice in the course of or under the contract to which this Attachment has been added, and that invention, improvement, or discovery is patentable under the laws of the United States of America or any foreign country, the Purchaser and Contractor agree to take actions necessary to provide immediate notice and a detailed report to the party at a higher tier until FTA is ultimately notified.

(2) Unless the Federal Government later makes a contrary determination in writing, irrespective of the Contractor's status (a large business, small business, state government or state instrumentality, local government, nonprofit organization, institution of higher education, individual), the Purchaser and the Contractor agree to take the necessary actions to provide, through FTA, those rights in that invention due the Federal Government as described in U.S. Department of Commerce regulations, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," 37 C.F.R. Part 401.

(3) The Contractor also agrees to include the requirements of this clause in each subcontract for experimental, developmental, or research work financed in whole or in part with Federal assistance provided by FTA.

**DISADVANTAGED BUSINESS ENTERPRISE (DBE)**

This contract is subject to the requirements of Title 49, Code of Federal Regulations, Part 26, *Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs*. The national goal for participation of Disadvantaged Business Enterprises (DBE) is 10%. The agency's overall goal for DBE participation is 4%.

The contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this DOT-assisted contract. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the City of Torrance deems appropriate. Each subcontract the contractor signs with a subcontractor must include the assurance in this paragraph (see 49 CFR 26.13(b)).

Bidders must present the information required above as a matter of responsiveness with initial proposals prior to contract award (see 49 CFR 26.53(3)).

The successful bidder/offeror will be required to report its DBE participation obtained through race-neutral means throughout the period of performance.

The contractor is required to pay its subcontractors performing work related to this contract for satisfactory performance of that work no later than 30 days after the contractor's receipt of payment for that work from the City of Torrance. In addition, the contractor may not hold retainage from its subcontractors. Contractor is required to return any retainage payments to those subcontractors within 30 days after the subcontractor's work related to this contract is satisfactorily completed. Contractor is required to return any retainage payments to those subcontractors within 30 days after incremental acceptance of the subcontractor's work by the City of Torrance and contractor's receipt of the partial retainage payment related to the subcontractor's work.

The contractor must promptly notify the City of Torrance, whenever a DBE subcontractor performing work related to this contract is terminated or fails to complete its work, and must make good faith efforts to engage another DBE subcontractor to perform at least the same amount of work. The contractor may not terminate any DBE subcontractor and perform that work through its own forces or those of an affiliate without prior written consent of the City of Torrance.

## **PART B**

### **GENERAL PROVISIONS**

**CITY OF TORRANCE, CALIFORNIA  
B. General Provisions**

**Bid for Transit Office Remodel and Training Room Expansion  
B 2014-09**

<u><b>DIVISION I. PROJECT SPECIFICATIONS</b></u>	<u><b>PAGE NO.</b></u>
<b>SECTION A. GENERAL</b>	
<b>SECTION B. REFERENCE TO STANDARDS OR PUBLICATIONS</b>	
<b>SECTION A. DESCRIPTION OF THE WORK</b>	<b>33</b>
1. Scope of the Work	
<b>SECTION B. GENERAL PROCEDURES</b>	<b>33</b>
1. Specifications and Drawings Complementary	
2. Order of Precedence of Contract Documents	
3. Discrepancies in the Contract Documents	
4. Errors and Omissions	
5. Changed Conditions	
6. As-built Drawings	
7. Construction Staking	
8. Notice to Proceed	
9. Delay in Obtaining Materials	
10. Inspection and Testing	
11. Project Schedule	
12. Mobilization	
13. Markup	
14. Utilities	
15. Completion, Acceptance and Warranty	
16. Contractor Representative	
17. Waste Management Plan	
<b>SECTION C. PAYMENTS TO CONTRACTOR AND CLAIMS</b>	<b>39</b>
1. Breakdown of Contract Prices	
2. Payment for Labor and Materials	
3. Additional Work	
4. Claims	
5. Noncompliance with Plans and Specifications	
6. Request for Payment	

## DIVISION I. PROJECT SPECIFICATIONS

### **SECTION A. GENERAL**

The Project Specifications for all work on this project are the specifications contained in the “**Project Manual for Transit Office Remodel and Training Room Expansion**”, prepared by Withee Malcolm Architects and the City of Torrance.

These Specifications are intended to govern all aspects of the appurtenant construction including, but not limited to, materials, methods and details, except as modified herein or as inconsistent with the provisions hereof.

### **DEFINITIONS**

Whenever the following terms are used, they shall be understood to mean and refer to the following:

Agency or City - City of Torrance.

Board- The City Council of the City of Torrance herein referred to as City Council.

City Manager - The City Manager of the City of Torrance, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

Consulting Architect – Jeff Lemler  
Withee Malcolm Architects  
2251 W. 190<sup>th</sup> Street  
Torrance, CA 90504  
424-266-6934  
310-217-0425 Fax  
[jlemler@witheemalcolm.com](mailto:jlemler@witheemalcolm.com)

Laboratory - The designated laboratory authorized by the City of Torrance to test materials and work involved in the contract.

### **SECTION B. REFERENCE TO STANDARDS OR PUBLICATIONS**

Any reference made in the Contract Documents to any specification, standard, or publication of any organization shall, in the absence of a specific designation to the contrary, be understood to refer to the latest edition of the specification, standard, or publication in effect as of the date of advertising the work, except to the extent that said standard or publication may be in conflict with applicable laws, ordinances, or governing codes. Contractors should be aware of all new code requirements (such as Cal-Green) when dealing with HVAC and other general building work. No requirements of these specifications or the drawings shall be waived because of any provisions of, or omission from, said standards or publications.

## **DIVISION II. SPECIAL PROVISIONS**

### **SECTION A. DESCRIPTION OF THE WORK**

1. Scope of the Work. The work to be done consists of furnishing all labor, materials, tools, equipment and incidentals to complete the Transit Office Remodel and Training Room Expansion as shown in the plans and specifications prepared by Withee Malcolm Architects for the City of Torrance.

### **SECTION B. GENERAL PROCEDURES**

1. Specifications and Drawings Complementary. The Specifications and Drawings are complementary, and what is called for in one shall be as binding as if called for in both.
2. Order of Precedence of Contract Documents. In resolving conflicts resulting from conflicts, errors, or discrepancies in any of the Contract Documents, the order of precedence shall be as follows:
  - a. Change Orders (Including Plans and Specifications attached thereto).
  - b. Public Works Agreement
  - c. Addenda
  - d. Special Provisions
  - e. Plans
  - f. Standard Plans
  - g. Instructions to Bidders
  - h. Standard Specifications

Within the Specifications the order of precedence is as follows:

- a. Addenda/Change Orders
- b. Permits from other agencies/supplemental agreements
- c. Special Provisions
- d. Instructions to Bidders
- e. Referenced Standard Drawings
- f. Referenced Standard Specifications

With reference to the Drawings the order of precedence is as follows:

- a. Change Orders drawings govern over Addenda and Contract Drawings
- b. Addenda drawings govern over Contract drawings
- c. Contract drawings govern over shop drawings and standard drawings
- d. Detail drawings govern over general drawings
- e. Figures govern over scaled dimensions

If the Contractor, in the course of the Work, becomes aware of any claimed errors or omissions in the Contract Documents or in the CITY's fieldwork, the Contractor shall immediately inform the CITY. The CITY shall promptly review the matter, and if the CITY finds an error or omission has been made the CITY shall determine the corrective actions and advise the Contractor accordingly. If the corrective work associated with an error or omission increases or decreases the amount of work called for in the Contract, the CITY shall issue an appropriate Change Order in accordance with 3-3. After discovery of an error or omission by the Contractor, any related work performed by the Contractor shall be done at the Contractor's risk unless authorized by the CITY.

3. Discrepancies in the Contract Documents. Any discrepancies, conflicts, errors or omissions found in the Contract Documents shall be promptly reported in writing to the City Manager, who will issue a correction in writing. The Contractor shall not take advantage of any such discrepancies, conflicts, errors or omissions, but shall comply with any corrective measures regarding the same prescribed by the City Manager, and no additional payment or time shall be allowed therefor.

If discrepancies are discovered between the drawings and the specifications, and no specific interpretation is issued prior to bidding, the decision regarding this interpretation shall rest with the City Manager. The Contractor shall be compelled to act on the City Manager's decision as directed. In the event the installation is not in compliance with the direction of the City Manager, the installation shall be corrected by and at the expense of the Contractor at no additional cost to the City.

See Section C of these Special Provisions for "Claims".

4. Errors and Omissions. If the Contractor, in the course of the work, becomes aware of any claimed errors or omissions in the contract documents or in the City's field work, he shall immediately inform the City Manager. The City Manager shall promptly review the matter, and if the City Manager finds an error or omission has been made the City Manager shall determine the corrective actions and advise the Contractor accordingly. If the corrective work associated with an error or omission increases or decreases the amount of work called for in the Contract, the City shall issue an appropriate Change Order. After discovery of an error or omission by the Contractor, any related work performed by the Contractor shall be done at its risk unless authorized by the City Manager.
5. Changed Conditions. The plans for the work show conditions as they are believed by the City Manager to exist, but it is not intended or to be inferred that the conditions as shown thereon constitute a representation by the City that such conditions are actually existent, nor shall the City be liable for any loss sustained by the Contractor as a result of any variance of the conditions as shown on the plans and the actual conditions revealed during the progress of the work or otherwise. The word "conditions" as used in this paragraph includes, but is not limited to, site conditions, both surface and subsurface.

The Contractor shall examine the site, compare it with the drawings and specifications and shall satisfy itself as to the conditions under which the work is to be performed. The Contractor shall ascertain and check the location of all existing structures, utilities and equipment, which may affect its work. The Contractor shall be responsible to re-examine the site, as necessary, for performance of change orders or other proposed changes, which may affect its work. No allowance shall subsequently be made on the Contractor's behalf for any extra expense or loss of time, which is incurred due to failure or negligence on its part to make such examination.

6. As-built Drawings. The Contractor shall maintain a control set of Plans and Specifications on the Work site at all times. All final locations determined in the field, and any deviations from the Plans and Specifications, shall be marked in red on this control set to show as-built conditions. Upon completion of the Work, the Contractor shall submit the control set to the Engineer for approval. Final payment will not be made until this requirement is met.

7. Construction Staking. The Contractor is responsible for all construction staking and shall be responsible for the cost of any restaking required due to disturbance caused by its operations, failure to protect the work site from vandalism or other causes of loss.
8. Notice to Proceed. Notwithstanding any other provisions of the Contract, the Contractor shall not be obligated to perform any work and the City shall not be obligated to accept or pay for any work performed by the Contractor prior to delivery of a Notice to Proceed. The City's knowledge of work being performed prior to delivery of the Notice to Proceed shall not obligate the City to accept or pay for such work. The Contractor shall provide all required contract bonds and evidences of insurance prior to commencing work at the site.
9. Delay in Obtaining Materials. No extension of time will be granted for a delay caused by the inability to obtain materials unless the Contractor either obtains advance written approval from the City Manager or obtains from the supplier and furnishes to the City Manager documentary proof that such materials could not be obtained due to war, government regulations, labor disputes, strikes, fires, floods, adverse weather necessitating the cessation of work, or other similar action of the elements. The Contractor is required to order materials in a timely manner as specified in the "Instruction to Bidders".
10. Inspection and Testing. The Work is subject to inspection and approval by the CITY. The Contractor shall notify the CITY a minimum of 48 hours in advance of the required inspection.

The CITY will make, or have made, such inspections and tests, as he deems necessary to see that the Work is in conformance with the Contract Documents. In the event such inspections or tests reveal noncompliance with the Contract Documents, the Contractor shall bear the cost of such corrective measures as deemed necessary by the CITY, as well as the cost of subsequent re-inspection and re-testing.

Work done in the absence of inspection by the CITY may be required to be removed and replaced under the inspection of the CITY, and the entire cost of removal and replacement, including the cost of all materials which may be furnished by the CITY and used in the work thus removed, shall be borne by the Contractor, regardless of whether the work removed is found to be defective or not. Work covered without the approval of the CITY shall, if so directed, be uncovered to the extent required by the CITY, and the Contractor shall similarly bear the entire cost of performing all the work and furnishing all the materials necessary for the removal of the covering and its subsequent replacement, including all costs for additional inspection.

The CITY and any authorized representatives shall at all times have access to the Work during its construction at shops and yards as well as the Work site. The Contractor shall provide every reasonable facility for ascertaining that the materials and workmanship are in accordance with the Contract Documents.

Inspection of the Work shall not relieve the Contractor of the obligation to fulfill all conditions of the Contract.

11. Project Schedule

- 12.1 The Contractor shall submit a Construction Schedule in accordance with the project manual to the City Manager prior to beginning construction. No work may be started until the Schedule has been approved in writing. The work shall be scheduled to assure that construction will be completed within the specified time. The Contractor shall be responsible for coordination of all phases of the operation so that the time schedule can be met.
- 12.2 If the Contractor desires to make a major change in its method or operations after commencing construction or if their Schedule fails to reflect the actual progress, the Contractor shall submit to the City Manager a revised Construction Schedule in advance of beginning revised operations.

12. Mobilization

- 13.1 Scope. Mobilization shall include the provision of the Construction Schedule; site review; obtaining all permits, insurance, and bonds; moving onto the site all plant and equipment; furnishing and erecting plants, temporary buildings, and other construction facilities, and removal of same at completion of the project; all as required for the proper performance and completion of the work.

Mobilization shall include, but not be limited to, the following principle items.

- (a) Submittal and modification, as required, of the Construction Schedule.
- (b) All associated documentation and submittals required by Exhibit A of the contract.
- (c) Installing temporary construction power and wiring.
- (d) Establishing fire protection system.
- (e) Developing construction water supply.
- (f) Providing on-site sanitary facilities and portable water facilities, as required.
- (g) Arranging for and erection of Contractor's work and storage yard.
- (h) Submittal of all required insurance certificates and bonds, including subcontractors.
- (i) Obtaining all required permits.
- (j) Posting all OSHA required notices and establishment of safety programs.
- (k) Have the Contractor's superintendent at the job site full-time.

- (l) Pot-holing and other research and review as necessary to verify site conditions and utility locations, including research and review as necessary for change orders.
- (m) Demobilization.

13. Markup. The following percentages shall apply for additional work:

Profit	5% maximum
Overhead	5% maximum

The markups mentioned hereinafter shall include, but are not limited to, all costs for the services of superintendents, project managers, timekeepers and other personnel not working directly on the change order, and pickup or yard trucks used by the above personnel, and other vehicles and/or equipment present at the jobsite but not directly used in actual construction activities. Incidental movements of labor, materials, supplies or equipment shall not be considered as use in actual construction activities. These costs shall not be reported as labor or equipment elsewhere, except when actually performing work directly on the change order and then shall only be reported at the labor classification of the work performed.

The City shall not pay for the cost of foremen or a superintendent unless authorized in advance by the City Manager. To the sum of the costs and markups provided for in this subsection, one (1) percent shall be added as compensation for bonding.

14. Utilities

The Contractor shall provide coordination with all the utility companies involved and shall provide protection from damage to their facilities. The Contractor shall be responsible for repair or replacement to said facilities made necessary by its failure to provide required protection. The Contractor is required to include utility requirements in the Construction Schedule.

The Contractor shall be solely responsible to check all utility record maps, books, and/or other data in the possession of the CITY, other agencies, and/or all utility companies, and no allowance shall be made for any failure to have done so.

The Contractor shall utilize the services of "Underground Service Alert - Southern California" for utility locating in all public right-of-ways by calling 1-800-227-2600 at least 48 hours prior to any excavation.

15. Completion, Acceptance and Warranty

If, in the CITY's judgment, the Work has been completed and is ready for acceptance, the CITY will so certify and will determine the date when the Work was completed. This will be the date when the Contractor is relieved from responsibility to protect the Work. The CITY may cause a Notice of Completion to be filed and recorded with the Los Angeles County Recorder's Office. At the CITY's option, the CITY may certify acceptance to the City Council who may then cause a Notice of Completion to be filed and recorded with the Los Angeles County Recorder's Office.

Manufacturer's warranties and guaranties furnished for materials used in the Work and instruction sheets and parts listed supplied with materials shall be delivered to the CITY prior to acceptance of the Work.

The duration of the warranty or guaranty shall be the standard of the industry with a minimum of 1 year from the date of Notice of Completion or Date of Acceptance. The prime contractor will be required to warranty the entire project regardless of whether warranties from subcontractors are also required. Coordination and correction of any issue related to project scope that arises during that one (1) year warranty period will be the responsibility of the prime contractor.

Manufacturer's warranties shall not relieve the Contractor of liability under these Specifications. Such warranties only shall supplement the Contractor's responsibility.

The CITY may require a manufacturer's warranty on any product offered for use.

16. Contractor's Representative

The Contractor's Representative shall be approved by the CITY prior to the start of the Work. If the designated representative is rejected, the Contractor shall immediately designate another representative in writing and submit to the City for consideration. The CITY shall have the authority to require the Contractor to remove its representative and/or alternate representative at any time and at no cost to the CITY.

17. Requirements for Recycling Construction Materials

The City of Torrance requires that all demolition projects and construction or remodeling projects valued at \$100,000 or more must recycle or reuse at least 50% of the materials that leave the project site and 100% of excavated soil and land-clearing debris. A Waste Management Plan (WMP) form is part of the permit process for projects that meet these criteria. The WMP form is available at the permit counter or a downloadable form is available here:

<http://www.torranceca.gov/PDF/WMPFormRevised2012onestop.pdf>

Step 1 - when applying for the permit, you must complete the WMP form stating that at least 50% of the waste generated by the project will be recycled or reused and that 100% of excavated soil and land-clearing debris will be recycled or reused.

Step 2 - collect and keep all receipts and records of the disposal, recycling, donations, and reuse of the materials from your project. Receipts must show material type, tonnage or weight, how the materials were treated, the facility used, and the address of the jobsite.

Step 3 - complete the WMP by attaching the receipts listing the actual disposal and recycling that occurred and submitting the WMP to Public Works for approval. This is required before your project can get its final inspection.

***Failure to fulfill the requirements of the WMP process will result in penalties of \$5,000 for construction projects and \$10,000 for demolition projects, as per the Torrance Municipal Code.***

For additional information concerning recycling or recycling facilities please visit the City of Torrance Public Works Department website at <http://www.torranceca.gov/8614.htm>

### **SECTION C. PAYMENTS TO CONTRACTOR AND CLAIMS**

1. Breakdown of Contract Prices. The Contractor shall, within ten (10) working days of receipt of a request from the City, submit a complete breakdown of lump sum bid prices showing the value assigned to each part of the work, including an allowance for profit and overhead. In submitting the breakdown, the Contractor certifies that it is not unbalanced and that the value assigned to each part of the work represents its estimate of the actual cost, including profit and overhead, of performing that part of the work. The breakdown shall be sufficiently detailed to permit its use by the City Manager as one of the bases for evaluating requests for payment. No extra costs shall be allowed for these breakdowns.
2. Payment for Labor and Materials. The Contractor shall pay and cause the subcontractors to pay any and all accounts for labor, including Worker's Compensation premiums, State Unemployment and Federal Social Security payments and all other wage and salary deductions required by law. The Contractor also shall pay and cause the subcontractors to pay any and all accounts for services, equipment and materials used by it and the subcontractors during the performance of work under this contract. All such accounts shall be paid as they become due and payable. If requested by the City Manager, the Contractor shall immediately furnish the City with proof of payment of such accounts. Please see Exhibit A of the Public Works Agreement for further contract requirements.
3. Additional Work. Payment for additional work and all expenditures in excess of the bid amount must be authorized in writing by the City Manager. Such authorization shall be obtained by the Contractor prior to engaging in additional work. It shall be the Contractor's sole responsibility to obtain written approval from the City Manager for any change(s) in material or in the work proposed by suppliers or subcontractors. No payment shall be made to the Contractor for additional work which has not been approved in writing, and the Contractor hereby agrees that it shall have no right to additional compensation for any work not so authorized.
4. Claims. The Contractor shall not be entitled to the payment of any additional compensation for any cause, including any act, or failure to act, by the City, or the happening of any event, thing or occurrence, unless he shall have given the City due written notice of potential claim as hereinafter specified.

The written notice of potential claim shall set forth the reasons for which the Contractor believes additional compensation will or may be due, the nature of the costs involved, and, insofar as possible, the amount of the potential claim. Said notice shall be submitted on a form approved by the City at least forty-eight (48) hours (two working days) in advance of performing said work, unless the work is of an emergency nature, in which case the Contractor shall notify and obtain approval from the Inspector prior to commencing the work. The City Manager may require the Contractor to delay construction involving the claim, but no other work shall be delayed, and the Contractor shall not be allowed additional costs for any said delay but may be allowed on extension of time if the City Manager agrees that the work delayed is a controlling element of the Construction Schedule. The Contractor shall be required to submit any supporting data (or a detailed

written explanation justifying further delay) within five (5) Work Days of a request from the City Manager and shall be responsible for any delays resulting from late and/or incomplete submittals. By submitting a Bid, the Contractor hereby agrees that this Section shall supersede Sections 6-6.3 and 6-6.4 of the Standard Specifications.

**The City shall be the sole authority to interpret all plans, specifications and contract documents, and no claim shall be accepted which is based on the Contractor's ignorance, misunderstanding or noncompliance with any provision or portion thereof.**

The Contractor shall be responsible to provide all data and to obtain all approvals required by said Specifications. No claims or extras shall be approved by the City unless all work was done under the direction of and subject to the approval of the Inspector.

**It is the intention of this Subsection that differences between the parties arising under and by virtue of the Contract be brought to the attention of the City Manager at the earliest possible time in order that such matters may be settled, if possible, or other appropriate action promptly taken. The Contractor hereby agrees that it shall have no right to additional compensation for any claim that may be based on any such act, failure to act, event, thing or occurrence for which no written notice of potential claim as herein required was filed.**

5. Noncompliance with Plans and Specifications. Failure of the Contractor to comply with any requirement of the Plans and Specifications, and/or to immediately remedy any such noncompliance upon notice from the City Manager, may result in suspension of Contract Progress Payments. Any Progress Payments so suspended shall remain in suspension until the Contractor's operations and/or submittals are brought into compliance to the satisfaction of the City Manager. No additional compensation shall be allowed as a result of suspension of Progress Payments due to noncompliance with the plans or specifications. The Contractor shall not be permitted to stop work due to said suspension of Progress Payments.

6. Request for Payment. Contractor shall submit all requests for payment on AIA Document G702 – Application and Certificate for Payment and G703- Continuation Sheet. For each item provide a column for listing: Item Number; Description of Work; Scheduled Value, Previous Application; Authorized Change Orders; Total completed and Stored to Date of Application; Percentage of Completion; Balance to Finish; and Retainage.

Prior to submittal of said form, all items for which payment is requested shall be checked and approved in writing by the City Manager. No payments will be made unless all back-up data is submitted with the payment request and the Progress Payment Invoice is signed by both Contractor and Manager.

The City will retain 5 percent of the value of all work done and materials installed as part security for fulfillment of the contract by Contractor. The full 5 percent retention will be retained on all payments for 35 days after the filing of the Notice of Completion.

There shall be no separate payment for any relocations, barriers or forms, grading or temporary construction required to construct the improvements herein. Payment for these items shall be absorbed in the Bid Prices for the applicable work to which they are appurtenant, and no extra costs shall be allowed.

The payment of amounts due to the Contractor shall be contingent upon the Contractor furnishing the City with a release of all claims against the City arising by virtue of the Contract related to said amounts. It is the contractor's responsibility to provide the correct releases in order to obtain payment by the City. The Contractor shall provide the City with Unconditional Lien Release on Final Payment with a zero balance is required from all material suppliers and subcontractors with the request for final payment.

**PART D**  
**BID DOCUMENTS**

BIDDER'S PROPOSAL

**BID FOR TRANSIT OFFICE REMODEL AND TRAINING ROOM EXPANSION  
B2014-09**

In accordance with the Notice Inviting Bids pertaining to the receiving of sealed proposals by the City Clerk of the City of Torrance for the above titled improvement, the undersigned hereby proposes to furnish all work to be performed in accordance with the Plans, Specifications and Contract Documents, prepared by Withee Malcolm Architects for the lump sum bid as set forth in the following schedules.

Assignment of Contractor's values:

Item	Description	Total Amount
Division 01	General Requirements:	
Division 02	Site Work:	
Division 03	Concrete:	
Division 04	Masonry:	
Division 05	Metals:	
Division 06	Wood and Plastics:	
Division 07	Thermal and Moisture Protection:	
Division 08	Doors and Windows:	
Division 09	Finishes:	
Division 10	Specialties:	
Division 11	Equipment:	
Division 12	Furnishings:	
Division 13	Special Construction:	

Item	Description	Total Amount
Division 14	Conveying Systems:	
Division 15	Mechanical:	
Division 16	Electrical:	
	B2014-09 -BID TOTAL- in figures*	

**BID TOTAL:** \_\_\_\_\_  
(Words)\*

**\*BID MAY BE REJECTED IF TOTAL IS NOT SHOWN IN FIGURES AND WORDS.**

The undersigned furthermore agrees to enter into and execute a contract, with necessary bonds, at the prices set forth herein and in case of default in executing such contract, with necessary bonds, the check or bond accompanying this bid and the money payable thereon shall be forfeited thereby to and remain the property of the City of Torrance.

The above prices include all work appurtenant to the various items as outlined in the specifications and all work or expense required for the satisfactory completion of said item.

The undersigned declares that it has carefully examined the Plans, Specifications, and Contract Documents, and has investigated the site of the work and is familiar with the conditions thereon.

\_\_\_\_\_  
Contractor Name

\_\_\_\_\_  
Signer's Name and Title

Date: \_\_\_\_\_ License No. & Classification \_\_\_\_\_

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

**ACKNOWLEDGMENT OF ADDENDA RECEIVED**

B2014-09

The Bidder shall acknowledge the receipt of addenda by placing an "X" by each addendum received.

Addendum No. 1 \_\_\_\_\_

Addendum No. 2 \_\_\_\_\_

Addendum No. 3 \_\_\_\_\_

Addendum No. 4 \_\_\_\_\_

Addendum No. 5 \_\_\_\_\_

Addendum No. 6 \_\_\_\_\_

Addendum No. 7 \_\_\_\_\_

Addendum No. 8 \_\_\_\_\_

If an addendum or addenda have been issued by the City and not noted above as being received by the Bidder, the Bid Proposal may be rejected.

\_\_\_\_\_  
Bidder's Signature

\_\_\_\_\_  
Date



**CONTRACTOR'S AFFIDAVIT (CONTINUED)**

7. That the Contractor did not, directly or indirectly, submit the Contractor's bid price or any breakdown thereof, or the contents thereof, or divulge information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, or to any individual or group of Individuals, except to the City of Torrance, or to any person or persons who have a partnership or other financial interest with said Contractor in its business.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

Subscribed and Sworn to  
before me this \_\_\_\_\_ (Contractor)  
of \_\_\_\_\_, 20\_\_\_\_\_ \_\_\_\_\_  
(Title)

\_\_\_\_\_  
Notary Public in and for said  
County and State.  
(Seal)

**BID BOND**

B2014-09

**KNOW ALL MEN BY THESE PRESENTS:** That we, \_\_\_\_\_

\_\_\_\_\_ as principal, and \_\_\_\_\_ as sureties, are held and firmly bound unto the City of Torrance, State of California, in the penal sum of \_\_\_\_\_ dollars (\$\_\_\_\_\_), for the payment whereof we hereby bind ourselves, our successors, heirs, executors or administrators jointly and severally, firmly by these presents.

The condition of this obligation is such that, whereas the above bounded principal is about to file with and submit to the City of Torrance a bid or proposal for the performance of certain work as required in the City of Torrance, Project No. B2014-09, said work being: the Transit Office Remodel and Training Room Expansion, in compliance with the Specifications therefore under an invitation of said City contained in a notice or advertisement for bids or proposals; now if the bid or proposal of said principal shall be accepted and if said work be thereupon awarded to the principal by said City and if the said principal shall enter into a contract with the said City in accordance with said bid or proposal, or if the bid or proposal of the said principal is rejected, then this bond shall be void and of no effect and otherwise in full force and effect.

**WITNESS** our hands this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_.

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Surety/Attorney-in-Fact

\_\_\_\_\_  
Signature

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

Local Address: \_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

LIST OF SUBCONTRACTORS

The Bidder is required to fill in the following blanks in accordance with the provisions of the Subletting and Subcontracting Fair Practices Act (Chapter 2 of Division 5, Title 1 of the Government Code of the State of California) and should familiarize itself with Section 2-3 of the Standard Specifications.

Name under Which Subcontractor is Licensed: \_\_\_\_\_

License Number: \_\_\_\_\_

Address of Office, Mill or Shop: \_\_\_\_\_

Specific Description of Sub-Contract: \_\_\_\_\_

Name under Which Subcontractor is Licensed: \_\_\_\_\_

License Number: \_\_\_\_\_

Address of Office, Mill or Shop: \_\_\_\_\_

Specific Description of Sub-Contract: \_\_\_\_\_

Name under Which Subcontractor is Licensed: \_\_\_\_\_

License Number: \_\_\_\_\_

Address of Office, Mill or Shop: \_\_\_\_\_

Specific Description of Sub-Contract: \_\_\_\_\_

Name Under Which Subcontractor is Licensed: \_\_\_\_\_

License Number: \_\_\_\_\_

Address of Office, Mill or Shop: \_\_\_\_\_

Specific Description of Sub-Contract: \_\_\_\_\_

Subcontractors listed in accordance with the provisions of Section 2-3 must be properly licensed under the laws of the State of California for the type of work which they are to perform. Do not list alternate subcontractors for the same work.

**REFERENCES**

(Public Works projects similar in magnitude and degree of difficulty completed by Contractor within the past five (5) years.).

1.Name (Firm/Agency): \_\_\_\_\_

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

Contact Person: \_\_\_\_\_ Telephone No.: \_\_\_\_\_

Title of Project: \_\_\_\_\_

Project Location: \_\_\_\_\_

Date of Completion \_\_\_\_\_ Contract Amount:\$ \_\_\_\_\_

2.Name (Firm/Agency): \_\_\_\_\_

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

Contact Person: \_\_\_\_\_ Telephone No.: \_\_\_\_\_

Title of Project: \_\_\_\_\_

Project Location: \_\_\_\_\_

Date of Completion \_\_\_\_\_ Contract Amount:\$ \_\_\_\_\_

3.Name (Firm/Agency): \_\_\_\_\_

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

Contact Person: \_\_\_\_\_ Telephone No.: \_\_\_\_\_

Title of Project: \_\_\_\_\_

Project Location: \_\_\_\_\_

Date of Completion \_\_\_\_\_ Contract Amount:\$ \_\_\_\_\_

4.Name (Firm/Agency): \_\_\_\_\_

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

Contact Person: \_\_\_\_\_ Telephone No.: \_\_\_\_\_

Title of Project: \_\_\_\_\_

Project Location: \_\_\_\_\_

Date of Completion \_\_\_\_\_ Contract Amount: \$ \_\_\_\_\_

**Bidder's Information**

The bidder must provide a detailed list of the trades and the description of the work they will perform with their own company for this project.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_

Contractor's License No.: \_\_\_\_\_ Class: \_\_\_\_\_

Date first obtained: \_\_\_\_\_

Has License ever been suspended or revoked? \_\_\_\_\_

If yes, describe when and why \_\_\_\_\_

Any current claims against License or Bond? \_\_\_\_\_

If yes, describe claims: \_\_\_\_\_

Type of entity (check one)

\_\_\_\_\_ Incorporated \_\_\_\_\_ Partnership \_\_\_\_\_ Sole Proprietorship

If incorporated, in what state \_\_\_\_\_

Federal Tax ID Number # \_\_\_\_\_

Principals in Company (List all - attach additional sheets if necessary):

<u>NAME</u>	<u>TITLE</u>	<u>LICENSE NO.</u> (If Applicable)
_____	_____	_____
_____	_____	_____
_____	_____	_____

**TORRANCE TRANSIT SYSTEM  
DISADVANTAGED BUSINESS ENTERPRISE INFORMATION FORM**

All bidders/proposers are required to provide the following information for all DBE and non-DBE contractors, who provided a proposal, bid, quote, or were contacted by the proposed prime. This information is also required from the proposed prime contractor, and must be submitted with their bid/proposal. Torrance Transit System will use this information to maintain and update a Bidders List to assist in the overall annual goal DBE goal setting process.

Firm Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_ Fax: \_\_\_\_\_

\_\_\_\_\_

Contact Person: \_\_\_\_\_ No. of Years in Business: \_\_\_\_\_

Email \_\_\_\_\_

**Is the firm currently certified as DBE under the 49 CFR Part 26 regulations?**

YES  NO

Type of work/services/materials provided by firm: \_\_\_\_\_

\_\_\_\_\_

What were your firm's Gross Annual receipts for last year?

- \_\_\_\_\_ Less than \$1 Million
- \_\_\_\_\_ Less than \$5 Million
- \_\_\_\_\_ Less than \$10 Million
- \_\_\_\_\_ Less than \$15 Million
- \_\_\_\_\_ More than \$15 Million

This form can be duplicated if necessary to report all bidders (DBEs and non-DBEs) information.

Forms 1 & 2 for Demonstration of Good Faith Efforts

**FORM 1: DISADVANTAGED BUSINESS ENTERPRISE (DBE) UTILIZATION**

The undersigned bidder/offeror has satisfied the requirements of the bid specification in the following manner (please check the appropriate space):

\_\_\_\_\_ The bidder/offeror is committed to a minimum of \_\_\_\_\_ % DBE utilization on this contract.

\_\_\_\_\_ The bidder/offeror (if unable to meet the DBE goal of 4%) is committed to a minimum of \_\_\_\_\_ % DBE utilization on this contract a submits documentation demonstrating good faith efforts.

Name of bidder/offeror's firm: \_\_\_\_\_

State Registration No. \_\_\_\_\_

By: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

**FORM 2: LETTER OF INTENT**

Name of bidder/offeror's firm: \_\_\_\_\_

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

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Name of DBE firm: \_\_\_\_\_

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

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_

Description of work to be performed by DBE firm:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The bidder/offeror is committed to utilizing the above-named DBE firm for the work described above. The estimated dollar value of this work is \$ \_\_\_\_\_.

**Affirmation**

The above-named DBE firm affirms that it will perform the portion of the contract for the estimated dollar value as stated above.

By: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

If the bidder/offeror does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.

(Submit this page for each DBE subcontractor.)

## **BUY AMERICA REQUIREMENTS & CERTIFICATION FORM**

49 U.S.C. 5323(j)  
49 CFR Part 661

### **Applicability to Contracts**

The Buy America requirements apply to the following types of contracts: Construction Contracts and Acquisition of Goods or Rolling Stock (valued at more than \$100,000).

### **Flow Down**

The Buy America requirements flow down from FTA recipients and sub recipients to first tier contractors, who are responsible for ensuring that lower tier contractors and subcontractors are in compliance. The \$100,000 threshold applies only to the grantee contract, subcontracts under that amount are subject to Buy America.

### **Mandatory Clause/Language**

**Buy America** - The contractor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11. Rolling stock must be assembled in the United States and have a 60 percent domestic content.

A bidder or offeror must submit to the FTA recipient the appropriate Buy America certification (below) with all bids or offers on FTA-funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower tier subcontractors.

**Certification requirement for procurement of steel, iron, or manufactured products.**

*Certificate of Compliance with 49 U.S.C. 5323(j)(1)*

The bidder or offeror hereby certifies that it will meet the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 CFR Part 661.5.

Date \_\_\_\_\_

Signature \_\_\_\_\_

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

Title \_\_\_\_\_

*Certificate of Non-Compliance with 49 U.S.C. 5323(j)(1)*

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(1) and 49 C.F.R. 661.5, but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. 661.7.

Date \_\_\_\_\_

Signature \_\_\_\_\_

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

Title \_\_\_\_\_

**Certification requirement for procurement of buses, other rolling stock and associated equipment.**

*Certificate of Compliance with 49 U.S.C. 5323(j)(2)(C).*

The bidder or offeror hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j)(2)(C) and the regulations at 49 C.F.R. Part 661.11.

Date \_\_\_\_\_

Signature \_\_\_\_\_

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

Title \_\_\_\_\_

*Certificate of Non-Compliance with 49 U.S.C. 5323(j)(2)(C)*

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11, but may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. 661.7.

Date \_\_\_\_\_

Signature \_\_\_\_\_

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

Title \_\_\_\_\_

**PART E.**

**DOCUMENTS TO BE COMPLETED  
AND DELIVERED TO CITY AS PART  
OF CONTRACT WITH THE CITY**

## PERFORMANCE BOND

### KNOW ALL MEN BY THESE PRESENTS:

That we, \_\_\_\_\_ as Principal(s) and \_\_\_ a \_\_\_\_\_ corporation, incorporated, organized, and existing under the laws of the State of \_\_\_\_\_, and authorized to execute bonds and undertakings and to do a general surety business in the State of California, as Surety, are jointly and severally held and firmly bound unto the City of Torrance, a municipal corporation, located in the County of Los Angeles, State of California, in the full and just sum of: \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), lawful money of the United States of America, for the payment of which sum, well and truly to be made, we bind ourselves and our respective heirs, executors, administrators, representative, successors and assigns, jointly and severally, firmly by these presents.

**THE CONDITION OF THIS OBLIGATION IS SUCH**, that: WHEREAS, said Principal(s) have/has entered into, or are/is about to enter into, a certain written contract or agreement, dated as of the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, with the said City of Torrance for the TRANSIT OFFICE REMODEL AND TRAINING ROOM EXPANSION, B2014-09, all as is more specifically set forth in said contract or agreement, a full, true and correct copy of which is hereunto attached, and hereby referred to and by this reference incorporated herein and made a part hereof;

**NOW, THEREFORE**, if the said Principal(s) shall faithfully and well and truly do, perform and complete, or cause to be done, performed and complete, each and all of the covenants, terms, conditions, requirements, obligations, acts and things, to be met, done or performed by said Principal(s), including any guarantee period as set forth in, or required by, said contract or agreement, all at and within the time or times, and in the manner as therein specified and contemplated, then this bond and obligation shall be null and void; otherwise it shall be and remain in full force, virtue and effect.

The said Surety, for value received, hereby stipulates and agrees that no amendment, change, extension of time, alteration or addition to said contract or agreement, or of any feature or item or items of performance required therein or there under, shall in any manner affect its obligations on or under this bond; and said Surety does hereby waive notice of any such amendment, change, extension of time, alteration, or addition to said contract or agreement, and of any feature or item or items of performance required therein or there under.

**PERFORMANCE BOND (CONTINUED)**

In the event any suit, action or proceedings is instituted to recover on this bond or obligation, said Surety will pay, and does hereby agree to pay, as attorney's fees for said City, such sum as the Court in any such suit, action or proceeding may adjudge reasonable.

**EXECUTED, SEALED AND DATED** this \_\_\_\_\_ day of \_\_\_\_\_,  
20\_\_\_\_

CORPORATE SEAL

PRINCIPAL(S):

BY \_\_\_\_\_

BY \_\_\_\_\_

CORPORATE SEAL

SURETY:

BY \_\_\_\_\_

Name: \_\_\_\_\_  
Local Address: \_\_\_\_\_  
Phone No.: \_\_\_\_\_  
Fax No.: \_\_\_\_\_

## LABOR AND MATERIAL BOND

### KNOW ALL MEN BY THESE PRESENTS:

That we, \_\_\_\_\_

As Principal(s) and \_\_\_\_\_ a corporation, incorporated, organized, and existing under the laws of the State of \_\_\_\_\_, and authorized to execute bonds and undertakings and to do a general surety business in the State of California, as Surety, are jointly and severally held and firmly bound unto:

- (a) The State of California for the use and benefit of the State Treasurer, as ex-officio Treasurer and custodian of the Unemployment Fund of said State; and
- (b) The City of Torrance, California; and
- (c) Any and all persons who do or perform or who did or performed work or labor upon or in connection with the work or improvement referred to in the contract or agreement hereinafter mentioned; and
- (d) Any and all materialmen, persons, companies, firms, association, or corporations, supplying or furnishing any materials, provisions, provender, transportation, appliances or power, or other supplies used in, upon, for or about or in connection with the performance of the work or improvement contracted to be executed, done, made or performed under said contract or agreement; and
- (e) Any and all persons, companies, firms, associations, or corporations furnishing, renting, or hiring teams, equipment, implements or machinery for, in connection with, or contributing to, said work to be done or improvement to be made under said contract or agreement; and
- (f) Any and all persons, companies, firms, associations, or corporations who supply both work and materials;

and whose claim has not been paid by said Principal(s), in full and just sum of \_\_\_\_\_ Dollars (\$\_\_\_\_\_), lawful money of the United States of America, for the payment of which will and truly to be made, said Principal(s) and said Surety do hereby bind themselves and their respective heirs, executors, administrators, representatives, successors and assigns, jointly and severally, firmly by these presents.

**LABOR AND MATERIAL BOND (CONTINUED)**

**THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH, THAT: WHEREAS,** said Principal(s) have/has entered into or are/is about to enter into a certain written contract or agreement, dated as of the \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_, with the City of Torrance for the TRANSIT OFFICE REMODEL AND TRAINING ROOM EXPANSION, B2014-09, all as is more specifically set forth in said contract or agreement, a full, true and correct copy of which is hereunto attached, and hereby referred to and by this reference incorporated herein and made a part hereof;

**NOW, THEREFORE,** if the said Principal(s) (or any of his/her, its, or their subcontractors) under said contract or agreement fails or fail to pay:

- (1) For any materials, provisions, provender, transportation, appliances, or power, or other supplies; or
- (2) For the hire of any teams, equipment, implements, or machinery; or
- (3) For any work or labor; supplies, furnished, provided, used, done or performed in, upon, for or about or in connection with the said work or improvement; or
- (4) For amounts due under the Unemployment Insurance Act of the State of California with respect to such work or improvement;

the Surety on this bond will pay the same in an amount not exceeding the sum hereinabove specified in this bond; and, also, in case suit is brought upon this bond, said Surety will (and does hereby agree to) pay a reasonable attorney's fee, to be fixed and taxed as costs, and included in the judgment therein rendered.

This bond shall (and it is hereby made to) insure to the benefit of any and all persons entitled to file claims under Section 1192.1 of the Code of Civil Procedure of the State of California, so as to give a right of action to them or their assigns in any suit brought upon this bond, all as contemplated under the provisions of Section 4205 of the Government Code, and of Chapter 1 of Title 4 of Part 3 of the Code of Civil Procedure, of the State of California.

This bond is executed and filed in connection with said contract or agreement hereunto attached to comply with each and all of the provisions of the laws of the State of California above mentioned or referred to, and of all amendments thereto, and the obligors so intend and do hereby bind themselves accordingly.

**LABOR AND MATERIAL BOND (CONTINUED)**

The said Surety, for value received, hereby stipulates and agrees that no amendment, change, extension of time, alteration, or addition to said contract or agreement, or of any feature or item or items of performance required therein or thereunder, shall in any manner affect its obligations on or under this bond; and said Surety does hereby waive notice of any such amendment, change, extension of time, alteration, or addition to said contract or agreement, and of any feature or item or items of performance required therein or thereunder.

**EXECUTED, SEALED AND DATED** this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_

CORPORATE SEAL

PRINCIPAL:

BY \_\_\_\_\_

CORPORATE SEAL

SURETY:

BY \_\_\_\_\_

Name: \_\_\_\_\_  
Local Address: \_\_\_\_\_  
Phone No.: \_\_\_\_\_  
Fax No.: \_\_\_\_\_

## PUBLIC WORKS AGREEMENT

This PUBLIC WORKS AGREEMENT ("Agreement") is made and entered into as of Effective Date, by and between the CITY OF TORRANCE, a municipal corporation ("CITY"), and Company Name, type of Entity.

### RECITALS:

- A. The CITY wishes to retain the services of an experienced and qualified CONTRACTOR to furnish all labor, materials, tools, equipment and incidentals in accordance with the plans and specifications prepared for the City of Torrance by Tetra-IBI Group;
- B. In order to obtain the desired services, The CITY has circulated a Notice Inviting Bids for Transit Office Remodel and Training Room Expansion, Notice Inviting Bids No. **B2014-09** (the "NIB"); and
- C. CONTRACTOR has submitted a Bid (the "Bid") in response to the NIB. CONTRACTOR represents that it is qualified to perform those services requested in the Plans and Specifications. Based upon its review of all Bids submitted in response to the NIB, The CITY is willing to award the contract to CONTRACTOR.

### AGREEMENT:

#### 1. SERVICES TO BE PERFORMED BY CONTRACTOR

CONTRACTOR will provide the services and install those materials listed in the Plans and Specifications, which are on file in the General Services Department. The NIB and the Plans and Specifications are made a part of this Agreement. A copy of the Bid is attached as Exhibit A.

#### 2. TERM

Unless earlier terminated in accordance with Paragraph 4 below, this Agreement will continue in full force and effect for one year from Effective Date.

#### 3. COMPENSATION

##### A. CONTRACTOR's Fee.

For services rendered pursuant to this Agreement, CONTRACTOR will be paid in accordance with CONTRACTOR's Bid; provided, however, that in no event will the total amount of money paid the CONTRACTOR, for services initially contemplated by this Agreement, exceed the sum of \$ unless otherwise first approved in writing by the CITY.

##### B. Schedule of Payment.

Provided that the CONTRACTOR is not in default under the terms of this Agreement, upon presentation of an invoice, CONTRACTOR will be paid monthly, within 30 days after the date of the monthly invoice.

#### 4. TERMINATION OF AGREEMENT

- A. Termination by CITY for Convenience.
1. CITY may, at any time, terminate the Agreement for CITY's convenience and without cause.
  2. Upon receipt of written notice from CITY of such termination for CITY's convenience, CONTRACTOR will:
    - a. cease operations as directed by CITY in the notice;
    - b. take actions necessary, or that CITY may direct, for the protection and preservation of the work; and
    - c. except for work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.
  3. In case of such termination for CITY's convenience, CONTRACTOR will be entitled to receive payment for work executed; and costs incurred by reason of such termination, along with reasonable overhead and profit on the work not executed.
- B. Termination for Cause.
1. If either party fails to perform any term, covenant or condition in this Agreement and that failure continues for 15 calendar days after the nondefaulting party gives the defaulting party written notice of the failure to perform, this Agreement may be terminated for cause; provided, however, that if during the notice period the defaulting party has promptly commenced and continues diligent efforts to remedy the default, the defaulting party will have such additional time as is reasonably necessary to remedy the default.
  2. In the event this Agreement is terminated for cause by the default of the CONTRACTOR, the CITY may, at the expense of the CONTRACTOR and its surety, complete this Agreement or cause it to be completed. Any check or bond delivered to the CITY in connection with this Agreement, and the money payable thereon, will be forfeited to and remain the property of the CITY. All moneys due the CONTRACTOR under the terms of this Agreement will be retained by the CITY, but the retention will not release the CONTRACTOR and its surety from liability for the default. Under these circumstances, however, the CONTRACTOR and its surety will be credited with the amount of money retained, toward any amount by which the cost of completion exceeds the Agreement Sum and any amount authorized for extra services.
  3. Termination for cause will not affect or terminate any of the rights of the CITY as against the CONTRACTOR or its surety then existing, or which may thereafter accrue because of the default; this provision is in addition to all other rights and remedies available to the CITY under law.

C. Termination for Breach of Law.

In the event the CONTRACTOR or any of its officers, directors, shareholders, employees, agents, subsidiaries or affiliates is convicted (i) of a criminal offense as an incident to obtaining or attempting to obtain a public or private contract or subcontract, or in the performance of a contract or subcontract; (ii) under state or federal statutes of embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, or any other offense indicating a lack of business integrity or business honesty which currently, seriously, and directly affects responsibility as a public consultant or contractor; (iii) under state or federal antitrust statutes arising out of the submission of bids or proposals; or (iv) of violation of Paragraph 19 of this Agreement; or for any other cause the CITY determines to be so serious and compelling as to affect CONTRACTOR's responsibility as a public consultant or contractor, including but not limited to, debarment by another governmental agency, then the CITY reserves the unilateral right to terminate this Agreement or to impose such other sanctions (which may include financial sanctions, temporary suspensions or any other condition deemed appropriate short of termination) as it deems proper. The CITY will not take action until CONTRACTOR has been given notice and an opportunity to present evidence in mitigation.

**5. FORCE MAJEURE**

If any party fails to perform its obligations because of strikes, lockouts, labor disputes, embargoes, acts of God, inability to obtain labor or materials or reasonable substitutes for labor or materials, governmental restrictions, governmental regulations, governmental controls, judicial orders, enemy or hostile governmental action, civil commotion, fire or other casualty, or other causes beyond the reasonable control of the party obligated to perform, then that party's performance shall be excused for a period equal to the period of such cause for failure to perform.

**6. RETENTION OF FUNDS**

CONTRACTOR authorizes the CITY to deduct from any amount payable to CONTRACTOR (whether or not arising out of this Agreement) any amounts the payment of which may be in dispute or that are necessary to compensate the CITY for any losses, costs, liabilities, or damages suffered by the CITY, and all amounts for which the CITY may be liable to third parties, by reason of CONTRACTOR's negligent acts or omissions or willful misconduct in performing or failing to perform CONTRACTOR's obligations under this Agreement. In the event that any claim is made by a third party, the amount or validity of which is disputed by CONTRACTOR, or any indebtedness exists that appears to be the basis for a claim of lien, the CITY may withhold from any payment due, without liability for interest because of the withholding, an amount sufficient to cover the claim. The failure of the CITY to exercise the right to deduct or to withhold will not, however, affect the obligations of CONTRACTOR to insure, indemnify, and protect the CITY as elsewhere provided in this Agreement.

**7. THE CITY'S REPRESENTATIVE**

Steve Minor, Facility Services Coordinator is designated as the "City Representative," authorized to act in its behalf with respect to the work and services specified in this Agreement and to make all decisions in connection with this Agreement. Whenever

approval, directions, or other actions are required by the CITY under this Agreement, those actions will be taken by the City Representative, unless otherwise stated. The City Manager has the right to designate another City Representative at any time, by providing notice to CONTRACTOR.

**8. CONTRACTOR REPRESENTATIVE(S)**

The following principal(s) of CONTRACTOR are designated as being the principal(s) and representative(s) of CONTRACTOR authorized to act in its behalf with respect to the work specified in this Agreement and make all decisions in connection with this Agreement:

Company Representative

**9. INDEPENDENT CONTRACTOR**

The successful proposer is, and will at all times remain as to the City, a wholly independent contractor. Neither the City nor any of its agents will have control over the conduct of the Contractor or any of the Contractor's employees, except as otherwise set forth in the awarded Agreement. The Contractor's agents and employees are not and will not be considered employees of the City for any purpose. The Contractor may not, at any time or in any manner, represent that it or any of its agents or employees are in any manner agents or employees of the City. The City has no duty, obligation, or responsibility to the Contractor's agents or employees under the Affordable Care Act. The Contractor is solely responsible for any tax penalties associated with the failure to offer affordable coverage to its agents and employees under the Affordable Care Act and any other liabilities, claims and obligations regarding compliance with the Affordable Care Act with respect to the Contractor's agents and employees. The City is not responsible and will not be held liable for the Contractor's failure to comply with the Contractor's duties, obligations, and responsibilities under the Affordable Care Act. The Contractor agrees to defend, indemnify and hold the City harmless for any and all taxes and penalties that may be assessed against the City as a result of the Contractor's obligations under the Affordable Care Act relating to the Contractor's agents and employees.

**10. BUSINESS LICENSE**

The CONTRACTOR must obtain a City business license prior to the start of work under this Agreement, unless CONTRACTOR is qualified for an exemption.

**11. OTHER LICENSES AND PERMITS**

CONTRACTOR warrants that it has all professional, contracting and other permits and licenses required to undertake the work contemplated by this Agreement.

**12. FAMILIARITY WITH WORK**

By executing this Agreement, CONTRACTOR warrants that CONTRACTOR (a) has thoroughly investigated and considered the scope of services to be performed, (b) has carefully considered how the services should be performed, and (c) fully understands the facilities, difficulties and restrictions attending performance of the services under this Agreement. If the services involve work upon any site, CONTRACTOR warrants that

CONTRACTOR has or will investigate the site and is or will be fully acquainted with the conditions there existing, prior to commencement of services set forth in this Agreement. Should CONTRACTOR discover any latent or unknown conditions that will materially affect the performance of the services set forth in this Agreement, CONTRACTOR must immediately inform the CITY of that fact and may not proceed except at CONTRACTOR's risk until written instructions are received from the CITY.

**13. CARE OF WORK**

CONTRACTOR must adopt reasonable methods during the life of the Agreement to furnish continuous protection to the work, and the equipment, materials, papers, documents, plans, studies and other components to prevent losses or damages, and will be responsible for all damages, to persons or property, until acceptance of the work by the CITY, except those losses or damages as may be caused by the CITY's own negligence.

**14. CONTRACTOR'S ACCOUNTING RECORDS; OTHER PROJECT RECORDS**

Records of the CONTRACTOR's time pertaining to the project, and records of accounts between the CITY and the CONTRACTOR, will be kept on a generally recognized accounting basis. CONTRACTOR will also maintain all other records, including without limitation specifications, drawings, progress reports and the like, relating to the project. All records will be available to the CITY during normal working hours. CONTRACTOR will maintain these records for three years after final payment.

**15. INDEMNIFICATION**

CONTRACTOR will indemnify, defend, and hold harmless CITY, the City Council, each member thereof, present and future, its officers, agents and employees from and against any and all liability, expenses, including defense costs and legal fees, and claims for damages whatsoever, including, but not limited to, those arising from breach of contract, bodily injury, death, personal injury, property damage, loss of use, or property loss however the same may be caused and regardless of the responsibility for negligence. The obligation to indemnify, defend and hold harmless includes, but is not limited to, any liability or expense, including defense costs and legal fees, arising from the negligent acts or omissions, or willful misconduct of CONTRACTOR, its officers, employees, agents, subcontractors or vendors. It is further agreed, CONTRACTOR's obligations to indemnify, defend and hold harmless will apply even in the event of concurrent negligence on the part of CITY, the City Council, each member thereof, present and future, or its officers, agents and employees, except for liability resulting solely from the negligence or willful misconduct of CITY, its officers, employees or agents. Payment by CITY is not a condition precedent to enforcement of this indemnity. In the event of any dispute between CONTRACTOR and CITY, as to whether liability arises from the sole negligence of the CITY or its officers, employees, agents, subcontractors or vendors, CONTRACTOR will be obligated to pay for CITY's defense until such time as a final judgment has been entered adjudicating the CITY as solely negligent. CONTRACTOR will not be entitled in the event of such a determination to any reimbursement of defense costs including but not limited to attorney's fees, expert fees and costs of litigation.

**16. NON-LIABILITY OF THE CITY'S OFFICERS AND EMPLOYEES**

No officer or employee of the CITY will be personally liable to CONTRACTOR, in the event of any default or breach by the CITY or for any amount that may become due to CONTRACTOR.

**17. INSURANCE**

- A. CONTRACTOR must maintain at its sole expense the following insurance, which will be full coverage not subject to self insurance provisions:
- (1) Automobile Liability, including owned, non-owned and hired vehicles, with at least the following limits of liability:
    - (a) Primary Bodily Injury with limits of at least \$500,000 per person, \$1,000,000 per occurrence; and
    - (b) Primary Property Damage of at least \$250,000 per occurrence; or
    - (c) Combined single limits of \$1,000,000 per occurrence.
  - (2) General Liability including coverage for premises, products and completed operations, independent contractors, personal injury and contractual obligations with combined single limits of coverage of at least \$2,000,000 per occurrence.
  - (3) Workers' Compensation with limits as required by the State of California and Employers Liability with limits of at least \$1,000,000.
- B. The insurance provided by CONTRACTOR will be primary and non-contributory.
- C. The CITY ("City of Torrance"), the Redevelopment Agency of the City of Torrance, the City Council and each member thereof, members of boards and commissions, every officer, agent, official, employee and volunteer must be named as additional insured under the automobile and general liability policies.
- D. CONTRACTOR must provide certificates of insurance and/or endorsements to the City Clerk of the City of Torrance before the commencement of work.
- E. Each insurance policy required by this Paragraph must contain a provision that no termination, cancellation or change of coverage can be made without thirty days notice to the CITY.
- F. CONTRACTOR must include all subcontractors as insureds under its policies or must furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors will be subject to all of the requirements of this Paragraph 17.

**18. SUFFICIENCY OF INSURERS**

Insurance required by this Agreement will be satisfactory only if issued by companies admitted to do business in California, rated "B+" or better in the most recent edition of Best's Key Rating Guide, and only if they are of a financial category Class VII or better, unless these requirements are waived by the Risk Manager of the CITY ("Risk Manager") due to unique circumstances. In the event the Risk Manager determines that the work or services to be performed under this Agreement creates an increased or decreased risk of loss to the CITY, the CONTRACTOR agrees that the minimum limits of any insurance policies and/or the performance bond required by this Agreement may be changed accordingly upon receipt of written notice from the Risk Manager; provided that CONTRACTOR will have the right to appeal a determination of increased coverage by the Risk Manager to the City Council of the CITY within 10 days of receipt of notice from the Risk Manager.

**19. CONFLICT OF INTEREST**

- A. No officer or employee of the CITY may have any financial interest, direct or indirect, in this Agreement, nor may any officer or employee participate in any decision relating to the Agreement that effects the officer or employee's financial interest or the financial interest of any corporation, partnership or association in which the officer or employee is, directly or indirectly interested, in violation of any law, rule or regulation.
- B. No person may offer, give, or agree to give any officer or employee or former officer or employee, nor may any officer or employee solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any way pertaining to any program requirement, contract or subcontract, or to any solicitation or proposal.

**20. NOTICE**

- A. All notices, requests, demands, or other communications under this Agreement will be in writing. Notice will be sufficiently given for all purposes as follows:
  - (1) Personal delivery. When personally delivered to the recipient: notice is effective on delivery.
  - (2) First Class mail. When mailed first class to the last address of the recipient known to the party giving notice: notice is effective three mail delivery days after deposit in an United States Postal Service office or mailbox.
  - (3) Certified mail. When mailed certified mail, return receipt requested: notice is effective on receipt, if delivery is confirmed by a return receipt.



**24. SEVERABILITY**

If any part of this Agreement is found to be in conflict with applicable laws, that part will be inoperative, null and void insofar as it is in conflict with any applicable laws, but the remainder of the Agreement will remain in full force and effect.

**25. TIME OF ESSENCE**

Time is of the essence in the performance of this Agreement.

**26. GOVERNING LAW; JURISDICTION**

This Agreement will be administered and interpreted under the laws of the State of California. Jurisdiction of any litigation arising from the Agreement will be in Los Angeles County, California.

**27. COMPLIANCE WITH STATUTES AND REGULATIONS**

CONTRACTOR will be knowledgeable of and will comply with all applicable federal, state, county and city statutes, rules, regulations, ordinances and orders.

**28. WAIVER OF BREACH**

No delay or omission in the exercise of any right or remedy by a nondefaulting party on any default will impair the right or remedy or be construed as a waiver. A party's consent or approval of any act by the other party requiring the party's consent or approval will not be deemed to waive or render unnecessary the other party's consent to or approval of any subsequent act. Any waiver by either party of any default must be in writing and will not be a waiver of any other default concerning the same or any other provision of this Agreement.

**29. ATTORNEY'S FEES**

Except as provided for in Paragraph 15, in any dispute, litigation, arbitration, or other proceeding by which one party either seeks to enforce its rights under this Agreement (whether in contract, tort or both) or seeks a declaration of any rights or obligations under this Agreement, the prevailing party will be awarded reasonable attorney's fees, together with any costs and expenses, to resolve the dispute and to enforce any judgment.

**30. EXHIBITS**

All exhibits identified in this Agreement are incorporated into the Agreement by this reference.

**31. CONTRACTOR'S AUTHORITY TO EXECUTE**

The persons executing this Agreement on behalf of the CONTRACTOR warrant that (i) the CONTRACTOR is duly organized and existing; (ii) they are duly authorized to execute this Agreement on behalf of the CONTRACTOR; (iii) by so executing this Agreement, the CONTRACTOR is formally bound to the provisions of this Agreement;

and (iv) the entering into this Agreement does not violate any provision of any other Agreement to which the CONTRACTOR is bound.

CITY OF TORRANCE,  
a Municipal Corporation

Company Name  
Type of Entity

\_\_\_\_\_

Frank Scotto, Mayor

By: \_\_\_\_\_

Name  
Title

ATTEST:

\_\_\_\_\_

Sue Herbers, City Clerk

APPROVED AS TO FORM:

JOHN L. FELLOWS III  
City Attorney

By: \_\_\_\_\_

Attachments: Exhibit A: Bid

**EXHIBIT A**

**Bid**

**[To be attached]**

**PART F**

**WAGE DETERMINATIONS**

General Decision Number: CA140033 01/10/2014 CA33

Superseded General Decision Number: CA20130033

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and Highway

County: Los Angeles County in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/03/2014
1	01/10/2014

ASBE0005-002 07/01/2013

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems).....	\$ 34.51	18.55
Fire Stop Technician (Application of Firestopping Materials for wall openings and penetrations in walls, floors, ceilings and curtain walls).....	\$ 24.34	16.09
-----		

ASBE0005-004 06/24/2013

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not)....	\$ 16.95	10.23
-----		

BOIL0092-003 10/01/2012

	Rates	Fringes
BOILERMAKER.....	\$ 41.17	28.27
-----		

\* BRCA0004-007 05/01/2013

	Rates	Fringes
BRICKLAYER; MARBLE SETTER.....	\$ 37.16	12.85

\*The wage scale for prevailing wage projects performed in Blythe, China lake, Death Valley, Fort Irwin, Twenty-Nine Palms, Needles and 1-15 corridor (Barstow to the Nevada State Line) will be Three Dollars (\$3.00) above the standard San Bernardino/Riverside County hourly wage rate

-----  
BRCA0018-004 06/01/2012

	Rates	Fringes
MARBLE FINISHER.....	\$ 27.04	10.66
TILE FINISHER.....	\$ 22.37	9.19
TILE LAYER.....	\$ 33.55	13.55

-----  
BRCA0018-010 09/01/2011

	Rates	Fringes
TERRAZZO FINISHER.....	\$ 26.59	9.62
TERRAZZO WORKER/SETTER.....	\$ 33.63	10.46

-----  
CARP0409-001 07/01/2010

	Rates	Fringes
CARPENTER		
(1) Carpenter, Cabinet Installer, Insulation Installer, Hardwood Floor Worker and acoustical installer.....	\$ 37.35	11.08
(2) Millwright.....	\$ 37.85	11.08
(3) Piledrivermen/Derrick Bargeman, Bridge or Dock Carpenter, Heavy Framer, Rock Bargeman or Scowman, Rockslinger, Shingler (Commercial).....	\$ 37.48	11.08
(4) Pneumatic Nailer, Power Stapler.....	\$ 37.60	11.08
(5) Sawfiler.....	\$ 37.44	11.08
(6) Scaffold Builder.....	\$ 28.55	11.08
(7) Table Power Saw Operator.....	\$ 37.45	11.08

FOOTNOTE: Work of forming in the construction of open cut sewers or storm drains, on operations in which horizontal lagging is used in conjunction with steel H-Beams driven or placed in pre- drilled holes, for that portion of a lagged trench against which concrete is poured, namely, as a substitute for back forms (which work is performed by piledrivers): \$0.13 per hour additional.

CARP0409-002 07/01/2008

	Rates	Fringes
Diver		
(1) Wet.....	\$ 663.68	9.82
(2) Standby.....	\$ 331.84	9.82
(3) Tender.....	\$ 323.84	9.82
(4) Assistant Tender.....	\$ 299.84	9.82

Amounts in "Rates" column are per day

-----  
CARP0409-005 07/01/2010

	Rates	Fringes
Drywall		
DRYWALL INSTALLER/LATHER....	\$ 37.35	11.08
STOCKER/SCRAPPER.....	\$ 10.00	6.67

-----  
CARP0409-008 08/01/2010

	Rates	Fringes
Modular Furniture Installer.....	\$ 17.00	7.41

-----  
ELEC0011-004 07/29/2013

	Rates	Fringes
ELECTRICIAN (INSIDE ELECTRICAL WORK)		
Journeyman Electrician.....	\$ 38.60	24.73
ELECTRICIAN (INTELLIGENT TRANSPORTATION SYSTEMS Street Lighting, Traffic Signals, CCTV, and Underground Systems)		
Journeyman Transportation Electrician.....	\$ 38.35	24.97
Technician.....	\$ 28.76	24.68

## FOOT NOTE:

CABLE SPLICER & INSTRUMENT PERSON: Recieve 5% additional per  
hour above Journeyman Electrician basic hourly rate.

TUNNEL WORK: 10% additional per hour.

SCOPE OF WORK - TRANSPORTATION SYSTEMS

## ELECTRICIAN:

Installation of street lights and traffic signals, including electrical circuitry, programmable controllers, pedestal-mounted electrical meter enclosures and laying of pre-assembled multi-conductor cable in ducts, layout of electrical systems and communication installation, including proper position of trench depths and radius at duct banks, location for man holes, pull boxes, street lights and traffic signals. Installation of underground ducts for electrical, telephone, cable television and communication systems. Pulling, termination and

splicing of traffic signal and street lighting conductors and electrical systems including interconnect,detector loop, fiber optic cable and video/cable.

TECHNICIAN:

Distribution of material at job site, manual excavation and backfill, installation of system conduits and raceways for electrical, telephone, cable television and communication systems. Pulling, terminating and splicing of traffic signal and street lighting conductors and electrical systems including interconnect, detector loop, fiber optic cable and video/data.

-----  
 \* ELEC0011-005 11/25/2013

COMMUNICATIONS & SYSTEMS WORK (excludes any work on Intelligent Transportation Systems or CCTV highway systems)

	Rates	Fringes
Communications System		
Installer.....	\$ 27.75	12.36
Technician.....	\$ 29.55	12.42

SCOPE OF WORK The work covered shall include the installation, testing, service and maintenance, of the following systems that utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, security and entertainment purposes for TV monitoring and surveillance, background foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call system, radio page, school intercom and sound, burglar alarms and low voltage master clock systems.

A. Communication systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems SCADA (Supervisory control/data acquisition PCM (Pulse code modulation) Inventory control systems Digital data systems Broadband & baseband and carriers Point of sale systems VSAT data systems Data communication systems RF and remote control systems Fiber optic data systems

B. Sound and Voice Transmission/Transference Systems Background-Foreground Music Intercom and Telephone Interconnect Systems Sound and Musical Entertainment Systems Nurse Call Systems Radio Page Systems School Intercom and Sound Systems Burglar Alarm Systems Low-Voltage Master Clock Systems Multi-Media/Multiplex Systems Telephone Systems RF Systems and Antennas and Wave Guide

C. \*Fire Alarm Systems-installation, wire pulling and testing.

D. Television and Video Systems Television Monitoring and

Surveillance Systems Video Security Systems Video  
 Entertainment Systems Video Educational Systems CATV and  
 CCTV

E. Security Systems, Perimeter Security Systems, Vibration  
 Sensor Systems  
 Sonar/Infrared Monitoring Equipment, Access Control Systems,  
 Card Access Systems

\*Fire Alarm Systems

1. Fire Alarms-In Raceways: Wire and cable pulling in  
 raceways performed at the current electrician wage rate and  
 fringe benefits.
2. Fire Alarms-Open Wire Systems: installed by the Technician.

-----  
 ELEC1245-001 06/01/2013

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer..	\$ 50.30	15.00
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....	\$ 40.17	14.56
(3) Groundman.....	\$ 30.73	13.48
(4) Powderman.....	\$ 44.91	13.48

HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day,  
 Independence Day, Labor Day, Veterans Day, Thanksgiving Day  
 and day after Thanksgiving, Christmas Day

-----  
 ELEV0018-001 01/01/2013

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 48.23	25.185

FOOTNOTE:

PAID VACATION: Employer contributes 8% of regular hourly  
 rate as vacation pay credit for employees with more than 5  
 years of service, and 6% for 6 months to 5 years of service.  
 PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day,  
 Labor Day, Veterans Day, Thanksgiving Day, Friday after  
 Thanksgiving, and Christmas Day.

-----  
 ENGI0012-003 08/26/2013

	Rates	Fringes
OPERATOR: Power Equipment (All Other Work)		
GROUP 1.....	\$ 38.20	21.10

GROUP 2.....	\$ 38.98	21.10
GROUP 3.....	\$ 39.27	21.10
GROUP 4.....	\$ 40.76	21.10
GROUP 5.....	\$ 41.86	21.10
GROUP 6.....	\$ 40.98	21.10
GROUP 8.....	\$ 41.09	21.10
GROUP 9.....	\$ 42.19	21.10
GROUP 10.....	\$ 41.21	21.10
GROUP 11.....	\$ 42.31	21.10
GROUP 12.....	\$ 41.38	21.10
GROUP 13.....	\$ 41.48	21.10
GROUP 14.....	\$ 41.51	21.10
GROUP 15.....	\$ 41.59	21.10
GROUP 16.....	\$ 41.71	21.10
GROUP 17.....	\$ 41.88	21.10
GROUP 18.....	\$ 41.98	21.10
GROUP 19.....	\$ 42.09	21.10
GROUP 20.....	\$ 42.21	21.10
GROUP 21.....	\$ 42.38	21.10
GROUP 22.....	\$ 42.48	21.10
GROUP 23.....	\$ 42.59	21.10
GROUP 24.....	\$ 42.71	21.10
GROUP 25.....	\$ 42.88	21.10

OPERATOR: Power Equipment  
(Cranes, Piledriving &  
Hoisting)

GROUP 1.....	\$ 39.55	21.10
GROUP 2.....	\$ 40.33	21.10
GROUP 3.....	\$ 40.62	21.10
GROUP 4.....	\$ 40.76	21.10
GROUP 5.....	\$ 40.98	21.10
GROUP 6.....	\$ 41.09	21.10
GROUP 7.....	\$ 41.21	21.10
GROUP 8.....	\$ 41.38	21.10
GROUP 9.....	\$ 41.55	21.10
GROUP 10.....	\$ 42.55	21.10
GROUP 11.....	\$ 43.55	21.10
GROUP 12.....	\$ 44.55	21.10
GROUP 13.....	\$ 45.55	21.10

OPERATOR: Power Equipment  
(Tunnel Work)

GROUP 1.....	\$ 40.05	21.10
GROUP 2.....	\$ 40.83	21.10
GROUP 3.....	\$ 41.12	21.10
GROUP 4.....	\$ 41.26	21.10
GROUP 5.....	\$ 41.48	21.10
GROUP 6.....	\$ 41.59	21.10
GROUP 7.....	\$ 41.71	21.10

PREMIUM PAY:

\$3.75 per hour shall be paid on all Power Equipment Operator work on the following Military Bases: China Lake Naval Reserve, Vandenberg AFB, Point Arguello, Seely Naval Base, Fort Irwin, Nebo Annex Marine Base, Marine Corp Logistics Base Yermo, Edwards AFB, 29 Palms Marine Base and Camp Pendleton

Workers required to suit up and work in a hazardous material environment: \$2.00 per hour additional. Combination mixer and compressor operator on gunite work shall be classified

as a concrete mobile mixer operator.

SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Bargeman; Brakeman; Compressor operator; Ditch Witch, with seat or similar type equipment; Elevator operator-inside; Engineer Oiler; Forklift operator (includes loed, lull or similar types under 5 tons; Generator operator; Generator, pump or compressor plant operator; Pump operator; Signalman; Switchman

GROUP 2: Asphalt-rubber plant operator (nurse tank operator); Concrete mixer operator-skip type; Conveyor operator; Fireman; Forklift operator (includes loed, lull or similar types over 5 tons; Hydrostatic pump operator; oiler crusher (asphalt or concrete plant); Petromat laydown machine; PJU side dum jack; Screening and conveyor machine operator (or similar types); Skiploader (wheel type up to 3/4 yd. without attachment); Tar pot fireman; Temporary heating plant operator; Trenching machine oiler

GROUP 3: Asphalt-rubber blend operator; Bobcat or similar type (Skid steer); Equipment greaser (rack); Ford Ferguson (with dragtype attachments); Helicopter radioman (ground); Stationary pipe wrapping and cleaning machine operator

GROUP 4: Asphalt plant fireman; Backhoe operator (mini-max or similar type); Boring machine operator; Boxman or mixerman (asphalt or concrete); Chip spreading machine operator; Concrete cleaning decontamination machine operator; Concrete Pump Operator (small portable); Drilling machine operator, small auger types (Texoma super economatic or similar types - Hughes 100 or 200 or similar types - drilling depth of 30' maximum); Equipment greaser (grease truck); Guard rail post driver operator; Highline cableway signalman; Hydra-hammer-aero stomper; Micro Tunneling (above ground tunnel); Power concrete curing machine operator; Power concrete saw operator; Power-driven jumbo form setter operator; Power sweeper operator; Rock Wheel Saw/Trencher; Roller operator (compacting); Screed operator (asphalt or concrete); Trenching machine operator (up to 6 ft.); Vacuum or much truck

GROUP 5: Equipment Greaser (Grease Truck/Multi Shift).

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45' maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter (concrete or

asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar; Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bending machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity): Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

## GROUP 9: Heavy Duty Repairman

GROUP 10: Drilling machine operator, Bucket or auger types (Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Rubber tired earth moving equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

GROUP 11: Heavy Duty Repairman - Welder Combination, Welder - Certified.

GROUP 12: Auto grader operator; Automatic slip form operator; Drilling machine operator, bucket or auger types (Calweld, auger 200 CA or similar types - Watson, auger 6000 or similar types - Hughes Super Duty, auger 200 or similar types - drilling depth of 175' maximum); Hoe ram or similar with compressor; Mass excavator operator less tha 750 cu. yards; Mechanical finishing machine operator; Mobile form traveler operator; Motor patrol operator (multi-engine); Pipe mobile machine operator; Rubber-tired earth- moving equipment operator (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Rubber-tired self- loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)

GROUP 13: Rubber-tired earth-moving equipment operator operating equipment with push-pull system (single engine, up to and including 25 yds. struck)

GROUP 14: Canal liner operator; Canal trimmer operator; Remote- control earth-moving equipment operator (operating a second piece of equipment: \$1.00 per hour additional); Wheel excavator operator (over 750 cu. yds.)

GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)

GROUP 16: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25

yds. and up to 50 yds. struck)

GROUP 17: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 50 cu. yds. struck); Tandem tractor operator (operating crawler type tractors in tandem - Quad 9 and similar type)

GROUP 18: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)

GROUP 19: Rotex concrete belt operator (or similar types); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, up to and including 25 yds. struck)

GROUP 20: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 21: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

GROUP 22: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, up to and including 25 yds. struck)

GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

GROUP 24: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 25: Concrete pump operator-truck mounted; Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

#### CRANES, PILEDRIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

GROUP 1: Engineer oiler; Fork lift operator (includes loed, lull or similar types)

GROUP 2: Truck crane oiler

GROUP 3: A-frame or winch truck operator; Ross carrier operator (jobsite)

GROUP 4: Bridge-type unloader and turntable operator; Helicopter hoist operator

GROUP 5: Hydraulic boom truck; Stinger crane (Austin-Western or similar type); Tugger hoist operator (1 drum)

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist operator (Chicago boom and similar type); Lift mobile operator; Lift slab machine operator (Vagtborg and similar types); Material hoist and/or manlift operator; Polar gantry crane operator; Self Climbing scaffold (or similar type); Shovel, backhoe, dragline, clamshell operator (over 3/4 yd. and up to 5 cu. yds. mrc); Tugger hoist operator

GROUP 7: Pedestal crane operator; Shovel, backhoe, dragline, clamshell operator (over 5 cu. yds. mrc); Tower crane repair; Tugger hoist operator (3 drum)

GROUP 8: Crane operator (up to and including 25 ton capacity); Crawler transporter operator; Derrick barge operator (up to and including 25 ton capacity); Hoist operator, stiff legs, Guy derrick or similar type (up to and including 25 ton capacity); Shovel, backhoe, dragline, clamshell operator (over 7 cu. yds., M.R.C.)

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

GROUP 10: Crane operator (over 50 tons and up to and including 100 tons mrc); Derrick barge operator (over 50 tons up to and including 100 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 50 tons up to and including 100 tons mrc), Mobile tower crane operator (over 50 tons, up to and including 100 tons M.R.C.); Tower crane operator and tower gantry

GROUP 11: Crane operator (over 100 tons and up to and including 200 tons mrc); Derrick barge operator (over 100 tons up to and including 200 tons mrc); Hoist operator,

stiff legs, Guy derrick or similar type (over 100 tons up to and including 200 tons mrc); Mobile tower crane operator (over 100 tons up to and including 200 tons mrc)

GROUP 12: Crane operator (over 200 tons up to and including 300 tons mrc); Derrick barge operator (over 200 tons up to and including 300 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 200 tons, up to and including 300 tons mrc); Mobile tower crane operator (over 200 tons, up to and including 300 tons mrc)

GROUP 13: Crane operator (over 300 tons); Derrick barge operator (over 300 tons); Helicopter pilot; Hoist operator, stiff legs, Guy derrick or similar type (over 300 tons); Mobile tower crane operator (over 300 tons)

#### TUNNEL CLASSIFICATIONS

GROUP 1: Skiploader (wheel type up to 3/4 yd. without attachment)

GROUP 2: Power-driven jumbo form setter operator

GROUP 3: Dinkey locomotive or motorperson (up to and including 10 tons)

GROUP 4: Bit sharpener; Equipment greaser (grease truck); Slip form pump operator (power-driven hydraulic lifting device for concrete forms); Tugger hoist operator (1 drum); Tunnel locomotive operator (over 10 and up to and including 30 tons)

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

#### ENGINEERS ZONES

\$1.00 additional per hour for all of IMPERIAL County and the portions of KERN, RIVERSIDE & SAN BERNARDINO Counties as defined below:

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N,m R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection

with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SBM to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1S, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

\$1.00 additional per hour for portions of SAN LUIS OBISPO, KERN, SANTA BARBARA & VENTURA as defined below:

That area within the following Boundary: Begin approximately 5 miles north of the community of Cholame, on the Monterey County and San Luis Obispo County boundary at the NW corner of T25S, R16E, Mt. Diablo Meridian. Continue south along the west side of R16E to the SW corner of T30S, R16E, MDM. Continue E to SW corner of T30S, R17E, MDM. Continue S to SW corner of T31S, R17E, MDM. Continue E to SW corner of T31S, R18E, MDM. Continue S along West side of R18E, MDM as it crosses into San Bernardino Meridian numbering area and becomes R30W. Follow the west side of R30W, SBM to the SW corner of T9N, R30W, SBM. Continue E along the south edge of T9N, SBM to the Santa Barbara County and Ventura County boundary at that point which is the SW corner of Section 34. T9N, R24W, SBM, continue S along the Ventura County line to that point which is the SW corner of the SE quarter of Section 32, T7N, R24W, SBM. Continue E along the south edge of T7N, SBM to the SE corner to T7N, R21W, SBM. Continue N along East side of R21W, SBM to Ventura County and Kern County boundary at the NE corner of T8N, R21W. Continue W along the Ventura County and Kern County boundary to the SE corner of T9N, R21W. Continue North along the East edge of R21W, SBM to the NE corner of T12N, R21W, SBM. Continue West along the north edge of T12N, SBM to the SE corner of T32S, R21E, MDM. [T12N SBM is a think strip between T11N SBM and T32S MDM]. Continue North along the East side of R21E, MDM to the Kings County and Kern County border at the NE corner of

T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

\$2.00 additional per hour for INYO and MONO Counties and the Northern portion of SAN BERNARDINO County as defined below:

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

-----  
 ENGI0012-004 08/05/2013

	Rates	Fringes
OPERATOR: Power Equipment		
(DREDGING)		
(1) Leverman.....	\$ 47.70	21.20
(2) Dredge dozer.....	\$ 41.73	21.20
(3) Deckmate.....	\$ 41.62	21.20
(4) Winch operator (stern winch on dredge).....	\$ 41.07	21.20
(5) Fireman-Oiler, Deckhand, Bargeman, Leveehand.....	\$ 40.53	21.20
(6) Barge Mate.....	\$ 41.14	21.20

-----  
 IRON0377-002 07/01/2013

	Rates	Fringes
Ironworkers:		

Fence Erector.....	\$ 26.58	17.74
Ornamental, Reinforcing and Structural.....	\$ 33.00	26.30

PREMIUM PAY:

\$6.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval Reserve-Niland, Edwards AFB, Fort Irwin Military Station, Fort Irwin Training Center-Goldstone, San Clemente Island, San Nicholas Island, Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB

\$4.00 additional per hour at the following locations:

Army Defense Language Institute - Monterey, Fallon Air Base, Naval Post Graduate School - Monterey, Yermo Marine Corps Logistics Center

\$2.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

-----  
LABO0300-001 07/01/2013

	Rates	Fringes
Brick Tender.....	\$ 28.37	15.78

-----  
LABO0300-003 07/01/2013

	Rates	Fringes
LABORER (TUNNEL)		
GROUP 1.....	\$ 34.84	16.02
GROUP 2.....	\$ 35.16	16.02
GROUP 3.....	\$ 35.62	16.02
GROUP 4.....	\$ 36.31	16.02
LABORER		
GROUP 1.....	\$ 28.99	16.02
GROUP 2.....	\$ 29.54	16.02
GROUP 3.....	\$ 30.09	16.02
GROUP 4.....	\$ 31.64	16.02
GROUP 5.....	\$ 31.99	16.02

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete screeding for rough strike-off; Concrete, water curing; Demolition laborer, the cleaning of brick if performed by a worker performing any other phase of demolition work, and the cleaning of lumber; Fire watcher, limber, brush loader, piler and debris handler; Flag person; Gas, oil and/or water pipeline laborer; Laborer, asphalt-rubber material loader; Laborer, general or construction; Laborer, general clean-up; Laborer, landscaping; Laborer, jetting; Laborer,

temporary water and air lines; Material hose operator (walls, slabs, floors and decks); Plugging, filling of shee bolt holes; Dry packing of concrete; Railroad maintenance, repair track person and road beds; Streetcar and railroad construction track laborers; Rigging and signaling; Scaler; Slip form raiser; Tar and mortar; Tool crib or tool house laborer; Traffic control by any method; Window cleaner; Wire mesh pulling - all concrete pouring operations

GROUP 2: Asphalt shoveler; Cement dumper (on 1 yd. or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute handler, pouring concrete, the handling of the chute from readymix trucks, such as walls, slabs, decks, floors, foundation, footings, curbs, gutters and sidewalks; Concrete curer, impervious membrane and form oiler; Cutting torch operator (demolition); Fine grader, highways and street paving, airport, runways and similar type heavy construction; Gas, oil and/or water pipeline wrapper - pot tender and form person; Guinea chaser; Headerboard person - asphalt; Laborer, packing rod steel and pans; Membrane vapor barrier installer; Power broom sweeper (small); Riprap stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Sandblaster (pot tender); Septic tank digger and installer(lead); Tank scaler and cleaner; Tree climber, faller, chain saw operator, Pittsburgh chipper and similar type brush shredder; Underground laborer, including caisson bellower

GROUP 3: Buggymobile person; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2-1/2 ft. drill steel or longer; Dri-pak-it machine; Gas, oil and/or water pipeline wrapper, 6-in. pipe and over, by any method, inside and out; High scaler (including drilling of same); Hydro seeder and similar type; Impact wrench multi-plate; Kettle person, pot person and workers applying asphalt, lay-kold, creosote, lime caustic and similar type materials ("applying" means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operator of pneumatic, gas, electric tools, vibrating machine, pavement breaker, air blasting, come-alongs, and similar mechanical tools not separately classified herein; Pipelayer's backup person, coating, grouting, making of joints, sealing, caulking, diapering and including rubber gasket joints, pointing and any and all other services; Rock slinger; Rotary scarifier or multiple head concrete chipping scarifier; Steel headerboard and guideline setter; Tamper, Barko, Wacker and similar type; Trenching machine, hand-propelled

GROUP 4: Asphalt raker, lute person, ironer, asphalt dump person, and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), grinder or sander; Concrete saw person, cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Head rock slinger; Laborer, asphalt- rubber distributor boot person; Laser beam in connection with laborers' work; Oversize concrete vibrator operator, 70 lbs. and over; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until

completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid gas, air, or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No-joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzle person), water blasting, Porta Shot-Blast

GROUP 5: Blaster powder, all work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing; Driller: All power drills, excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and any and all other types of mechanical drills without regard to the form of motive power; Toxic waste removal

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Batch plant laborer; Bull gang mucker, track person; Changehouse person; Concrete crew, including rodder and spreader; Dump person; Dump person (outside); Swamper (brake person and switch person on tunnel work); Tunnel materials handling person

GROUP 2: Chucktender, cabletender; Loading and unloading agitator cars; Nipper; Pot tender, using mastic or other materials (for example, but not by way of limitation, shotcrete, etc.); Vibrator person, jack hammer, pneumatic tools (except driller)

GROUP 3: Blaster, driller, powder person; Chemical grout jet person; Cherry picker person; Grout gun person; Grout mixer person; Grout pump person; Jackleg miner; Jumbo person; Kemper and other pneumatic concrete placer operator; Miner, tunnel (hand or machine); Nozzle person; Operating of troweling and/or grouting machines; Powder person (primer house); Primer person; Sandblaster; Shotcrete person; Steel form raiser and setter; Timber person, retimber person, wood or steel; Tunnel Concrete finisher

GROUP 4: Diamond driller; Sandblaster; Shaft and raise work

-----  
LABO0300-005 01/01/2013

	Rates	Fringes
Asbestos Removal Laborer.....	\$ 27.35	14.95

SCOPE OF WORK: Includes site mobilization, initial site cleanup, site preparation, removal of asbestos-containing material and toxic waste, encapsulation, enclosure and disposal of asbestos- containing materials and toxic waste by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

-----

LABO0345-001 07/01/2013

	Rates	Fringes
LABORER (GUNITE)		
GROUP 1.....	\$ 33.04	17.86
GROUP 2.....	\$ 32.09	17.86
GROUP 3.....	\$ 28.55	17.86

FOOTNOTE: GUNITE PREMIUM PAY: Workers working from a Bosn'n's Chair or suspended from a rope or cable shall receive 40 cents per hour above the foregoing applicable classification rates. Workers doing gunite and/or shotcrete work in a tunnel shall receive 35 cents per hour above the foregoing applicable classification rates, paid on a portal-to-portal basis. Any work performed on, in or above any smoke stack, silo, storage elevator or similar type of structure, when such structure is in excess of 75'-0" above base level and which work must be performed in whole or in part more than 75'-0" above base level, that work performed above the 75'-0" level shall be compensated for at 35 cents per hour above the applicable classification wage rate.

## GUNITE LABORER CLASSIFICATIONS

GROUP 1: Rodmen, Nozzlemen

GROUP 2: Gunmen

GROUP 3: Reboundmen

-----  
LABO1184-001 07/01/2013

	Rates	Fringes
Laborers: (HORIZONTAL DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer...	\$ 30.11	11.83
(2) Vehicle Operator/Hauler.	\$ 30.28	11.83
(3) Horizontal Directional Drill Operator.....	\$ 32.13	11.83
(4) Electronic Tracking Locator.....	\$ 34.13	11.83
Laborers: (STRIPING/SLURRY SEAL)		
GROUP 1.....	\$ 31.06	14.53
GROUP 2.....	\$ 32.36	14.53
GROUP 3.....	\$ 34.37	14.53
GROUP 4.....	\$ 36.11	14.53

## LABORERS - STRIPING CLASSIFICATIONS

GROUP 1: Protective coating, pavement sealing, including repair and filling of cracks by any method on any surface in parking lots, game courts and playgrounds; carstops; operation of all related machinery and equipment; equipment repair technician

GROUP 2: Traffic surface abrasive blaster; pot tender - removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and preparation of surface for coatings. Traffic control person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and traffic bars, adhesives, guide markers, other traffic delineating devices including traffic control. This category includes all traffic related surface preparation (sandblasting, waterblasting, grinding) as part of the application process. Traffic protective delineating system installer: removes, relocates, installs, permanently affixed roadside and parking delineation barricades, fencing, cable anchor, guard rail, reference signs, monument markers; operation of all related machinery and equipment; power broom sweeper

GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and markings, including traffic control; operation of all related machinery and equipment

-----  
LABO1414-001 08/07/2013

	Rates	Fringes
LABORER		
PLASTER CLEAN-UP LABORER....	\$ 27.45	16.36
PLASTER TENDER.....	\$ 30.00	16.36

Work on a swing stage scaffold: \$1.00 per hour additional.

-----  
PAIN0036-001 07/01/2013

	Rates	Fringes
Painters: (Including Lead Abatement)		
(1) Repaint (excludes San Diego County).....	\$ 26.49	11.73
(2) All Other Work.....	\$ 29.82	11.73

REPAINT of any previously painted structure. Exceptions: work involving the aerospace industry, breweries, commercial recreational facilities, hotels which operate commercial establishments as part of hotel service, and sports facilities.

-----  
PAIN0036-006 01/01/2013

	Rates	Fringes
DRYWALL FINISHER/TAPER		
Antelope Valley North of		

the following Boundary:  
 Kern County Line to Hwy.  
 #5, South of Hwy. #5 to  
 Hwy. N2, East on N2 to  
 Palmdale Blvd., to Hsy.  
 #14, South to Hwy. #18,  
 East to Hwy. #395.....\$ 29.19                   14.81  
 Remainder of Los Angeles  
 County.....\$ 33.22                               14.81

PAIN0036-015 06/01/2012

	Rates	Fringes
GLAZIER.....	\$ 38.95	19.83

FOOTNOTE: Additional \$1.25 per hour for work in a condor,  
 from the third (3rd) floor and up Additional \$1.25 per  
 hour for work on the outside of the building from a swing  
 stage or any suspended contrivance, from the ground up

PAIN1247-002 09/01/2013

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 30.85	10.49

PLAS0200-009 08/07/2013

	Rates	Fringes
PLASTERER.....	\$ 36.11	13.13

PLAS0500-002 07/01/2013

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 30.85	21.00

PLUM0016-001 07/01/2013

	Rates	Fringes
PLUMBER/PIPEFITTER Plumber and Pipefitter All other work except work on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space and work on strip malls, light commercial, tenant improvement and remodel work.....	\$ 43.60	20.16
Work ONLY on new additions and remodeling of bars, restaurant, stores and		

commercial buildings not  
to exceed 5,000 sq. ft. of  
floor space.....\$ 42.26                   19.18  
Work ONLY on strip malls,  
light commercial, tenant  
improvement and remodel  
work.....\$ 34.11                   17.51

-----  
\* PLUM0345-001 01/01/2014

	Rates	Fringes
PLUMBER		
Landscape/Irrigation Fitter..\$ 28.56	28.56	19.55
Sewer & Storm Drain Work....\$ 32.50	32.50	17.23

-----  
ROOF0036-002 08/01/2012

	Rates	Fringes
ROOFER.....\$ 34.65	34.65	11.38

FOOTNOTE: Pitch premium: Work on which employees are exposed to pitch fumes or required to handle pitch, pitch base or pitch impregnated products, or any material containing coal tar pitch, the entire roofing crew shall receive \$1.75 per hour "pitch premium" pay.

-----  
SFCA0669-013 07/01/2013

DOES NOT INCLUDE THE CITY OF POMONA, CATALINA ISLAND, AND THAT PART OF LOS ANGELES COUNTY WITHIN 25 MILES OF THE CITY LIMITS OF LOS ANGELES:

	Rates	Fringes
SPRINKLER FITTER.....\$ 34.19	34.19	19.37

-----  
SFCA0709-005 01/01/2013

THE CITY OF POMOMA, CATALINA ISLAND, AND THAT PART OF LOS ANGELES COUNTY WITHIN 25 MILES OF THE CITY LIMITS OF LOS ANGELES:

	Rates	Fringes
SPRINKLER FITTER (Fire).....\$ 40.41	40.41	23.77

-----  
SHEE0105-002 07/01/2013

LOS ANGELES (South of a straight line between gorman and Big Pines including Catalina Island)

	Rates	Fringes
SHEET METAL WORKER		

(1) Light Commercial: Work on general sheet metal and heating and AC up to 4000 sq ft.....	\$ 24.44	8.15
(2) Modernization : Excluding New Construction - Under 5000 sq. ft. Does not include modification, upgrades, energy management, or conservation improvements of central heating and AC equipment.....	\$ 40.74	22.23

SHEE0105-003 07/01/2013

LOS ANGELES (South of a straight line drawn between Gorman and Big Pines)and Catalina Island, INYO, KERN (Northeast part, East of Hwy 395), MONO ORANGE, RIVERSIDE, AND SAN BERNARDINO COUNTIES

	Rates	Fringes
SHEET METAL WORKER		
(1) Commercial - New Construction and Remodel work.....	\$ 40.74	22.23
(2) Industrial work including air pollution control systems, noise abatement, hand rails, guard rails, excluding aritechatural sheet metal work, excluding A-C, heating, ventilating systems for human comfort....	\$ 40.74	22.23

SHEE0105-004 07/01/2013

KERN (Excluding portion East of Hwy 395) & LOS ANGELES (North of a straight line drawn between Gorman and Big Pines including Cities of Lancaster and Palmdale) COUNTIES

	Rates	Fringes
SHEET METAL WORKER.....	\$ 31.38	21.44

TEAM0011-002 07/01/2013

	Rates	Fringes
TRUCK DRIVER		
GROUP 1.....	\$ 27.59	22.69
GROUP 2.....	\$ 27.74	22.69
GROUP 3.....	\$ 27.87	22.69
GROUP 4.....	\$ 28.06	22.69
GROUP 5.....	\$ 28.09	22.69
GROUP 6.....	\$ 28.12	22.69
GROUP 7.....	\$ 28.37	22.69

GROUP 8.....	\$ 28.62	22.69
GROUP 9.....	\$ 28.82	22.69
GROUP 10.....	\$ 29.12	22.69
GROUP 11.....	\$ 29.62	22.69
GROUP 12.....	\$ 30.05	22.69

WORK ON ALL MILITARY BASES:

PREMIUM PAY: \$3.00 per hour additional.

[29 palms Marine Base, Camp Roberts, China Lake, Edwards AFB, El Centro Naval Facility, Fort Irwin, Marine Corps Logistics Base at Nebo & Yermo, Mountain Warfare Training Center, Bridgeport, Point Arguello, Point Conception, Vandenberg AFB]

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Truck driver

GROUP 2: Driver of vehicle or combination of vehicles - 2 axles; Traffic control pilot car excluding moving heavy equipment permit load; Truck mounted broom

GROUP 3: Driver of vehicle or combination of vehicles - 3 axles; Boot person; Cement mason distribution truck; Fuel truck driver; Water truck - 2 axle; Dump truck, less than 16 yds. water level; Erosion control driver

GROUP 4: Driver of transit mix truck, under 3 yds.; Dumpcrete truck, less than 6-1/2 yds. water level

GROUP 5: Water truck, 3 or more axles; Truck greaser and tire person (\$0.50 additional for tire person); Pipeline and utility working truck driver, including winch truck and plastic fusion, limited to pipeline and utility work; Slurry truck driver

GROUP 6: Transit mix truck, 3 yds. or more; Dumpcrete truck, 6-1/2 yds. water level and over; Vehicle or combination of vehicles - 4 or more axles; Oil spreader truck; Dump truck, 16 yds. to 25 yds. water level

GROUP 7: A Frame, Swedish crane or similar; Forklift driver; Ross carrier driver

GROUP 8: Dump truck, 25 yds. to 49 yds. water level; Truck repair person; Water pull - single engine; Welder

GROUP 9: Truck repair person/welder; Low bed driver, 9 axles or over

GROUP 10: Dump truck - 50 yds. or more water level; Water pull - single engine with attachment

GROUP 11: Water pull - twin engine; Water pull - twin engine with attachments; Winch truck driver - \$1.25 additional when operating winch or similar special attachments

GROUP 12: Boom Truck 17K and above

-----  
 WELDERS - Receive rate prescribed for craft performing  
 operation to which welding is incidental.  
 =====

Unlisted classifications needed for work not included within  
 the scope of the classifications listed may be added after  
 award only as provided in the labor standards contract clauses  
 (29CFR 5.5 (a) (1) (ii)).

-----

The body of each wage determination lists the classification  
 and wage rates that have been found to be prevailing for the  
 cited type(s) of construction in the area covered by the wage  
 determination. The classifications are listed in alphabetical  
 order of "identifiers" that indicate whether the particular  
 rate is union or non-union.

#### Union Identifiers

An identifier enclosed in dotted lines beginning with  
 characters other than "SU" denotes that the union  
 classification and rate have found to be prevailing for that  
 classification. Example: PLUM0198-005 07/01/2011. The first  
 four letters , PLUM, indicate the international union and the  
 four-digit number, 0198, that follows indicates the local union  
 number or district council number where applicable , i.e.,  
 Plumbers Local 0198. The next number, 005 in the example, is  
 an internal number used in processing the wage determination.  
 The date, 07/01/2011, following these characters is the  
 effective date of the most current negotiated rate/collective  
 bargaining agreement which would be July 1, 2011 in the above  
 example.

Union prevailing wage rates will be updated to reflect any  
 changes in the collective bargaining agreements governing the  
 rates.

0000/9999: weighted union wage rates will be published annually  
 each January.

#### Non-Union Identifiers

Classifications listed under an "SU" identifier were derived  
 from survey data by computing average rates and are not union  
 rates; however, the data used in computing these rates may  
 include both union and non-union data. Example: SULA2004-007  
 5/13/2010. SU indicates the rates are not union majority rates,  
 LA indicates the State of Louisiana; 2004 is the year of the  
 survey; and 007 is an internal number used in producing the

wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

-----

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor

200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION

**PART G**

**PROJECT SPECIFICATIONS**

# **PROJECT MANUAL**

**TRANSIT FACILITY**

**OF**

**CITY OF TORRANCE**

**TRAINING ROOM**

**&**

**OFFICE RENOVATION**

**TORRANCE, CALIFORNIA**

**PREPARED BY**

**WITHEE MALCOLM ARCHITECTS, LLP**

**2251 WEST 190<sup>TH</sup> STREET  
TORRANCE, CALIFORNIA 90504**

**(310) 217-8885  
FAX (310) 217-0425**

**PROJECT NO. B 2008**

**DATE: DECEMBER - 2013**

## **TABLE OF CONTENTS**

### **DIVISION 1 GENERAL REQUIREMENTS**

- 01010 Summary of Work
- 01015 Definitions
- 01017 Owner-Furnished Items
- 01048 Contractor's Requests For Information
- 01049 Support From Building Structures
- 01060 Regulatory Requirements
- 01070 Abbreviations
- 01300 Submittals
- 01400 Quality Control
- 01500 Construction Facilities and Temporary Controls
- 01600 Material and Equipment
- 01700 Contract Closeout
- 01740 Warranties and Guarantees
- 01900 Miscellaneous Work

### **DIVISION 2 SITE WORK**

- 02579 Pavement Markings, Bumpers, Truncated Domes and Signage

### **DIVISION 3 CONCRETE**

- 03300 Concrete
- 03345 Concrete Finishing
- 03720 Anchorage to Existing Concrete

### **DIVISION 5 METALS**

- 05100 Structural Metal Framing
- 05500 Metal Fabrication

### **DIVISION 6 WOOD AND PLASTIC**

- 06100 Rough Carpentry
- 06200 Finish Carpentry

### **DIVISION 7 THERMAL AND MOISTURE PROTECTION**

- 07210 Building Insulation
- 07260 Intumescent Fireproofing
- 07270 Firestopping
- 07410 Preformed Metal Panels

- 07600 Sheet Metal
- 07900 Calking and Sealants

**DIVISION 8 DOORS AND WINDOWS**

- 08110 Hollow Metal
- 08210 Wood Doors
- 08335 Coiling Doors
- 08400 Aluminum Storefront
- 08710 Finish Hardware
- 08800 Glass and Glazing

**DIVISION 9 FINISHES**

- 09100 Metal Support Systems
- 09250 Gypsum Wallboard
- 09300 Ceramic Tile
- 09510 Acoustical Ceilings
- 09650 Resilient Flooring
- 09690 Modular Carpet Tile
- 09900 Painting
- 09955 Fiberglass Reinforcing Panels (FRP)

**DIVISION 10 SPECIALTIES**

- 10010 Building Specialties
- 10162 Metal Toilet Partitions
- 10500 Metal Lockers
- 10625 Folding Partitions
- 10800 Toilet Accessories

**DIVISION 11 EQUIPMENT**

- 11450 Prefabricated Kitchen Units

**DIVISION 15 MECHANICAL**

- 15000 Mechanical

**DIVISION 16 ELECTRICAL**

- 16000 Electrical

END OF TABLE OF CONTENTS

**SECTION 01010**

**SUMMARY OF WORK**

1.01 DESCRIPTION: The Work includes the renovation of:

CITY OF TORRANCE  
TRANSIT FACILITY  
TRAINING ROOM & OFFICE RENOVATION  
TORRANCE, CALIFORNIA

In strict conformance with the Drawings and Specifications prepared by:

WITHEE MALCOLM ARCHITECTS, LLP  
2251 West 190<sup>th</sup> Street  
Torrance, California 90504  
Telephone (310) 217-8885  
Fax: (310) 217-0425

AND OTHER CONSULTANTS

1.02 WORK NOT IN THE CONTRACT: The term "NIC" means "Not In Contract".  
Following portions of the Work will be provided by the Owner under separate contract or  
other arrangement:

1. All other items indicated or specified as NIC.

1.03 INFORMATION TO CONTRACTORS: The Contractor shall be aware the there are  
various locations discussed in this Manual and not all specification sections are related to  
all locations. Contractor shall use only sections that apply to his exact project.

END OF SECTION

## SECTION 01015

### DEFINITIONS

#### PART 1 - GENERAL

- 1.01 DESCRIPTION: This Section covers additional definitions supplementary to those given in the Conditions of the Contract.
- 1.02 DEFINITIONS:
- A. **Drawings:** Words such as "shown", "indicated", "detailed", "noted", "scheduled", or words of similar import shall mean that reference is made to the information on the Drawings unless stated otherwise.
  - B. **Architect:** Words such as Architect shall mean that of Architect/Engineer unless stated otherwise.
  - C. **Contractor:** Words such as Contractor shall mean specific Prime Contractor(s) unless stated otherwise.
  - D. **Owner/Owner's Representative:** Words such as Owner/Owner's Representative shall mean that of City's Program Manager unless stated otherwise.
  - E. **Construction Manager:** Shall mean the City's Construction Manager.
  - F. **Actions of Architect:** Such words as "directed", "designated", "selected", and words of similar import shall mean that the direction, designation, selection, or similar action of the Architect is intended unless stated otherwise.
  - G. **Required:** The word "required" and words of similar import shall mean, "required to complete the Work" and "required by the Architect", as is applicable to the context of the place where used, unless stated otherwise.
  - H. **Perform:** The word "perform" shall be understood to mean that the Contractor, at his expense, shall perform all the operations necessary to complete the Work or mentioned portions of the Work, including furnishing and installing materials as are indicated, specified, or required to complete such performance.
  - I. **Provide:** The term "provide" shall be understood to mean that the Contractor, at his expense, shall furnish and install the Work and the mentioned portion of the Work, complete and ready for the intended use. These definitions apply the same to future, present, and past tenses except "provided" may mean "contingent upon" where such is the context.
  - J. **Equal:** Terms such as "equal", "approved equal", "equivalent", and all terms of similar import shall be understood to be followed by the phrase "in the opinion of

the Architect" unless stated otherwise. Refer to Section 01600 Materials and Equipment in Paragraph 1.03 for additional definitions and requirements.

- K. Approval:** Such words as "approved", "approval", "acceptable", "acceptance", or words of similar import shall mean that approval, acceptance, or similar import of the Architect is intended unless stated otherwise.
- L. Submit:** Such words as "submit", "submittal", "submission" and terms of similar import shall include the meaning of the phrase "submit to the Architect for his approval" unless otherwise stated.
- M. Expense:** Such terms as "at no extra cost to Owner", "with no extra compensation to Contractor", "at Contractor's expense", or phrases of similar import shall be understood to mean that the Contractor shall perform or provide the operation or Work with no increase to the Contract Sum stated in the Agreement.
- N. Fees and Charges:** To the extent indicated or specified, Contractor shall secure the permits, governmental authorizations, utility fees, licenses, inspections, and all similar requirements and shall pay all costs relating thereto no matter how such costs are defined by the political subdivision, public authorities or agencies, public utilities, telephone company, special district, quasi-governmental entity, or other agency involved.
- O. Language:** Specifications are written in a modified brief style consistent with clarity. Generally, the words "the", "shall", "will" and "all" are not stated. Words requiring an action or performance, such as "perform", "provide", "erect", "install", "furnish", "connect", "test", "coordinate", and words and phrases of similar import, shall be understood to be preceded by the phrase "The Contractor shall" unless otherwise stated. The requirements indicated and specified apply to all Work of the same kind, class, and type, even though the word "all" is not stated.
- P. Titling and Arrangement:** Article, Paragraph, and Subparagraph titles and other identifications of subject matter in the Specifications are intended as an aid in locating and recognizing various requirements in the Specifications. Except where titling forms a part of the text, such as beginning words of a sentence or where the title establishes the subject, the titles are subordinate to and do not define, limit, or otherwise restrict the Specification text. Underlining or capitalizing of any words in the text does not signify or mean that such words convey special or unique meanings having precedence over any other part of the Contract Documents. Specification text shall govern over titling and shall be understood to be and interpreted as a whole. The order of Articles, Paragraphs, Subparagraphs, and Sub-subparagraphs in the Specifications text is defined by the sequence of indentations.

City of Torrance  
Torrance Transit Facility  
Torrance, California

Definitions  
01015 - 3

**PART 2 - PRODUCTS** (Not Applicable)

**PART 3 - EXECUTION** (Not Applicable)

END OF SECTION

## SECTION 01017

### OWNER-FURNISHED ITEMS

#### PART 1 - GENERAL

- 1.01 DESCRIPTION: This Section covers the general requirements for Owner-furnished Contractor-installed (OFCI) equipment.
- 1.02 CONDITIONS: In every case, the Contractor shall be responsible for the correct and properly located installation of the OFCI equipment in accordance with the various manufacturers specifications and instructions.
- A. Conflicts:** Where a conflict occurs between requirements for OFCI equipment and the actual field conditions, Contractor shall not install the affected equipment until the conflict is resolved. No extra payment will be made to Contractor for correction of improper installation of equipment when reasonably adequate data and instructions for installation were furnished by Owner or various equipment manufacturers.
- B. Installation of OFCI Equipment** shall be complete in every detail, with each item accurately and correctly placed, connected, and tested.
- C. Delivery:** OFCI equipment will be delivered to the site of the Work. Contractor shall receive and unload the equipment, place in covered storage or the enclosed building, and be responsible therefore after delivery. Equipment that is damaged or abused during storage or installation operations shall be repaired, replaced, or otherwise made good to the Owner's satisfaction at the Contractor's expense.
- D. Inspection of Delivered Equipment:** Within 10 working days after delivery of the OFCI equipment, Contractor shall open and uncrate the equipment for inspection. The Owner's representative and Contractor shall inspect each item and maintain a written record of all damage, missing parts, and other defects disclosed, all of which will be made good by the Owner. After the inspection, Contractor shall be solely responsible for the equipment as specified above.
- E. Templates furnished** by the various equipment manufacturer's shall be kept at the site for reference and stored readily available to both the Owner and Architect. Deviations from manufacturers' templates will not be approved.
- F. Additional Information:** The Contractor may request and receive from the Owner any necessary additional information, specifications, templates, and the like from any of the manufacturers of the OFCI equipment. Contractor may request a manufacturer's representative to supervise the installation of OFCI equipment items, but at no extra cost to Owner.

**PARTS 2 - PRODUCTS**

2.01 OFCI EQUIPMENT:

- A. **Equipment List:** The list of OFCI equipment is shown on the Drawings or given to Contractor by Owner.
- B. **Installation Materials:** The Contractor shall provide the attachments, fittings, fasteners, connectors, and the like that are necessary for the installations but not regularly furnished by the equipment manufacturers, types as approved.

**PART 3 - EXECUTION**

- 3.01 **INSTALLATION:** In accordance with each equipment manufacturer's specifications, templates, and information, including the necessary assembling of components or sub-assemblies.
- 3.02 **TESTS:** The Contractor shall operate and test each item of OFCI equipment after installation. Should malfunctions occur through no fault of the Contractor, the Owner will make the defect good; otherwise, the Contractor shall effect all the necessary corrections so the equipment operates properly and as intended, at his expense.

END OF SECTION

**SECTION 01048**

**CONTRACTOR'S REQUESTS FOR INFORMATION**

**PART 1 - GENERAL**

1.01 DESCRIPTION: All other sections of Division 1 apply to this Section. This Section covers the general requirements for Contractor's Requests for Information, and pertains to all portions of the contract documents.

**A. Related Work Specified Elsewhere:**

1. Project Meetings - Section 01200
2. Submittals - Section 01300

1.02 DEFINITION: Request for Information, a document submitted by the Contractor requesting clarification of a portion of the contract documents, hereinafter referred to as RFI.

1.03 CONTRACTOR'S REQUESTS FOR INFORMATION:

- A. When the Contractor is** unable to determine from the contract documents, the exact material, process or system to be installed, the Engineer shall be requested to make a clarification of the indeterminate item. Wherever possible, such clarification shall be requested at the next appropriate project meeting, with the response entered into the meeting minutes. When clarification at the meeting is not possible, either because of the urgency of the need, or the complexity of the item, Contractor shall prepare and submit an RFI to the Engineer.
- B. Contractor shall endeavor** to keep the number of RFI's to a minimum. In the event that the process becomes unwieldy, in the opinion of the Engineer, because of the number and frequency of RFI's submitted, the Engineer may require the Contractor to abandon the process and submit all requests as either submittals, substitutions or requests for change.
- C. RFI's shall be submitted** on a form provided by, or approved by, the Engineer. Forms shall be completely filled in, and if prepared by hand, shall be fully legible after copying by xerographic process. Each page of attachments to RFI's shall bear the RFI number in the lower right corner.
- D. RFI's from subcontractors** or material suppliers shall be submitted through, reviewed by, and signed by the Contractor prior to submittal to the Engineer.
- E. Contractor shall carefully** study the contract documents to assure that the requested information is not available therein. RFI's which request information available in the contract documents will not be answered by the Engineer.

- F.** In all cases where RFI's are issued to request clarification of coordination issues, for example, pipe and duct routing, clearances, specific locations of work shown diagrammatically, and similar items, the Contractor shall fully lay out a suggested solution using drawings or sketches drawn to scale, and submit same with the RFI. RFI's which fail to include a suggested solution will not be answered.
- G.** RFI's shall not be used for the following purposes:
1. To request approval of submittals
  2. To request approval of substitutions,
  3. To request changes which entail additional cost or credit.
  4. To differentiate methods of performing work than those drawn and specified.
- H.** In the event the Contractor believes that a clarification by the Engineer results in additional cost, Contractor shall not proceed with the work indicated by the RFI until a change order is prepared and approved. Answered RFI's shall not be construed as approval to perform extra work.
- I.** Unanswered RFI's will be returned with a stamp or notation: Not Reviewed.
- J.** Contractor shall prepare and maintain a log of RFI's, and at any time requested by the Engineer, Contractor shall furnish copies of the log showing all outstanding RFI's. Contractor shall note all unanswered RFI's in the log.
- K.** Contractor shall allow for 14 days review and response time for RFI's.

**PART 2 – PRODUCTS** - Not applicable to this Section.

**PART 3 – EXECUTION** - Not applicable to this Section.

END OF SECTION

## **SECTION 01049**

### **SUPPORTING FROM BUILDING STRUCTURE**

#### **PART 1 - GENERAL**

##### 1.01 CONDITIONS & REQUIREMENTS:

- A.** **The requirements of this** Section relate to various requirements of the Agreement, General and Supplementary Conditions, Specifications, Drawings and all modifying documents, which are part of the Construction Contract. Responsibility for coordination of all such applicable requirements shall be that of the Contractor. Refer to the General Conditions, Supplementary Conditions, and General Requirements.

##### 1.02 DESCRIPTION:

- A.** **This section provides** guidelines and limitations for supporting all mechanical, electrical, plumbing, equipment or architectural items from the building structure, and for seismic bracing for all such items.
- B.** **Design and install all** support and bracing systems except as noted. Provide for attachment to portions of the building structure capable of bearing the loads imposed. Design systems to not overstress the building structure.
- C.** **The Contractor is not** required to design support and bracing for items for which the contract documents provide specific attachment, support, and bracing. Seismic bracing is not required for the following items:
1. Gas piping less than 1" inside diameter.
  2. All other piping less than 2.5" inside diameter, unless racked together.
  3. All piping and duct suspended by individual hangers 12" or less in length.
  4. All rectangle air handling ducts less than 6 square feet in cross sectional area.
  5. All round air handling ducts less than 28" in diameter.
  6. All electrical conduits less than 2.5" inside diameter, unless racked together.

##### 1.03 QUALITY ASSURANCE

- A.** **Design and install** all support systems to comply with the seismic zone 4 requirements of the 2007 California Building Code (CBC) Chapter 16.
- B.** **For seismic bracing** design and gravity support design use the services of a professional engineer licensed in California.

- C. **For seismic bracing** for mechanical, electrical and plumbing systems, refer to the Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA), "Seismic Restraint Manual: Guidelines For Mechanical Systems" for guidelines.

1.04 SUBMITTALS:

- A. **Submit shop drawings** for all substructures and attachment methods.
- B. **Submit proposed alternative** methods of attachment for review and approval by the Architect, prior to deviating from the requirements given below.
- C. **For all seismic bracing** systems and gravity support systems, submit structural calculations and details prepared and signed by the Contractor's licensed professional engineer, which include all resultant forces applied to the building structure. Do not overstress the building structure. Calculations will be reviewed for compliance with design criteria only.

**PART 2 - PRODUCTS**

2.01 MATERIALS:

- A. **Furnish all substructures** and fasteners required to comply with the limitations given below. Use materials as specified in the various sections and as appropriate to the use.
- B. **Channel framing systems:** as specified in Section 05500.
- C. **All exterior materials:** hot dipped galvanized or stainless steel.

**PART 3 - EXECUTION**

3.01 GUIDELINES & LIMITATIONS:

- A. **The General Contractor** shall coordinate the load requirements from all subcontractors so that no combination of loads exceeds the limitations given below.
- B. **Wood Structure:**
  - Support no loads from plywood deck.
  - At 2x4 or other stiffeners of roof panels, hang no loads.
  - At GLB girders, hang no loads greater than 200 pounds without consultation.
  - For multiple loading (on girder or from incoming purlin) submit drawings for Architect's review.
  - At floor joists, a concentrated load of 150 pounds maximum may be placed

anywhere along the span.

Place all fasteners for hanger support within the middle 1/3 of the member depth.

Total loads superimposed on the roof structure shall not exceed the equivalent design loading of 4.5 pounds/square foot.

### 3.02 SEISMIC BRACING:

- A. **In applying formulae** (32-1) or (32-2) from Chapter 16 of the 2007 CBC the value for "Ip" (importance factor) shall be assumed to be no less than 1.5, unless a higher value is required by the CBC.
- B. **Design and install** seismic bracing so as not to ground out vibration and sound isolation items.
- C. **All items of mechanical** and electrical equipment shall be seismically braced whether such bracing is shown or not.

END OF SECTION

**SECTION 01060**

**REGULATORY REQUIREMENTS**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 and this Section covers general requirements for codes and standards pertaining to the Work and is supplementary to the codes and standards mentioned or referenced elsewhere in the Contract Documents.

1.02 CODES AND STANDARDS:

- A. Requirements of Regulatory Agencies:** All pertaining statutes, ordinances, laws, rules, codes, regulations, standards, and lawful orders of public authorities having jurisdiction of the Work of this Contract are hereby incorporated into the Contract Documents the same as if repeated in full herein and are intended wherever reference is made in either the singular or plural to Code or Building Code except as otherwise specified, including, but not limited to, those in the following listing. Contractor shall make available at the site such copies of the listed documents applicable to the Work as Architect or Owner may request, including mentioned portions of the California Code of Regulations (CCR).
1. 2010 California Building Code of jurisdiction including any amended requirements by the City of Torrance Building Department approvals for materials, equipment, systems, and designs as applicable to the Work.
  2. Title 8 CCR, Industrial Relations, including Chapter 4, Div. of Industrial Safety, Safety Orders (CAL/OSHA).
  3. Title 19 CCR, Public Safety.
  4. Title 22 CCR, Social Security.
  5. 2010 CBC Title 24, Building Standards, including ADA regulations, architectural barrier laws and regulations regarding disabled persons.
  6. 2010 CBC and Local Mechanical Codes.
  7. 2010 CBC and Local Plumbing Codes.
  8. Local and State Elevator Codes.
  9. 2010 CBC and Local and 1998 National Electrical Codes.
  10. 2010 CFC and Current Edition of National Fire Protection Association.
  11. State and Local Public Health Codes.
  12. (SSPWC) Standard Specifications for Public Works Construction, Current Edition.
  13. All other laws, regulations, rules, orders, codes, and ordinances specified in other Sections of these Specifications or bearing on the Work.

END OF SECTION

**SECTION 01070**

**ABBREVIATIONS**

**PART 1 - GENERAL**

- 1.01 DESCRIPTION: This Section covers abbreviations for the documents mentioned or referenced elsewhere in the Contract Documents, and language abbreviations used in the text of the Specifications. Abbreviations in Drawings and Specifications shall be interpreted according to recognized and well-known technical, industry, or trade meanings.
- 1.02 TRADE ABBREVIATIONS include but are not limited to the following:

AA	Aluminum Association
AABC	Associated Air Balance Council
AAMA	Architectural Aluminum Manufacturers Association
AASHTO	American Association of State Highway and Traffic Officials
ACI	American Concrete Institute
ADC	Air Diffusion Council
AEIC	Association of Edison Illuminating Companies
AFBMA	Anti-Friction Bearing Manufacturers Association
AFI	Air Filter Institute
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AIA	American Institute of Architects
AIMA	Acoustical and Insulating Materials Association
AISC	American Institute of Steel Construction, Inc.
AISI	American Iron and Steel Institute
AMCA	Air Moving and Conditioning Association, Inc.
ANSI	American National Standards Institute
ARI	Air Conditioning and Refrigeration Institute
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASSE	American Society of Sanitary Engineers
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWPB	American Wood Preservers Bureau
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
CBM	Certified Ballast Manufacturers
CCR	California Code of Regulations (Formerly CAC)
CDA	Copper Development Association
CGA	Compressed Gas Association

CISPI	Cast-Iron Soil Pipe Institute
CS	Commercial Standard, US Department of Commerce
CTI	Cooling Tower Institute
DEMA	Diesel Engine Manufacturers Association
DOD-	Department of Defense (leading symbol)
EIA	Electronic Industries Association
ETL	Electrical Testing Laboratories
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
Fed Spec	Federal Specification or Standard
FIA	Factory Insurance Association
FM	Factory Mutual
HI	Hydraulic Institute
IEEE	Institute of Electrical and Electronic Engineers
IES	Illuminating Engineering Society
IPCEA	Insulated Power Cable Engineers Association
ISO	International Standards Organization
MIL	Military Specification or Standard (leading symbol)
MSS	Manufacturers Standardization Society
NAAMM	National Association of Architectural Metal Manufacturers
NAFM	National Association of Fan Manufacturers
NBS	National Bureau of Standards
NEBB	National Environmental Balancing Bureau
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFC	National Fire Code
NFPA	National Fire Protection Association
NSF	National Sanitation Foundation
NWWDA	National Wood Window and Door Association
OSA	Office of the State Architect
PDI	Plumbing and Drainage Institute
PS	Product Standard, US Department of Commerce
REA	Rural Electrification Administration
RIS	Redwood Inspection Service
SAE	Society of Automotive Engineers
SDI	Steel Door Institute
SFM	State Fire Marshal
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SSPC	Steel Structures Painting Council
UL	Underwriters' Laboratories, Inc.
WCLIB	West Coast Lumber Inspection Bureau
WIC	Woodwork Institute of California
WWPA	Western Wood Products Association

1.03 TEXT ABBREVIATIONS include but are not limited to the following:

AMP or amp	Ampere
CFM or cfm	Cubic feet per minute
FPM or fpm	Feet per minute
FPS or fps	Feet per second
GPM or gpm	Gallons per minute
Kip or kip	Thousand pounds
Ksi or ksi	Thousand pounds per square inch
Ksf or ksf	Thousand pounds per square foot
KV or kv	Kilovolt
KVA or kva	Kilovolt amperes
KW or kw	Kilowatt
KWH or kwh	Kilowatt hour
LF or lf	Linear foot
MPH or mph	Miles per hour
PCF or pcf	Pounds per cubic foot
PSF or psf	Pounds per square foot
PSI or psi	Pounds per square inch
SF or sf	Square foot
SY or sy	Square yard

**PART 2 - PRODUCTS** (Not applicable to this Section)

**PART 3 - EXECUTION** (Not applicable to this Section)

END OF SECTION

**SECTION 01300**

**SUBMITTALS**

**PART 1 - GENERAL**

1.01 DESCRIPTION: This Section covers the general requirements and procedures for submittals.

**A. Submittal Requirements In This Section:**

1. Schedule of submittals and transmittals.
2. Deviations.
3. Contractor's review and approval.
4. Corrections and resubmittals.
5. Review and approval.
6. Shop Drawings, samples, and product and equipment data.
7. Manufacturers' instructions.
8. Materials furnished under standard specifications.
9. Certificates.

**B. Submittal Requirements Not In This Section:**

1. Performance and payment bonds, insurance - Conditions of the Contract.
2. Record Drawings, manuals, and maintenance materials - Section 01700.
3. Warranties and guarantees - Section 01740.

1.02 GENERAL SUBMITTAL REQUIREMENTS: Submit to the Architect all submittals required herein, under other Sections, or by Modifications except as otherwise indicated, specified, or directed. Submittals shall be correctly prepared, identified, and transmitted as specified herein or as otherwise directed. Prepare submittals according to the requirements herein and as may be specified in other Sections.

**A. Conformance:** Do not purchase or commence any Work covered by a submittal until the pertaining submittal is approved. Work shall conform to approved submittals and all other requirements of Contract Documents unless revised by Modification, in which case submit revised submittals as directed or required at no extra cost to the Owner. Do not start related Work affected by Work covered in submittals until applicable submittals are approved, especially where machinery, equipment, piping, conduit, and required arrangements and clearances are involved.

**B. Schedule of Submittals:** Submit within 10 days of the Award of the Contract, the Progress Schedule submitted by the Contractor shall include an itemized listing of all required submittals with a scheduled date for each submittal, and shall allow reasonable times for review by the Architect and various Consultants plus time for delivery or return. Contractor shall consult with Architect regarding

major and/or large submittals and time periods required by the Architect for the reviews prior to preparation of the Progress Schedule. Extension of the Contract Time will not be granted because of the Contractor's failure to make timely and correctly prepared and transmitted submittals with an adequate and approved time allowance for the checking and review periods.

- C. Transmittals:** Deliver submittals with a dated and sequence numbered transmittal letter typed on Contractor's letterhead, noted as to the initial or resubmittal status, and describing the submittal contents. Submittals are not acceptable directly from Subcontractors, suppliers, or manufacturers. In each transmittal state the Drawing numbers and Specification Section, Articles, and Paragraphs to which the submittal pertains and identify accompanying data, catalogs, drawings, sketches, and brochures in the same manner. Include Transaction Log on Transmittal Form i.e

To Architect:            (Date)\_\_\_\_  
To Consultant:           \_\_\_\_\_  
From Consultant        \_\_\_\_\_  
To Contractor           \_\_\_\_\_

- D. Deviations:** Notify the Architect in the transmittals of all deviations from the requirements of the Contract Documents. Fully describe each deviation and all other changes required to correlate the Work including the related Work. State in writing all variations in costs caused by each deviation and the Contractor's assumption of costs for the deviation and of all related costs if any deviation is approved.
- E. Contractor's Review and Approval:** Every submittal upon which proper execution of the Work is dependent shall bear the Contractor's review and approval stamp, dated and signed by Contractor in every case, certifying that Contractor (a) has reviewed, checked, and approved the submittal and has coordinated (missing dimensions or information requested on Submittal) the submittal contents with requirements of the Work and Contract Documents including related Work, (b) determined and verified quantities, field measurements, construction criteria, materials, equipment, catalog numbers and identifications, and similar data, or will do so, and (c) states that Work illustrated or described in the submittal is recommended by Contractor and that Contractor's warranty will fully apply thereto.
- F. Corrections and Resubmittals:** Contractor shall make corrections required by the Architect, resubmit corrected submittals until they are approved, shall direct specific attention in writing to all revisions other than corrections called for on previous submittals, and shall state in writing all changes in costs for such revisions and assumption of all costs for revisions and related changes the same as is required for deviations in Paragraph "Deviations".

- G. Check of Returned Submittals:** Contractor shall check and review the submittals returned for correction and ascertain whether the required corrections result in extra cost above that included in the Contract, and shall give written notice to the Architect within 5 working days if, in the Contractor's opinion, extra costs result from corrections. The Contractor's failure to give such written notice or the starting of any Work covered by a returned submittal constitutes a waiver by the Contractor of claims for extra costs resulting from required corrections.
- H. Review And Approval Of Submittals By The Architect:** Submittals will be reviewed with reasonable promptness, but only for conformance with the design concept of the Project and with the information indicated on the Drawings and stated in the Specifications. Approval of a separate item as such will not indicate approval of the assembly in which the item functions. Approval of submittals shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents or for any revision in resubmittals unless Contractor has given written notice of such deviation or revision at the time of submission or resubmission and written approval has been given to the specific deviation or revision, nor shall approval relieve the Contractor of responsibility for errors or omissions in the submittals or for the accuracy of dimensions and quantities, the adequacy of connections, and the proper and acceptable fitting, execution, functioning, and completion of the Work.
- I. Incomplete Or Inadequate Submittals,** including those not correctly transmitted, titled, and identified, or not bearing Contractor's review and approval stamp, will be returned to the Contractor without review.
- J. Interrelated Submittals:** Except where the preparation of submittal information is dependent upon the approval of any prior submittal, all submittals pertaining to the same class or portion of the Work shall be submitted simultaneously.
- K. Expense:** All cost for the preparation, correction, delivery, and return of the submittals shall be borne by Contractor.

#### 1.03 SUBMITTAL REQUIREMENTS FOR COMMISSIONING

- A. Normal Submittals:**
1. The Commissioning Authority will receive a copy of the normal submittals for equipment to be commissioned.
  2. The Commissioning Authority will review normal Contractor submittals applicable to systems being commissioned for compliance with commissioning needs, concurrently with review by the Architect and Responsible Engineer.

**B. Data for Commissioning:**

1. The Contractor will receive a written request from the Commissioning Authority requesting specific information needed about each piece of commissioned equipment or system. This will include detailed manufacturer installation and start-up, operating, troubleshooting and maintenance procedures, full details of any owner-contracted tests, fan and pump curves, full factory testing reports and full warranty information, including all responsibilities of the Owner to keep the warranty in force clearly identified. In addition, the installation and checkout materials that are actually shipped inside the equipment and the actual field checkout sheet forms to be used by the factory or field technicians shall be submitted to the Commissioning Authority.
2. The Commissioning Authority may request further documentation necessary for the commissioning process.
3. This data request may be made prior to normal submittals.
4. Much of this information is contained in the regular O&M manual submittals normally submitted in the project and is required prior to the regular formal O&M manual submittals.

- C. Contractor's responsibility for deviations** in submittals from requirements of the Contract Documents is not relieved by the Commissioning Authority's review.

**PART 2 - PRODUCTS** (Not Applicable)

**PART 3 - EXECUTION**

- 3.01 **SHOP DRAWINGS:** Prepare each submittal complete including all dimensions, design criteria, materials, connections, bases, foundations, anchors, and the like, and further including such technical and performance data as is necessary to confirm the information in the Shop Drawings. Issue Shop Drawings as a PDF File or Hard Copy. Cad Files may or may not be available, contact Architect for availability and fee required.

**Copies of the Contract Drawings marked to show Shop Drawing information are not acceptable and will be returned to the Contractor unreviewed.** Each Shop Drawing shall have an adequate title block showing the following identification:

- Name and address of the Work.
- Name and address of the Contractor.
- Name and address of the Subcontractor, Subsubcontractor, manufacturer, supplier, or distributor, as applicable.
- Name and address of the Architect.
- Date, scale of drawings, and identification number.
- Contractor's review and approval stamp, dated and signed.

- A. Initial and Resubmittals:** Submit Shop Drawings in sets consisting of one reproducible and three blue-line prints.
- B. Correction and Approval of Shop Drawings:** The Architect will mark corrections, notations, or approval on printed sheets and return them to the Contractor. Resubmit in same manner if Shop Drawings are not approved.
- C. Final Distribution:** Furnish and distribute prints of approved Shop Drawings as required for performance of the Work.

3.02 **SAMPLES:** Unless otherwise specified, each submittal shall include (4) Four complete sets of Samples. Two sets of approved Samples and all disapproved Samples will be returned to Contractor. Samples of value retained by Architect will be returned to Contractor after completion of the Work if the Contractor's first transmittal for the Sample requests its return. Approved Samples of items returned to Contractor may be installed in the Work if the location is recorded and the Samples bear temporary identification as such.

3.03 **PRODUCT AND EQUIPMENT DATA SUBMITTALS:**

- A. Product Data** shall include materials lists, catalogs, brochures, performance and technical data, service history, characteristics, and like information to fully describe the products covered by the submittal.
  - 1. **Submittal Preparation.** Bind submittal copies with sturdy labeled covers and include a typed index listing the contents. Loose or unbound submittals will be returned unreviewed. For each item listed, include the manufacturer's name and address, the trade or brand name, all conditions of manufacturer's guarantee and warranty, information to fully describe each item, and supplementary information as may be required for approval. Mark clearly and completely cuts, brochures, and data to indicate the items proposed and the intended use.
  - 2. **Product Data Submittals.** Unless otherwise specified, every submittal shall include four bound copies. One copy will be returned to the Contractor marked to show the required corrections or approval. If corrections are required, the final submittal shall include four bound corrected copies.
- B. Equipment Data:** Submit complete technical, performance, and catalog information for every item of mechanical and electrical equipment and machinery proposed for installation in the Work, bound, indexed, and containing information and data as required in Paragraph "Product Data" above. Include information on performance and operating curves, ratings, capacities, characteristics, power efficiencies, manufacturers' standard guarantees and warranties with the terms and conditions fully described, and all other information to fully illustrate and describe the items as may be specified or required for

approval. Submit in sets which cover complete systems or functioning units. Unless otherwise specified, submittals shall be as specified in Subparagraph "Product Data Submittals". If applicable, incorporate the equipment data into and submit with the manuals specified under Section 01700.

- 3.04 MANUFACTURERS' INSTRUCTIONS: Submit manufacturers' installation instructions and directions for materials specified to be installed in accordance with such instructions to demonstrate the adequacy of the instructions. Furnish copies to all trades involved.
- 3.05 MATERIALS FURNISHED UNDER STANDARD SPECIFICATIONS: For materials specified by reference to standard or reference type specifications, prepare and submit for approval a list of such materials by manufacturer's names and identifications to the extent requested by the Architect or Owner.
- 3.06 CERTIFICATES: Deliver all certificates to Architect. Each certificate required under the Contract Documents shall be signed by the individual, officer, or the agent lawfully authorized to execute the certificate, and such authority shall be cited in the certificate by title, description, or other acceptable evidence. All certificates shall be sworn and notarized as to the correctness and validity of the contents, and copies shall be notarized to be true copies.

END OF SECTION

**SECTION 01400**

**QUALITY CONTROL**

**PART 1 - GENERAL**

1.01 DESCRIPTION: This Section covers general requirements for quality control of the Work, including testing and inspection procedures.

**A. Requirements In This Section:**

1. Testing laboratory or agency.
2. Geotechnical (Soils or Foundation) Engineer.
3. Coordination of tests and inspections.
4. Test costs and reports.
5. Inspections, continuous and special.
6. Contractor-furnished assistance.
7. Verification of conditions.

**B. Requirements Not In This Section:**

1. Specific test procedures in other Sections to be performed in accordance with this Section.
2. Testing of electrical work.
3. Testing of materials specified to be tested by other agencies under other Section.

1.02 GENERAL QUALITY CONTROL REQUIREMENTS:

**A. General Test Requirements:** Materials to be furnished under the Contract are subject to testing and inspection for compliance with requirements of Drawings and Specifications.

**B. Testing Laboratory or Agency** shall be the licensed Testing Laboratory or Agency, being acceptable to the City having jurisdiction and certified as meeting the requirements of ASTM D3666, D3740, E329, E543, and E548 as applicable to the Work and approved by the Owner, and referred to hereafter as the Testing Laboratory. Perform all testing under supervision and control of a California registered professional engineer employed by Testing Laboratory.

**C. Soils or Foundation Engineer** will be the registered professional Geotechnical Engineer employed and paid by Owner.

**D. Disqualified Material:** Any material shipped or delivered to the site by the Contractor from the source of supply prior to having satisfactorily passed the required testing and inspection, or prior to the receipt of a notice from the

Architect that such testing and inspection will not be required, shall not be incorporated in the Work.

1.03 COORDINATION OF TESTS AND INSPECTIONS: Contractor shall initiate and coordinate testing and inspections required by Contract Documents and public authorities having jurisdiction of the Work.

**A. Notification:** Contractor shall notify the Owner a sufficient time in advance of the manufacture of material to be supplied by him which, by requirements of the Contract Documents, must be tested at the source of supply in order that the Owner may arrange for the testing.

1.04 TEST SAMPLES AND PROCEDURES:

**A. Test Samples:** Furnish and deliver Samples of materials to be tested at no extra cost to Owner. Test samples will be selected by the Architect, Inspector, or Testing Laboratory and not by the Contractor.

**B. Test Procedures:** Testing Laboratory shall perform tests according to ASTM or other methods of test specified for the various materials under other Sections. If no procedure or test method is specified, testing shall conform to material specification referenced unless otherwise directed by Architect. The Testing Laboratory shall tag, seal, label, record, or otherwise suitably identify the materials for testing and no such materials shall be used in the Work until the test result reports are submitted and approved, excepting only the materials specified to be placed or installed prior to testing.

**C. Test Repeating:** Repeat applicable tests at specified intervals, whenever the source of supply is changed, or whenever the characteristics of the materials change or vary in the opinion of Owner or Architect.

1.05 TEST COSTS: Owner will pay for testing performed by Testing Laboratory except Contractor shall reimburse the Owner for retesting costs caused by failure of materials to pass initial tests. Contractor shall arrange and pay for all other testing.

1.06 INSPECTION AND TEST REPORTS: Furnish copies of each inspection and test result report, signed and certified by the Testing Laboratory supervising engineer, as follows:

	<b>Copies</b>
Owner	1
Architect	1
Structural Engineer (structural inspection and test only)	1
Contractor	2
Building Department	1

1.07 INSPECTIONS, CONTINUOUS AND SPECIAL:

- A. Inspections**, continuous and special, shall be performed by Registered Deputy approved by Agency, or Special Inspectors (hereinafter referred to as the Inspector) as required by the Contract Documents and Building Code. During course of Work under inspection, each Inspector shall submit detailed reports relative to progress and condition of Work including variances from the Contract Documents, and stipulating dates, hours, and locations of the inspections.
- B. Inspection Costs:** Owner will employ Inspector and pay for required continuous and special inspections.
- C. Reimbursement of Inspection Costs:** The Contractor shall reimburse to the Owner all or any part, as the Owner may deem just and proper, of the actual excessive inspection costs incurred by the Owner due to any or all of the following:
1. Contractor's failure to complete the Work within the Contract Time stated in the Agreement, and any previously authorized extensions thereof.
  2. Claims between separate contractors.
  3. Covering of any of the Work before the required inspections or tests are performed.
  4. Extra inspections required for Contractor's correction of defective Work.
  5. Overtime costs for acceleration of Work done for Contractor's convenience.
- D. Approvals Required by Others:** If the laws, ordinances, rules, regulations, or orders of any public agency having jurisdiction require any of the Work to be specifically inspected, tested, or approved by some authority other than the Owner, Architect, or Contractor, the Contractor shall give all required notices and make all arrangements, shall deliver to the Architect the certificates of inspection, testing, or approval of such public agency, and shall pay all costs therefor unless otherwise provided in the Contract Documents.

1.08 **CONTRACTOR-FURNISHED ASSISTANCE:** Whenever requested, Contractor shall furnish access, facilities, and labor assistance as necessary for duties to be performed at the site by Testing Laboratory and Inspector including furnishing ladders, hoisting, temporary lighting and water supply, and like services.

1.09 **VERIFICATION OF CONDITIONS:** Prior to installation of any portion of the Work, the installing Contractor, Subcontractor, or Sub-subcontractor shall inspect the Work in place to receive the Work to be installed and arrange for correction of defects in the existing workmanship, material, or conditions that may adversely affect Work to be installed. Such inspections shall include test applications of the materials to be installed as required to establish the correct condition of surfaces involved. Installation of materials on Work in place constitutes acceptance by the installing

Contractor, Subcontractor, or Sub-subcontractor of such Work in place as being in proper condition to receive the materials to be applied and waiver of claim that the Work in place is defective as pertains to warranty requirements, excluding unascertainable or concealed conditions. Where the Specifications require a material to be installed under the supervision or inspection of the material manufacturer or his representative, manufacturer or his representative also shall inspect the Work in place and issue a letter of approval to Architect.

**PART 2 - PRODUCTS** (Not Applicable)

**PART 3 - EXECUTION**

3.01 TESTS AND INSPECTIONS: Contractor will pay for the following testing and inspections except as stated otherwise for specific items.

**A. Concrete Work:**

1. Mix design of concrete - costs paid by Contractor.
2. Conformance testing of materials - costs paid by Contractor.
3. Casting and testing of cylinders.
4. Inspector during construction of Tilt-up panel formwork
5. Inspector during placing of concrete.

**B. Reinforcing Steel:**

1. Review and approval of mill certificates.
2. Conformance testing of bars - costs paid by Contractor.
3. Inspector for welding of bars.
4. Inspector during placement of bars.

END OF SECTION

## **SECTION 01500**

### **CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS**

#### **PART 1 - GENERAL**

1.01 DESCRIPTION: This Section covers general requirements for construction facilities and temporary controls for the Work.

**A. Work In This Section:** Principal items include:

1. Temporary barricades.
2. Temporary storage facilities.
3. Temporary offices and telephones.
4. Temporary toilet facilities.
5. Temporary utility services.
6. Temporary facilities for Work in existing buildings.
7. Removal of temporary facilities.
8. Construction project sign.

1.02 GENERAL: Drawings indicate building site and related areas of Owner's property available for the Work. Keep areas orderly, free of hazards, and leave in clean condition acceptable to Architect, Owner, and governing public authorities.

#### **PART 2 AND 3 - PRODUCTS AND EXECUTION**

2.01 TEMPORARY BARRICADES: Provide solid or fencing type barricades. Construct and relocate or alter as required by the Owner, Architect, Code, or public authorities having jurisdiction. Paint solid barricades exposed to public view with 2 coats of paint in colors designated by Architect. Secure and pay for building and street use permits and inspections required by Code.

2.02 TEMPORARY STORAGE FACILITIES: Provide temporary storage facilities necessary to protect materials and equipment delivered to site from damage. Maintain sheds in a clean and sightly condition. Distribute all materials stored in permanent structures to prevent overloading of floors or structure. If on-site storage area is inadequate, arrange and pay for necessary off-site facilities.

2.03 OFFICES AND TELEPHONES: Provide office space on site as required. Office may be temporary construction but waterproof, weathertight, insulated, well lighted, floored, heated, air conditioned and accessible to Owner, Architect, and their representatives; approved mobile units having equivalent facilities may be furnished and equipped with an adequate table, plan rack, desk, and chairs, and a non-pay telephone and fax for business use without charge. The office, equipment, and furniture shall remain the property of the Contractor.

- 2.04 **PROJECT SIGN:** If allowed by Owner, provide a sign of 3/4" x 4'-0" x 8'-0" (maximum size) exterior grade Douglas fir plywood face with a rigid frame, having painted background and lettered name of the project and names of Owner, Architect, and Contractor in accordance with sketches prepared by the Architect. Place no other signs on or adjacent to premises. Locate sign where directed. Obtain and pay for building permit for sign, if required by Code.
- 2.05 **TOILET FACILITIES:** Install temporary toilets for workmen and maintain toilets in a clean and sanitary condition. Locate as approved and connect to existing sewers when feasible. Chemical toilets may be used if approved by local Code.
- 2.06 **UTILITY SERVICES:** Send proper notices, make necessary arrangements, provide services required in care and maintenance of public utilities, and assume the responsibility concerning same for which Owner may be liable. Do all necessary enclosing or boxing in for protection of public utilities. Upon completion of the Work, remove enclosures, fill in openings in concrete or masonry with like materials, grout watertight, and leave in finished condition. **Utilities serving other Buildings shall remain in service at all times.**
- 2.07 **TEMPORARY FACILITIES FOR WORK IN EXISTING BUILDINGS:**
- A. Noise and Dust Control Barriers:** Prior to start of Work, coordinate with Owner as to location for barriers to ensure that no interference is caused to use of occupied portions of buildings.
1. **Barriers.** To the extent indicated or directed, provide dustproof and sound deadening barriers between new Work areas and occupied portions of the existing facilities before Work is commenced. Construct barriers of 1/2" thick gypsum wallboard or minimum 1/4" thick plywood on a wood frame, or equal. Provide a filler of 2" thick batt insulation and a ply of kraft paper. Seal joints in barriers and to existing work with a pressure sensitive masking tape. Maintain barriers in a clean, neat, dustproof and sound deadened condition until their need is fully satisfied and removal is approved or directed by Owner. Install doors with weatherstripping and locking hardware where directed by the Owner. Locate all barriers so as not to obstruct use of existing room doors, doors to existing stairways, or access to and through legal exit ways.
  2. **Temporary Filters.** Provide temporary filters over existing air conditioning or ventilating return air systems where dust or fumes may spread from new Work areas into existing buildings. Use approved commercial viscous-coated throwaway filters, or equal. Clean existing ducts and plenums that are soiled from lack of proper protection as directed, at no extra cost to Owner.
- B. Toilet Facilities:** Existing facilities are not to be used by workmen on the Work or other personnel of the Contractor, unless otherwise designated by the Owner. The toilets are for City personnel only.

- C. Interior Traffic Signs:** Post signs in existing facilities to re-route occupants to legal exits where such have been closed with prior permission of Owner.
- D. Interior Traffic Control:** Provide foot traffic control barriers in corridors, passages, and lobbies to be used by occupants during the Work. Erect barriers before starting Work in the involved areas and relocate as the Work progresses. Allow for space outside the barriers sufficiently wide to permit foot traffic in both directions without congestion. Return barriers across working area to both sides of doorways that are to remain in use. Furnish barriers of wood or metal posts with weighted bases and connected by rope guards, or equivalent. Provide suitable warning signs on posts at both ends of barrier runs and as required elsewhere. Keep debris and materials out of walking areas.
- E. Temporary Utilities:** Owner will furnish electrical power, water, and gas from existing outlets designated by Owner without charge to Contractor for quantities used in the Work. Provide all temporary piping, fittings, wiring, and lighting necessary to supply utilities in sufficient quantities at locations required by the Work.
1. **Electrical Power.** Characteristics of current furnished by Owner is limited to that existing and available; if current of other characteristics or quantity is required by Contractor, he shall supply the power as necessary at no extra cost to Owner. Power for small tools and lighting may be taken from existing 120-volt 60 Hz 1-phase convenience receptacles provided there is no disturbance to occupants and functions, cables and conductors do not prevent the closing of fire-labeled doors, and the load connected to any single or duplex outlet does not exceed 12 amperes. Total load connected to any circuit shall not exceed 25% of the circuit capacity as labeled in panel board. At his expense, Contractor shall repair and make good all damage to existing electrical facilities caused by his use, as directed and approved.
  2. **Water.** Owner will furnish water at existing outlets that do not interfere with normal operation of the facilities. In general, obtain water from outlets in janitor and similar utility rooms. If used, do not run hoses down corridors or across doorways in use by occupants. Provide temporary backflow prevention devices as required by Code or directed by Owner.
  3. **Gas.** Limit the quantity used to the amount that causes no interference to existing gas-fired devices and equipment.
- F. Temporary Exterior Closures:** Provide as required to maintain the weatherproof and watertight integrity of the existing facilities.
- G. Rolling Interior Scaffolds:** Equip rolling scaffolds with pneumatic tires and rubber bumpers to prevent damage to walls and finishes. Except where an entire corridor or space is made available for Contractor's exclusive use, fixed and rolling scaffolds shall occupy no more than one-half the width of the area, and

shall not block doors and doorways in use by occupants. Protect floors with planks or similar material as required to prevent marring or damage.

**H. Control of Construction Water:** Provide impermeable floor coverings and suitable dams to prevent damage by the water used for the Work. Immediately clean up and remove all surplus water and water spilled in non-working areas.

2.08 REMOVAL OF TEMPORARY CONSTRUCTION: Remove all temporary facilities and other construction of temporary nature from site as soon as progress of the Work will permit in opinion of the Architect. When authorized, Contractor may move his facilities into designated areas of completed portions of the building. Upon completion of the Work, recondition and restore portions of site and building occupied by temporary facilities to acceptable condition.

END OF SECTION

**SECTION 01600**

**MATERIAL AND EQUIPMENT**

**PART 1 - GENERAL**

1.01 DESCRIPTION: This Section covers the general requirements for the materials and equipment for the Work. Specific requirements for materials and equipment are covered under other Sections of the Specifications.

**A. Requirements In This Section:**

1. Submittals for:
  - a. Factory finish colors.
  - b. Standard materials.
2. Proposed substitutions.
3. Materials, regarding:
  - a. Equal materials.
  - b. Optional materials.
  - c. Plurality of terms.
  - d. Factory finish colors.
4. Transporting and handling.
5. Storage and protection.

1.02 SUBMITTALS: Refer to Section 01300.

**A. Submittals for Factory Finish Colors:** Whether or not required elsewhere, submit color samples of materials specified to have a factory finish for selection and approval.

**B. Submittal for Standard Materials:** For the products specified by reference to standard or reference specifications, prepare and submit for approval a list of such materials or equipment by manufacturers' names and identifications to the extent requested by Architect.

1.03 PROPOSED SUBSTITUTIONS: Submit proposed substitutions prior to Bidding to the Architect for approval. Contractor will be notified of the approved substitutions by Addendum. Architect may require the submission of Drawings, Product Data, Samples, and other information in approved form for consideration of proposed substitutions.

**A. Approval or Rejection** of proposed substitutions is at Owner's discretion, whose judgement will be final and will include consideration of the following factors among others in comparing equality of proposed substitutions with indicated or specified requirements:

1. Quality of materials, structural strength, and details of construction or fabrication.
  2. Performance and function, mechanically and technically.
  3. Appearance and finish, or characteristics permitting required finish to be applied.
  4. If proposed substitutions require altering the arrangement of adjoining or related Work, resulting arrangement must be equal in convenience and practicality to original arrangement.
  5. Products equal in quality and utility are generally competitive products and are generally equal in price. If approval is requested for materials or equipment more economical than the specified products, Owner may require the specified products.
  6. An inequality in availability of replacement parts or maintenance services may be a determining factor.
  7. Code approvals and service history.
- B. Resubmittal of Proposed Substitutions:** Do not resubmit proposed substitutions that are rejected in modified form. Upon rejection of a proposed substitution, Bidder may submit another proposed substitution within the time limit stated above. If the second proposed substitution is rejected or not received by the Architect within the specified time, provide only the indicated and specified Work at no additional cost to Owner.
- C. Compliance:** Use of Approved Substitutions does not relieve Contractor from compliance with the Contract Documents. Contractor shall bear all extra expense resulting from approved substitutions where substitutions affect adjoining or related Work.
- D. Unauthorized Substitutions:** If substitute materials are installed without prior approval, remove all the unauthorized materials and install those indicated or specified, at no extra cost to Owner.

## **PART 2 - PRODUCTS**

- 2.01 MATERIALS: Provide new materials and equipment unless otherwise indicated or specified.
- A. Equal Materials:** Any material, apparatus, equipment, or process indicated or specified by patent or proprietary name or name of manufacturer shall be deemed to be followed by "or equal as approved in writing by the Architect", unless it is specified that substitutions are not acceptable for a particular material, apparatus, equipment, or process item. Criteria will be the same as above in Paragraph 1.03 (A) 1-7.
- B. Optional Materials:** Where more than one proprietary brand name is specified, Contractor may provide any one of the materials or equipment specified. Before placing orders, advise Architect in writing of each named material,

appliance, or piece of equipment proposed for the Work and its intended use. Provide only one brand, kind, or make of material for each purpose throughout the Work notwithstanding that similar material or equipment of two or more manufacturers may be specified for the same purpose.

- C. Plurality of Terms:** For all materials or equipment referred to in the singular number, it is intended unless otherwise limited that such references apply to as much material or equipment as is required to complete the Work.
- D. Factory Finish Colors:** Color of material specified to be furnished with factory finish is subject to Architect's approval. If available color is not approved, modify factory finish color to conform to the Architect's color instructions or provide another manufacturer's approved product which has an acceptable finish color, at no extra cost to Owner.

### **PART 3 - EXECUTION**

- 3.01 **TRANSPORTING AND HANDLING:** Transport and handle all materials and equipment by methods that prevent damage, defacing, or overstressing. Lift the equipment, machinery and heavy fabricated products only at the lifting points designated by the manufacturer or, if not so designated, at the points or along the members designed to support the items when installed. Contractor shall bear all loss which may result from transporting and handling of materials and equipment and shall provide approved replacements for damaged or defective items at no extra cost to Owner. Conform handling procedures to applicable Codes.
- 3.02 **STORAGE AND PROTECTION:** Materials and equipment designed for permanent weather exposure may be stored off the ground without covering provided the equipment closures and seals are intact. Store all other materials and equipment off the ground and in dry, covered, weather-protected locations. Exercise special care to protect moisture-sensitive materials and other materials damaged by light (ultraviolet) or heat. Arrange adequate ventilation under protective covering to prevent condensation.

END OF SECTION

**SECTION 01700**

**CONTRACT CLOSEOUT**

**PART 1 - GENERAL**

1.01 DESCRIPTION: This Section covers general requirements for contract closeout.

**A. Requirements In This Section:**

1. Clean up and disposal.
2. Record Drawings.
3. Operation and maintenance manuals.
4. Maintenance materials.

1.02 SUBMITTALS under this Section shall conform to the Article "General Submittal Requirements" of Section 01300.

**PART 2 - PRODUCTS** (Not Applicable)

**PART 3 - EXECUTION**

3.01 CLEAN UP AND DISPOSAL: Requirements herein form a part of all other Sections of the Specifications and shall be coordinated with such additional clean up and disposal requirements as may be specified in other Sections.

**A. General:** Leave the entire Work broom clean except where vacuum clean or other condition is specified.

1. Control During The Work. Take precautions to avoid spread of dust, dirt, debris, water, paint, cement, sprayed materials, and other substances about the site or to adjacent property. Clean up splatterings or spills of materials at time of occurrence. Remove dirt, debris, waste, and rubbish frequently, and do not allow to accumulate in the structure or on the site. Do not store flammable or toxic materials in the structure.

**B. Contractor's Supervision:** Inform all trades and workmen of the cleaning up requirements specified, and monitor where Work is in progress to ensure full compliance with all clean up requirements in this and other Sections.

**C. Architect's Inspection:** Give the Architect at least 3 working days advance notice of readiness for inspection as each phase or area of Work is completed for occupancy. Correct any deficient cleaning operations, as determined and directed by Architect.

- D. Disposal:** The Contractor and all Sub-Contractors shall be required to recycle as much material as possible (per Owners requirements) on this Project prior to disposing in a disposal area. Do not place rubbish or waste material in fills or backfills. Remove debris, rubbish, and waste material from Owner's property to a lawful disposal area and pay all hauling and dumping charges. Conform to pertaining Federal, State, and local laws, ordinances, rules, regulations, and orders.
- E. Final Clean Up - Exterior:** Clean surfaces of construction and site including fixtures, walls, soffits, floors, hardware, roofs, window and opening ledges and sills, horizontal projections, steps and platforms, walkways, rails and all like surfaces, and adjoining private and public property to the extent soiled by the Contractor's operations.
- F. Final Clean Up - Interior:** Leave surfaces in clean condition with all dust, dirt, stains, handmarks, paint spots, droppings, and other blemishes and defects completely removed.
1. Hard Floors: Wash and dry concrete, tile, elastomeric, and similar floors, free of streaks or stains.
  2. Resilient Flooring: Freshly wax and buff as specified in Division 9.
  3. Resilient Bases: Clean off adhesive smears and wipe clean.
  4. Carpet: Vacuum clean free of lint, soil, and dust.
  5. Bare and Painted Surfaces: Clean of dust, lint, streaks, or stains.
  6. Tile Walls: Clean and polish.
  7. Stone Masonry: Clean and polish.
  8. Wall Covering: Remove all adhesive on surfaces.
  9. Hardware and Metal Surfaces: Clean and polish all exposed surfaces using noncorrosive and nonabrasive materials.
  10. Glass: Wash and polish both sides, and leave free of dirt, spots, streaks, and labels. Clean and polish mirrors.
  11. Ceilings: Clean and free of stains, handmarks, and defacing.
  12. Fixtures and Equipment: Clean and polish mechanical and electrical fixtures and like items. Leave lighting fixtures free of dust, dirt, stains, or waste material. Clean and service equipment and machinery, ready for use.
- G. Surfaces Not Mentioned:** Clean according to the intent of this Section and as required for Architect's approval.
- H. Contaminated Earth or Materials:** Final clean up operation includes removal and disposal of earth that is contaminated or unsuitable for support of plant life in planting areas, and filling of resulting excavations with suitable soil as directed and approved. Contaminated areas include those used for disposal of waste concrete, mortar, plaster, masonry, and similar materials, areas in which washing out of concrete and plaster mixers or washing of tools and like cleaning operations have been performed, and all areas that have been oiled, paved, or

chemically treated. Do not dispose of waste oil, solvents, paints, solutions, or similar material of a penetrating nature by depositing or burying on Owner's property.

### 3.02 RECORD DRAWINGS:

- A. Record Set During The Work:** At site, maintain at least one set of Drawings as a Field Record Set; apportion copies to the various Subcontractors for recording of their portions of the Work. Also maintain at least one copy of all Addenda, Modifications, approved submittals, correspondence, and transmittals at site. Keep Drawings and data in good order and readily available to Architect, Owner, and their representatives.
- B. Changes:** Clearly and correctly mark Record Drawings to show all changes made during the construction process at the time the changed Work is installed. No such changes shall be made in the Work unless authorized by a Modification or by specific approval of deviations or revisions in submittals.
- C. Final Record Drawings:** Prior to Substantial Completion, Architect will order for Contractor, at Contractor's expense, one complete set of Drawings, including Clarification and Interpretation Drawings and the Drawings issued by Addenda, recorded on CAD Files or printed as hard copy prints if required to do so by the Architect or Owner.
- D. Preparation of Final Record Drawings:** Contractor shall transfer all recorded changes in the Work indicated on the Field Record Set to a reproducible Cad File. Changes for all trades shall be neatly and clearly drawn and noted in ink by skilled draftsmen, and shown technically correct.
- E. Approval:** Prior to Architect's inspection for Substantial Completion, submit both the Field Record Set and the Final Record Drawings to the Architect for review, and make such revisions as may be necessary for Final Record Drawings to be a true, complete, and accurate record of the Work in the Architect's opinion.
- F. Conferences:** Contractor and any of the Subcontractors involved shall attend post-construction conferences to clarify the Final Record Drawings as may be required by Architect, at no extra cost to Owner.

### 3.03 MANUALS: Obtain data from the various manufacturers and submit instruction, operation, and maintenance manuals to the extent required under other Sections of the Specifications.

- A. Contents:** Each manual shall have an index listing the contents. Information in the manuals shall include not less than (a) general, introductions and overall equipment description, purpose, functions, and simplified theory of operation, (b) specifications, (c) installation instructions, procedures, sequences, and precautions, including tolerances for level, horizontal, and vertical alignment,

(d) grouting requirements including grout spaces and materials, (e) list showing lubricants for each item of mechanical equipment, approximate quantities, needed per year, and recommended lubrication intervals; where possible, the types of lubricants shall be consolidated with equipment manufacturers' approval in order to minimize the number of different lubricants required for maintenance, (f) startup and beginning operation procedures, (g) operational procedures, (h) shut down procedures, (i) short and long term inactivation procedures, (j) repair, maintenance, and calibration instructions, (k) parts lists and all spare parts recommendations, (l) lists of all special tools, instruments, accessories, and special lifting and handling devices required for periodic maintenance, repair, adjustment, and calibration, and (m) other information as may be specified or required for approval.

**B. Format and Binding:** Include drawings and pictorials to illustrate the text as necessary to fully present the information. Where the information includes a family of similar items, strike out the inapplicable information or identify applicable portions by heavily weighted arrows, boxes, or circles. Bind each manual in sturdy covers labeled to indicate the equipment to which it applies. Bind manuals less than one inch thick in standard three-ring binders; others shall have sturdy covers secured with removable fasteners and, when more than two inches thick, shall be bound in locking-bar post binders with rigid covers.

**C. Manual Submittals:** Unless otherwise specified, each submittal shall include two copies of each manual, one of which will be returned to the Contractor marked to show the required corrections or approval. When approved, deliver four copies to Architect unless otherwise specified.

3.04 MAINTENANCE MATERIALS: Furnish and deliver all the special tools, instruments, accessories, spare parts, and maintenance materials required by the Contract Documents, and furnish and deliver the special tools, instruments, accessories, and the special lifting and handling devices shown in the instruction manuals approved above. Unless otherwise specified or directed, deliver the items to the Owner, with the Contractor's written transmittal accompanying each shipment, in the manufacturer's original containers labeled to describe the contents and the equipment for which it is furnished. Deliver a copy of each transmittal to Architect for record purposes.

END OF SECTION

**SECTION 01740**

**WARRANTIES AND GUARANTEES**

**PART 1 - GENERAL**

- 1.01 DESCRIPTION: This Section covers general requirements for written warranties and guarantees required by the Contract Documents. Submission to and approval by the Owner of the warranties and guarantees is a prerequisite to final payment under the Contract.
- 1.02 MANUFACTURERS' WARRANTIES AND GUARANTEES: Deliver all the manufacturers' warranties and guarantees required by Contract Documents, with Owner named as the beneficiary. In addition, for all equipment and machinery, or components thereof, bearing a manufacturers' warranty or guarantee that extends for a longer time period than the Contractor's warranty or guarantee, deliver the manufacturers' warranties or guarantees in same manner. Refer to Section 01300, Paragraph "Equipment Data", for the submission of manufacturers' warranty or guarantee data.
- 1.03 FORM OF WARRANTY OR GUARANTEE: All written warranties and guarantees, except manufacturers' standard printed warranties and guarantees, shall be submitted on the Contractor's, Subcontractor's, material supplier's, or manufacturer's own letterhead, addressed to the Owner. All warranties and guarantees shall be submitted in duplicate, and in the form shown on the following page, signed by all pertinent parties and by Contractor in every case, with modifications as approved by Owner to suit the conditions pertaining to the warranty or guarantee.
- 1.04 SUBMISSION OF WARRANTIES OR GUARANTEES: The Contractor shall collect and assemble all written warranties and guarantees into a bound booklet form, and deliver the bound books to Architect for delivery to the Owner's attorney for final review and approval.

**WARRANTY/GUARANTEE**

FOR \_\_\_\_\_ WORK

We, the undersigned, hereby warranty and guarantee that the parts of the Work described above which we have furnished and/or installed for:

CITY OF TORRANCE  
TRAINING ROOM & OFFICE RENOVATION  
TORRANCE, CALIFORNIA

is in accordance with the Contract Documents and that said Work as installed will fulfill or exceed all of the Warranty and Guarantee requirements. We agree to repair or replace Work installed by us, together with any adjacent Work which is displaced or damaged by so doing, that proves defective in workmanship, material, or operation within a period of \_\_\_\_\_ ( ) year(s) from the date of final acceptance of by Owner or from the Date of Certificate of Substantial Completion, whichever is the earlier, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of our failure to comply with the above-mentioned conditions within a reasonable time period determined by the Owner, after notification in writing, we, the undersigned, collectively and separately do hereby authorize the Owner to have said defective Work repaired and/or replaced and made good, and agree to pay to the Owner upon demand all moneys that the Owner may expend in making good said defective Work, including all collection costs and reasonable attorney fees.

Date: \_\_\_\_\_  
(Subcontractor, Sub-subcontractor, Manufacturer or Supplier)  
By \_\_\_\_\_  
Title \_\_\_\_\_  
State License No. \_\_\_\_\_

Date: \_\_\_\_\_  
(Contractor)  
By \_\_\_\_\_  
Title \_\_\_\_\_  
State License No. \_\_\_\_\_

Local Representative to be contacted for maintenance, repair and/or replacement service:

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone Number: \_\_\_\_\_

END OF SECTION

## **SECTION 01900**

### **MISCELLANEOUS WORK**

#### **PART 1 - GENERAL**

1.01 DESCRIPTION. The requirements of all other Sections of Division 1 apply to this Section. Provide various materials and perform all miscellaneous operations as indicated, specified, and required. This Section applies to all other Sections of the Specifications.

**A. Work In This Section:** Principal items include:

1. Miscellaneous demolition, cutting, alterations, and repairs to the existing facilities as shown, specified, and required to complete the Work.
2. Relocation and reinstallation of existing construction and finish as shown.
3. Salvage, storage, and protection of existing items to be reinstalled.
4. Salvage and delivery to Owner of designated removed items as directed.

1.02 SUBMITTALS: Refer to Section 01300 for procedures.

**A. Schedule of Work:** Perform Work in existing facilities during such hours and by methods as are approved by Owner. Submit proposed schedules itemizing dates and hours that the various items of Work in existing facilities will be started and completed. Owner reserves the right to modify proposed schedules to eliminate conflicts and ensure use of existing facilities during the Work. Exactly follow the schedule as finally approved by Owner. No extra payment will be made to the Contractor for the Work required to be performed during night, Saturday, Sunday, or holiday hours. Revise and resubmit schedules when timing or sequence changes occur or are ordered by Owner.

1.03 JOB CONDITIONS:

- A. General:** Coordinate Work among the trades and with Owner to assure the correct sequence, limits, methods, and times of performance. Arrange the Work to impose minimum hardship on operation and use of the facilities. Install protection for existing facilities, contents, and new Work against dust, dirt, weather, damage, and vandalism, and maintain and relocate as Work progresses.
- B. Hazardous Waste Removal:** During inspection and demolition work if any hazardous materials are found the Contractor shall immediately notify the Owner and proper agencies and have the materials removed in an approved manner.
- C. Access:** Confine entrance and exit operations to access routes designated by the Owner.

- D. Existing Portable Items:** Owner will remove portable equipment, furniture, and supplies from involved existing areas prior to start of Work therein. Cover and protect remaining items.
- E. Existing Conditions:** Intent of Drawings is to show existing site and facility conditions with information developed from the original construction documents, field surveys, and Owner's records, and to generally show the amount and type of demolition and removals required to prepare existing areas for new Work.
- F. Verification of Conditions:** Perform a detailed survey of all existing site and building conditions pertaining to the Work before starting Work. Report to the Architect all discrepancies or conflicts between Drawings and actual conditions in writing for clarification and instructions and do not perform Work where such discrepancies or conflicts occur prior to receipt of Architect's instructions.
- G. Special Noise Restrictions:** Exercise caution and care to prevent generation of unnecessary noise and keep noise levels to the minimum possible. When ordered by Owner or Architect, immediately discontinue such methods that produce noise disruptive or harmful to the facility functions and occupants, and perform Work by unobjectionable methods. Equip air compressors, tractors, cranes, hoists, vehicles, and all other internal combustion engined equipment with "residential" grade mufflers. Muffle unloading cycle of compressors. Remove from the site any equipment producing objectionable noise as determined by Owner or Architect.
- H. Shoring and Bracing:** Provide support, shoring, and bracing required to preserve the structural integrity and prevent collapse of existing construction that is cut into or altered as a part of the Work.
- I. Overloading:** Do not overload any part of the structures beyond a safe carrying capacity by placing of materials, equipment, tools, machinery, or any other item thereon.
- J. Building Security:** Secure building entrances and exits with locking or another approved method in accordance with Owner's instructions.
- K. Safeguarding of Owner's Property:** Assume care, custody, and responsibility for safeguarding all of Owner's property of every kind, whether fixed or portable, remaining in rooms and spaces vacated and turned over to Contractor by the Owner for his exclusive use in performing the Work until the Work therein or related thereto is completed and the rooms or spaces are re-occupied by Owner. Furnish all forms of security and protection necessary to protect the Owner's property. Regardless of cause, Contractor shall repair, replace, or otherwise acceptably make good all of the Owner's property under his care, custody, and safeguarding that is damaged, injured, lost, stolen, or missing from the time each such room or space is turned over to Contractor for the Work until re-occupied by Owner, at Contractor's expense and as directed by the Owner.

1. **Property Inventories:** Owner's property that Owner intends to remove will be removed at no cost to Contractor before a room or space is vacated for the Work. Prior to start of Work in each room or space, Owner and Contractor shall prepare a detailed initial written inventory of Owner's property remaining therein and condition thereof, including equipment and telephone instruments, and each party shall retain a copy of the inventory dated and signed by both. In same manner, prior to Owner's re-occupancy of each such room or space the parties shall again inventory Owner's property therein and all discrepancies between the inventories shall be the Contractor's responsibility as specified above.
2. **Covering and Clean-Up:** Cover and protect all surfaces of rooms and spaces turned over for the Work, including the Owner's property remaining therein, as required to prevent soiling or damage by rust, dirt, water, fumes, or otherwise, and protect other areas where Work is performed in the same manner, all as is deemed adequate by the Owner. Prior to Owner's re-occupancy of any such room or space, clean all surfaces including Owner's property in accordance with Section 01700 and other cleaning instructions as may be specified in other Sections.

**L. Use of Owner's Telephones:** Do not use nor allow anyone other than the Owner's employees to use telephone in rooms and spaces turned over to Contractor for the Work except in the case of a bona fide emergency. Install temporary dial locks on telephone instruments to prevent all unauthorized use, or arrange and pay for temporary removal and reinstallation of instruments. Reimburse to the Owner all telephone toll charges originating from the telephones in such rooms and spaces except those arising from emergencies or use by Owner's employees.

**M. Welding:** Conform to following requirements where welding is performed in or on existing facilities.

1. **Protection During Welding:** Conform to Title 8, CCR. In addition, protect occupants and the public with portable solid vision barricades around locations where welding is performed plus signs warning against looking at welding without proper eye protection, or equivalent.
2. **Welding Smoke Control:** Attention is directed to existing smoke detectors. Perform welding by methods that produce the minimum feasible smoke and fumes. Furnish portable type smoke collection equipment and supplementary ventilating equipment as required to prevent smoke and fume nuisances. Notify the Owner at least 48 hours in advance if a temporary deactivation of any smoke detector is required to prevent false alarms from welding operations. Owner's personnel will deactivate the detectors only for the period that welding is actually in progress.
3. **Fire Extinguishers:** Maintain a fully charged UL-labeled minimum 10-pound ABC fire extinguisher at every location where welding is performed within the facilities.

4. **Fire Prevention:** Before welding, examine existing construction and backing for combustible materials and finishes and for conditions where heat migration in metals may bring adjoining materials to ignition temperature. Use positive fire prevention measures including the temporary removal and reinstallation of combustible materials, installation of temporary shields and/or heat sinks, and other necessary means. When actual field conditions are such that positive fire prevention measures cannot be achieved, notify Architect and do not proceed with the involved Work until receipt of Architect's instructions.

- N. Protection of Floors:** Exercise caution to protect floor surfaces and coverings from damage. Equip mobile equipment with pneumatic tires.

**PART 2 - PRODUCTS** (Not applicable to this Section)

**PART 3 - EXECUTION**

3.01 DEMOLITION, REMOVALS, ALTERATIONS, AND REPAIRS:

- A. Basic Requirement:** Restore all new and existing construction and improvements that are cut into, altered, damaged, relocated, reinstalled, or left unfinished by demolition and removals as a result of the Work to original condition or to match the adjoining Work and finishes and as indicated, specified, directed, and required. Workmanship and materials shall conform to applicable provisions of other Sections of Specifications. Provide new fasteners, connectors, adhesives, and other accessory materials as required to complete approved reinstallations and restorations.
- B. Extent:** Perform demolition and removals to extent shown plus such additional demolition or removal as is necessary for completion even though not indicated. More or less of existing construction may be demolished or removed when such variation will expedite the Work and reduce cost to Owner, subject to approval.
- C. Removals and Demolish:** Carefully demolish and or remove as indicated on Drawings. Carefully remove Work to be salvaged or reinstalled and store under cover.
1. **Walls, Partitions, and Ceilings:** Demolish or remove completely by cutting down and not by tumbling, throwing, or dropping.
  2. **Concrete:** Saw with power saw, or chip where sawing is not practicable, to prevent spalling of concrete to remain. Cut off reinforcing bars, except where bonded into new concrete or masonry, and paint ends with bituminous paint before enclosing.
  3. **Masonry:** Cut back to joint lines and remove old mortar. Allow space for repairs to backing where applicable.
  4. **Plaster:** Cut back to sound plaster on straight lines, and back-bevel edges of remaining plaster. Trim existing lath and prepare for new lath.

5. Roofing: Remove as indicated or required, including insulation, flashings, and related items connected thereto. At penetrations through existing roofing, trim cut edges back to sound roofing with opening of minimum size necessary for new Work.
6. Cabinets, Casework and Woodwork: Demolish, and or carefully remove and restore existing as indicated on Drawings, completely by cutting down and not by tumbling, throwing, or dropping.
7. Sheet Metal Flashings and Work: Remove back to a joint, lap, or connection. Secure loose or unfastened ends and make watertight.
8. Glass: Remove broken or damaged glass and clean the rebates of old setting materials.
9. Gypsum Wallboard: Cut back on straight lines to undamaged surfaces, with at least two opposite cut edges centered on supports.
10. Acoustical Ceilings: Dismantle ceilings and remove hanger wires.
11. Tile: Remove back to sound tile and backing on joint lines where portions are to remain.
12. Flooring: Completely remove flooring and clean the backing of old cement or adhesive.
13. Miscellaneous Items: Remove items not mentioned but required to be removed in such manner as will minimize damage to Work to remain.

**D. Patching, Repairing, and Finishing:**

1. Concrete: Keep cut edges damp for 24 hours and scrub with a neat portland cement mortar just before new concrete is placed; epoxy adhesive may be used in lieu of cement mortar. Finish new concrete to match existing. Use 3,000 psi concrete for repairs and slabs on grade. At cut concrete edges to remain exposed, apply adhesive and restore with minimum 3/4" thick cement mortar finished to match adjoining surfaces.
2. Openings To Be Closed: Trim edges square and straight, and dampen and grout scrub or treat with adhesive as specified above for cut concrete edges. Install 3,000 psi concrete. Provide reinforcing as required to match existing concrete. Where installation of concrete is impracticable, fill openings with dry-packed non-shrink grout. Finish to match adjoining surfaces.
3. Landscaping: The Contractor shall repair or replace sprinkler and irrigation items and plants that are affected by the remodel. Contractor shall coordinate with the Architect as to what Work is required to be done.
4. Masonry: Repair with matching masonry materials, reinforcement, jointing, and tooling.
5. Metal Items: Grind cut edges to remain exposed smooth and rounded.
6. Lath and Plaster:
  - a. Lath: Lath areas to be patched with matching lath as required. Lap new lath 6" over existing and wire-tie new and existing lath edges at 6" intervals. Restore paper backings as required, shingled into existing.
  - b. Plaster: Apply bonding agent on cut edges of existing plaster.

Apply 3-coat plaster patching of type, thickness, finish, color, and texture to match existing plaster.

7. Roofing: Cut back to sound undamaged materials and re-secure all cut edges. Apply new roofing materials in repair areas of same type and finish as existing, connected to existing roofing with waterproof connections.
8. Woodwork: Prepare wood to be refinished according to Section 09900 Painting. Patch with new matching or undamaged removed materials. The restored items shall be in a like new condition per Architects approval.
9. Sheet Metal: Restore removed or damaged sheet metal items as required or directed by Architect. Roof flashing materials shall be products of or be approved by roofing manufacturer.
10. Waterproofing Membranes: Trim back to sound undamaged membrane, seal cut edges, and apply new waterproofing lapped 36" minimum over existing membranes using matching materials and methods.
11. Glass: Install new matching glass.
12. Gypsum Wallboard: Refasten cut edges of existing board. Apply patches with at least two opposite edges centered on supports and secure at 6" centers. Tape and finish joints and fastener heads. Make patching non-apparent when painted.
13. Acoustical Ceilings: Conform to requirements indicated, specified herein, to applicable requirements of Section 09510, and as necessary to match existing conditions.
14. Flooring: Completely remove flooring and clean off old cement as specified. Install new flooring of color, pattern, and type to match existing floors. If an approved match cannot be made between existing and new flooring, remove all flooring in involved room or space and install new flooring at no extra cost to Owner. Clean and wax all new and existing resilient tile flooring in alteration areas and patched areas, and adjoining areas as directed. Use brand of wax in regular use by Owner.
15. Painted Surfaces: Prepare patched areas and refinish as specified in Section 09900.
16. Security System: The Contractor shall coordinate with the security personnel and Architect as to what additional equipment is required to expand the system to its new requirements and have them installed and tested to be compatible with existing system.
17. Miscellaneous Items: Patch and repair as required and approved.

### 3.02 PREPARATION OF EXISTING WORK:

- A. **Holes:** Drill holes through existing concrete or masonry for new conduit and/or piping, and do not jackhammer.
- B. **Sandblasting:** Work includes sandblasting of existing surfaces to receive new materials secured by cementitious, adhesive, or chemical bond (such as concrete, toppings, elastomeric coatings, plaster, mortar, etc.), and the sandblasting of other surfaces as shown, specified, directed, or required for proper preparation of

surfaces. Completely remove existing finish, stains, oil, grease, bitumen, penetrated mastics and adhesives including primers, and all other substances deleterious to the bond or connection of new materials, and expose clean sound surfaces. Use wet sandblasting for interior surfaces, and for exterior surfaces where directed or necessary to prevent creation of a dust nuisance.

- C. Metal Framework Painting:** If necessary, wire brush clean and paint scarred areas, welds and rust spots on the visible surfaces. Touch up galvanized surfaces with galvanized repair paint applied in accordance with the manufacturer's instructions. In areas where touch-up painted surfaces are to be exposed, apply the paint to blend into the adjacent surfaces in a manner that will minimize visual discontinuity in the coatings.

3.03 **SALVAGE:** Existing items not to be reused or reinstalled that Owner intends to retain will be designated by Owner prior to start of removals in the pertaining area. Carefully remove, salvage, box or bundle as approved, and deliver such items to storage at site as Owner directs.

3.04 **DISPOSAL:** Conform to Section 01700. Dispose of removed material off the site except items to be salvaged or reinstalled. Promptly remove waste and debris and do not accumulate within facilities or on site.

END OF SECTION

## **SECTION 02579**

### **PAVEMENT MARKING, BUMPERS TRUNCATED DOMES AND SIGNAGE**

#### **PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide pavement marking, bumpers, truncated domes and signage as indicated, specified, and required.

A. **Work In This Section:** Principal items include:

1. Pavement markings, white or red in color.
2. Truncated domes.
3. Accessible signage, blue color.
4. Bumpers

#### **PART 2 - PRODUCTS**

2.01 TRAFFIC PAINT: Type specially manufactured for pavement traffic line markings by Dunn Edwards, Wellborn, Sherwin-Williams, Devoe, Sinclair, Pittsburg Paint, Behr, or equal, white color unless otherwise directed.

2.02 TRUNCATED DOMES: Provide truncated domes by Hanover Architectural Products (717) 637-0500 or Disability Devices, Inc., (714) 437-9237 or equal installed where indicated on drawings. The domes are to be ADA compliant and installed in accordance with manufacturers recommendations and specifications.

2.03 PARKING BUMPERS: Standard units as detailed on drawings of minimum 3500 psi concrete and reinforced full length with not less than two No. 4 deformed reinforcing bars, lengths as indicated. Omit stake holes in adhesive secured bumpers.

#### **PART 3 - EXECUTION**

3.01 PAVEMENT MARKING AND STRIPING: Paint traffic and parking lines as indicated. Machine-apply paint in accordance with the directions of the paint manufacturer. Unless otherwise shown, paint lines 4" wide and as required to achieve complete opacity. Paint directional arrows, numbering, and lettering in similar fashion and with same paint. Produce completed painting and striping free of holidays and whiskers. Be responsible for paint droppings and overspray. Completely remove droppings and repair-injured surfaces in a satisfactory manner. Paint disabled lines and markings a minimum of 3" wide with blue color equal to Color No. 15090 per Federal Specification 595B, disabled parking symbols, stall striping, debarkation aisles and path of travel lanes to the extent required by the Code and as enforced by the local jurisdiction where indicated. Parking spaces for the disabled shall be marked according to CBC Section 1129B.5. The tactile warning lines shall be in conformance to CBC Section 1133B.8.3 and 1133B.8.4.

- 3.02 **ACCESSIBLE SIGNAGE:** Set in accordance with Districts Standards and as detailed on drawings, provide reflectorized International Symbol of Accessibility signs and required text with porcelain enamel finish, and steel frame. Mount and finish required by Building Code. Locate signage and designed disabled stalls where indicated on site. Post mounted and wall mounted signs shall be fabricated from 16 gage enameling iron with porcelain enamel finish. Mount signs to posts with minimum two 3/16" diameter round head bolts with tamperproof nuts, galvanized. Posts are 2" diameter galvanized steel pipe weighing a minimum of 3.65 lbs per foot and conforming to ASTM A53, Schedule 40 or 2" x 2" galvanized steel tubing, weighing a minimum of 4.31 lbs per foot and conforming to ASTM A500, Grade B, 3/16" thick wall thickness.
- 3.03 **BUMPER INSTALLATION:** Set as detailed on drawings, if none install bumpers with two 3/4" diameter galvanized steel pipes, or equal, driven to minimum 12" penetration into subgrade. Fully embed bumpers in epoxy concrete adhesive where installed on portland cement concrete.

END OF SECTION

## **SECTION 03300**

### **CONCRETE**

#### **PART 1 - GENERAL**

- 1.01 **DESCRIPTION:** Division 1 applies to this Section. Provide all exterior walk ways constructed of concrete complete as indicated, specified, and required.
- 1.02 **QUALITY ASSURANCE:** Construct forms conforming to the tolerances specified in ACI 301, "Specifications for Structural Concrete for Buildings", as applicable, unless exceeded by requirements of regulatory agencies or otherwise indicated or specified.
- 1.03 **SUBMITTALS:** Refer to Section 01300 for procedures.
- A. Shop Drawings:** Submit Shop Drawings showing form pattern layouts of all exposed exterior and interior concrete dimensioned to precisely locate grooves, form panel jointing, and similar features. Review and approval will not include form strength and adequacy.
- B. Reinforcing Bars:** Include layouts, sections, and details for all congested conditions, typical bending diagrams and offsets, splice lengths and locations, proposed layout where vertical and horizontal bars intersect, and where welding is proposed, detailed to conform to AWS and Code requirements. After approval of initial submission, subsequent submittals may be waived.
- 1.04 **PRODUCT DELIVERY, STORAGE AND HANDLING:** Deliver materials in timely manner to ensure uninterrupted progress. Store materials by methods that prevent damage and permit ready access for inspection and identification.

#### **PART 2 - PRODUCTS**

- 2.01 **MATERIALS:**
- A. Ready Mixed Concrete:** Materials and proportions shall comply with these Specifications. Concrete shall be in accordance with the requirements specified in Specifications for Ready Mixed Concrete, ASTM C94. In addition, all concrete shall comply with the following:
- Cement shall comply with ASTM C150, Type II.  
Aggregate shall conform to ASTM C33.  
Grading of combined aggregates shall be per Section 1903A.3, 2010 CBC.  
Concrete Strength: Refer to drawings for concrete psi requirements.  
Proportioning by Method B, CBC, Section 1905A.3.  
Waiver of Batch Plant Inspection: The concrete plant shall comply fully with the requirements of 2010 CBC Standard 19-3 and 1929A.5, Title 24 Part 2 CCR and shall be certified to comply with the requirements of the National Ready Mixed Concrete Association. The plant must be equipped with an automatic batcher in

which the total batching cycle, except for the measuring and introduction of an admixture, is completed by activating a single starter device.

When batch plant inspection is waived, the Architect or Structural Engineer in cooperation with the testing agency, shall propose a method for quality control acceptable to DSA minimum of one set of two cylinders shall be taken and tested for each 50 cubic yards of concrete or fraction thereof. Quantities of materials shall be certified by a licensed weighmaster.

Form lumber:	WCLIB "Construction" grade or better, WWPA No. 1 or equal.
Form plywood:	PS 1-Current Edition, Group I, Exterior B-B Plyform or better, minimum 5 ply and 5/8" thickness, grade marked, not mill oiled. Plywood having medium or high density overlay is acceptable.
Water:	Clean, fresh, free from oil, acid organic matter and other deleterious substances.
Form ties:	Prefabricated rod, flat band, wire, or internally threaded disconnecting type, not leaving metal within 1-1/2" of concrete surface.
Form coating:	Resin type coating free of oil, silicone, wax, and non-drying material, not grain-raising.
Reinforcing bars:	ASTM A615, Grade 60, conforming to Title 24, Section 1903A.5.
Tie wire:	Annealed steel, 16 gage minimum.
Curing compound:	ASTM C309, fugitive dye type.
Curing sheet:	ASTM C171, non-staining white types.
Joint filler:	ASTM D1751 and D1752, as specified.
Vapor barrier:	ASTM D2103 Polyethylene Sheeting, 8 mil. thickness, with minimum 2" wide waterproof plastic, self adhering.
Curing-sealer-hardener:	Burke Spartin-Cote Cure Seal-Hardener, West Concrete Floor Sealer, or equal.
Non-shrink grout:	Thoroseal "Thorogrip", Burke "Non-Metallic", or an approved equal of non-gas-forming type.
Admixtures:	Per Title 24, Section 1903A.6.

### **PART 3 - EXECUTION**

3.01 **PLACING:** Place concrete at a maximum 4" slump per ASTM C143. Placing concrete shall conform to Section 1905A.7, 2010 CBC.

- A. Slabs:** Compact and tamp concrete and bring 1/8" to 1/4" mortar to surface. Wood float to straightedges and screeds. Do not use steel or plastic floats of any kind for initial floating operations. Do not apply finish until all surface water disappears and surface is sufficiently hardened. Remove bleed water and laitance as it appears.

- B. Existing Concrete Surfaces:** Sandblast all concrete surfaces against which concrete is to be placed. Coordinate with Drawings.
- C. Joints In Concrete:** Conform to Title 24, Section 1906A.4. Locate joints only where approved. Obtain prior approval for points of stoppage of any pour. Clean and roughen surface of construction joints by removing entire surface and exposing 1/4" of clean aggregate solidly embedded in mortar matrix by sandblasting, chipping, or equal. Water and keep hardened concrete wet for not less than 2 hours before placing new concrete. Cover horizontal surfaces of existing or previously placed and hardened concrete with a 2" thick layer of fresh concrete less 50% of coarse aggregate just before balance of concrete is placed.
1. Expansion Joints: Conform to details and approved submittal. Provide expansion joint filled finished flush with slab surface except for those joints shown to be sealed with sealant. Conform to Section 07900 where sealant sealed joints are shown or specified, including the polymer joint filler or backing.
  2. Control Joints: Provide for concrete walks and exterior concrete pavement as indicated. Provide "Zip Strip" as distributed by S.C.A. Construction Supply, or equal. Install tops of the joints flush with the concrete surface and depth of joint a minimum of 1/4 the thickness of slab.
- 3.02 **CONCRETE WORK:** Use bituminous type joint filler. Cure all concrete for at least 10 days with liquid curing compound or sheet material except as otherwise specified. Construct all site concrete of 3,000 psi concrete unless otherwise indicated or specified. Provide reinforcing bars or mesh only where indicated.
- A. Concrete Walks:** Provide 1/2" expansion joints as specified for curbs and where walks abut rigid structures, aligned with joints in curbs where adjoining, an apply a light broom finish perpendicular to traffic direction. Provide scoring as shown or directed.
- 3.03 **CURING FORMED CONCRETE:** Keep forms containing concrete in a wet condition until removed. Keep concrete continuously moist for at least 7 days after placing. Keep concrete moist with a fine fog water spray until protected by curing media. Use the water curing method, curing sheet material, or a clear liquid membrane-forming curing compound except as otherwise specified.
- 3.04 **PATCHING FORMED CONCRETE:** Remove fins, projections, and offsets. Cut out rock pockets, honeycomb, and other defects to sound concrete, edges of cuts straight and back-beveled. Dampen cuts and scrub with neat portland cement slurry just prior to patching, or apply an approved epoxy concrete adhesive. Saturate form tie holes with water and fill all voids and patches with flush smooth-finished mortar of same mix as concrete (less coarse aggregate), cure, and dry. No other finishing operations are required.

- 3.05 **FORM ERECTION AND REMOVAL:** Conform to ACI 301 and ACI 347 "Recommended Practice for Concrete Formwork" except as exceeded by requirements of Code, regulatory agencies, or herein.
- A. Construction:** Coat forms with the specified resin coating, not form oil. Construct forms to exact shapes, sizes, lines, and dimensions required to obtain level and plumb and straight surfaces. Provide openings, offsets, keys, anchorages, recesses, reglets, moldings, chamfers, blocking, screeds, drips, bulkheads, and all other required features. Make forms removable without hammering or prying against concrete. Space forms apart with metal spreaders. Construct forms to accurate alignment, location and grades, and provide against sagging, leakage of concrete mortar, or displacement occurring during and after placing of concrete. Coordinate installation of inserts in forms according to Shop Drawings and instructions of other trades.
  - B. Corners and Angles:** Form exposed concrete corners and angles square unless otherwise indicated.
  - C. Form Joints:** Fill joints to produce smooth surfaces, intersections and arrises. Use polymer foam or equivalent fillers at joints and where forms abut or overlap existing concrete to prevent leakage of mortar.
  - D. Cleanouts and Cleaning:** Provide temporary openings in forms for cleaning and inspection. Clean forms and surfaces to receive concrete prior to placing.
  - E. Re-Use:** Clean and recondition form material before re-use.
  - F. Time of Form Removal:** Do not remove forms until the concrete attains sufficient strength to support its own weight and all superimposed loads. Leave all bottom forms in place until concrete has attained at least 66% of required strength but not less than 10 days. Reshore until full concrete strength is attained but in no case less than 21 days from date of concrete placing. Removal of forms and shores shall conform to Title 24, Section 1906A.2.
  - G. Record:** Maintain a form and shoring removal record.
- 3.06 **INSTALLATION OF REINFORCING:** Provide additional bars at sleeves and openings as required. Before placing bars, and again before concrete is placed, clean bars of loose mill scale, oil, or other coating that might destroy or reduce bond.
- A. Securing in Place:** Accurately place bars and wire tie in precise position where bars cross. Bend ends of wire ties away from forms. Wire tie bars to corners of ties and stirrups. Support bars according to current edition of "Recommended Practice for Placing Bar Supports" of the Concrete Reinforcing Steel Institute, using approved accessories and chairs. Use precast concrete cubes with embedded wire ties to support reinforcing steel bars in concrete placed on grade and in footings.

- B. Clearances:** Maintain minimum clear distances between reinforcing bars and face of concrete as indicated or directed.
  - C. Splices:** Do not splice bars at points of maximum stress except where indicated.
  - D. Maintaining Bars In Position:** Assign a competent ironworker mechanic at every concrete placing location to inspect reinforcement and maintain all bars in the correct positions.
  - E. Reinforcing Mesh:** Lap one full mesh plus 2" at splices, wire tie, and support the same as specified for bars.
  - F. Approval:** Obtain inspection and approval as required by Article "Field Quality Control" before concrete is placed.
- 3.07 SLAB FINISHING: Refer to Section 03345 Concrete Finishes. Finish exposed edges of slabs and slab joints with approved edging tool.
- 3.08 SLAB CURING: Shall conform to Title 24, Section 1905A.11. Promptly apply curing material as soon as the finishing operations are completed without marring surfaces, and in any case on the same day. Apply liquid compounds in accordance with manufacturer's published application rates; apply 2 spray coats, second coat at right angle to first coat. Cover adjoining surfaces. Equip spray nozzles with a wind-shield suitable for wind conditions.
- A. Curing Period and Protection:** Maintain curing materials in sealed conditions for a minimum of 10 days after application. Keep all traffic on the curing surfaces to the minimum possible, and completely off the liquid compound cured surfaces. Immediately restore all damaged or defective curing media.
  - B. Restriction:** Do not apply liquid membrane-forming curing compound on concrete to receive subsequent concrete or mortar, or on surfaces to receive subsequently applied materials unless such use and the specific compound used are approved by the manufacturer of material to be applied; verify with related trades.
  - C. Liquid Curing Compound:** Use for slabs, subject to above restriction.
  - D. Sheet Curing:** Use curing sheet material. Seal all laps and edges with plastic pressure-sensitive tape; immediately repair tears during curing period. Verify that surfaces remain damp for full curing period; if necessary, lift sheeting, wet surfaces with clean water, and replace the sheeting. Use on surfaces where curing compound is not permitted.
  - E. Water Curing:** Option to curing compound or sheet curing method. Keep concrete continuously wet for entire curing period.

3.09 **SITE CONCRETE WORK:** Use bituminous type joint filler. Cure all concrete for at least 10 days with liquid curing compound or sheet material except as otherwise specified. Construct all site concrete of 2,000-psi concrete unless otherwise indicated or specified. Provide reinforcing bars or mesh only where indicated.

- A. Concrete Curbs:** Provide 1/2" thick expansion joints at beginning and at end of curves, intersections, and 20-foot intervals between, set plumb, square, and to same profile as the curbs. Edge curb tops to 1/2" radius and vertical joints to 1/4" radius. Apply smooth finish followed by fine hairbrush finish.
- B. Concrete Gutters:** Provide 1/2" thick expansion joints as above for curbs and apply a light broom finish with a 3" wide steel trowel finish at flow line.
- C. Combination Curb and Gutter:** As above for curbs and gutters including expansion joints, 3" troweled flow lines at base of curb.
- D. Concrete Walks:** Provide 1/2" expansion joints as specified for curbs and where walks abut rigid structures, aligned with joints in curbs where adjoining, and apply a light broom finish perpendicular to traffic direction. Provide scoring as shown or directed.
- E. Control Joints:** Provide for concrete walks and exterior concrete pavement as indicated. Provide "Zip Strip" as distributed by S.C.A., or equal. Install tops of the joints flush with the concrete surface and depth of joint a minimum of 1/4 the thickness of slab.

3.10 **MISCELLANEOUS CONCRETE WORK:** Provide areaways, cast-in-place valve boxes, pits, splash blocks, bases, and other miscellaneous concrete as shown and required to complete all Work. Conform to applicable requirements herein.

END OF SECTION

**SECTION 03345**

**CONCRETE FINISHING**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Perform and provide all concrete finishing required to complete the Work, except for concrete finishing specified to be performed under other Sections.

**A. Work In This Section:** Principal items include:

1. Samples and submittals.
2. Finishing of exposed formed concrete.
3. Final slab finishing and curing.

**B. Related Work Not In This Section:**

1. Furnishing, erection, and removal of forms.
2. Furnishing, placing, patching, and initial curing of cast-in-place concrete unless otherwise specified.

1.02 QUALITY ASSURANCE: As specified in Section 03300.

1.03 SUBMITTALS: Refer to Section 01300 for procedures.

**A. Product Data:** Submit for the following:

1. Curing-sealer-hardener.

**B. Site Samples:** Prepare following Samples at the site, cast in the directed locations and orientations. Prepare as many Samples of each type of concrete as are required for approval. Remove Samples from the site when no longer needed and removal is approved. Approved Samples may be part of permanent construction if meeting all other requirements shown and specified and are so approved. Use form and concrete materials previously approved under Sections 03100 and 03300.

1. Slab Samples: Prepare minimum 4-foot square Samples of each required slab finish excluding only monolithic trowel and steel float finishes. Include a transverse expansion joint, scoring, and edging.

**PART 2 - PRODUCTS**

2.01 MATERIALS: Furnish materials conforming to Section 03300, as applicable, and following requirements:

Curing-sealer-  
hardener:

Ashford Formula by Curecrete Chemical Company, Inc. distributed by BMSA inc. (949) 233-2127 or UniSeal by Unitex (816) 231-7700 or approved equal, applied and warranted as specified herein.

### **PART 3 - EXECUTION**

3.01 **FINISHING EXPOSED FORMED CONCRETE:** Surface patching and initial curing of formed concrete are specified in Section 03300. Rub surfaces with a carborundum brick or equal until smooth and free of form marks, offsets, and other defects, and in uniform planes. Wet rubbed surface and then brush coat with cement grout consisting of 1 part light-colored portland cement to 2 parts fine aggregate and mixed with water to the consistency of thick paint. Cork or wood float grout to fill all pits, air bubbles, and surface holes. Scrape off excess grout and rub surface with burlap or equal to remove all grout film. After grout sets, again coat with same grout, cure, then brick and burlap rub as necessary to eliminate remaining defects and blemished, and damp cure surfaces for not less than 3 days or longer if required for complete curing of concrete. Finish, clean, and cure each surface as a continuous operation. Produce uniformly plane smooth surfaces free of grout film, grout or rubbing marks, defects, or blemishes after painting or covering with a flexible type finish material. Unless otherwise indicated or specified, apply this finish on exposed formed concrete.

**A. Surfaces Excepted:** Rubbed and grouted finish is not required on following surfaces:

1. Permanently concealed concrete.
2. Concrete exposed in electrical, utility, storage, shaft, and similar non-public rooms and areas.

3.02 **SLAB FINISHES:** Produce finish slab surfaces level or sloped with tolerances indicated on the Drawings and ACI Standards. Keep surface moist with a fine fog spray of water as necessary. Dusting with dry cement or sand during finishing operations is not permitted. Finish all slab edges and joints with an edging tool. Match the approved Sample panels. Apply the following finishes as indicated, specified, directed, and applicable.

**A. Broom Finish:** Prepare same as steel float finish, and then apply a uniform approved coarse texture finish as approved by Architect, by sliding a wire or stiff bristle broom in one direction along a straightedge guide placed at right angles to the direction of traffic. At walking areas, apply smooth finish 3" wide at edges, expansion joints and scoring.

- B. Monolithic Trowel Finish:** For slab and flatwork surfaces not indicated or specified to receive another finish. After surface water disappears and floated surfaces are adequately hardened, steel trowel and retrowel concrete to a smooth surface. After concrete has set sufficiently to ring the steel trowel, retrowel to a smooth uniform finish free of trowel marks and blemishes. Avoid excessive retroweling that produces burnished areas.
  - C. Steel Float Finish:** Same as for monolithic trowel finish except omit the second retroweling.
  - D. Scoring:** Provide where shown or directed, using tool of approved size and profile. Run score lines straight and of uniform appearance. If scoring is not indicated, obtain Architect's instructions not less than two working days before the day slab concrete is placed.
- 3.03 **SLAB CURING:** Promptly apply curing media as soon as finishing is complete without marring surfaces, and in any case on same day. Apply liquid compound in accordance with the manufacturer's published application rates; apply 2 spray coats, with second coat at right angle to first coat. Cover adjoining surfaces. Equip spray nozzles with windshield suitable for wind conditions.
- A. Curing Period and Protection:** Maintain all curing media intact and sealed for 10 days minimum after application. Keep foot traffic on the curing surfaces to minimum possible and completely off liquid compound cured surfaces; vehicular traffic is not permitted on the surfaces until curing is completed. Immediately restore all damaged or defective curing media.
  - B. Restriction:** Do not apply liquid membrane-forming curing compounds on any concrete to receive or bond to concrete or mortar, or on any surfaces to receive subsequent material or finish unless such use and the specific compound used are approved by manufacturer of the material or finish to be applied, and verify all such use with related trades. Do not apply curing compounds on slabs to receive elastomeric or bituminous type coatings.
  - C. Liquid Membrane-Forming Curing Compound:** Use on exterior slabs and paving but subject to above restriction.
  - D. Sheet Curing:** Use the specified curing sheet material. Seal all laps and edges with plastic pressure-sensitive tape, and immediately repair tears during the curing period. Verify that surfaces remain damp for the full curing period; if necessary, lift sheet, wet surfaces with clean water, then replace and reseal the sheeting. Use on surfaces where curing compound is not permitted.
  - E. Water Curing:** Option to either liquid membrane-forming curing compound or sheet curing method. Keep concrete continuously wet for entire curing period.

- 3.04 CLEAN-UP: Contractor shall clean up all concrete and cement materials, equipment and debris upon completion of any portion of the concrete work and upon completion of the entire concrete and related work as specified in Section 01700.

END OF SECTION

**SECTION 03720**

**ANCHORAGE TO EXISTING CONCRETE**

**PART 1 - GENERAL**

- 1.01 DESCRIPTION: Division 1 applies to this Section. Provide anchorage to existing concrete by means of epoxy, dowels and anchors complete as indicated, specified, and required.
- A. Work In This Section:** Principal items include:
1. Epoxy, dowels and anchors.
- B. Related Work Not In This Section:**
1. Cast-in-place concrete.
  2. Steel reinforcement.
  3. Surface preparation.
- 1.02 QUALITY ASSURANCE: Refer to Section 01400 for general testing requirements. Testing Laboratory shall perform conformance testing on samples of epoxy, anchors and dowels from material at the site or from place of distribution, each sampling shall conform with latest edition of ACI Standards and Practices including pertinent regulations of local Codes and regulations apply.
- 1.03 SUBMITTALS: Refer to Section 01300 for procedures.
- A. Product Data:** Submit data for proprietary materials and items including epoxy compounds.
- B. Laboratory Test Reports:** Submit laboratory test reports for epoxy materials and pullout tests as specified.
- C. Shop Drawings:** Submit including complete installation, layouts, sections, and details of existing conditions, typical configurations, spacing and offsets, splice lengths, depth of embedment, surface preparation and locations, proposed epoxy anchors and dowels anchorage intersect. Install in accordance with latest edition of ACI Standard and Practices. After Engineer's approval of initial submission, subsequent submittals may be waived at the Engineer's discretion.
- 1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING: Deliver materials in timely manner to ensure uninterrupted progress. Store materials by methods that prevent damage and permit ready access for inspection and identification.

## **PART 2 - PRODUCTS**

### 2.01 MATERIALS:

- A. **Epoxy Anchors and Dowels:** Unless otherwise noted furnish epoxy anchors and dowels by HILTI Hit-C-100 or covert inject adhesive-gel (CIA-GEL) anchors or approved equal systems by the Engineer for application or injection as designated on the drawings.
- B. **Reinforcements:** Provide reinforcing steel as specified in Section 03200.

## **PART 3 - EXECUTION**

### 3.01 INSTALLATION OF ANCHORAGE TO EXISTING CONCRETE: Install in accordance with procedures designated in drawings, apply or inject epoxy compounds in strict accordance with the manufacturer's specifications and recommendations for each intended type of use.

- A. **Anchors and Dowels:** Provide all epoxy grouted anchors and dowels. At random for each concrete pour 10% percent of the anchors and dowels shall be tested in tension to twice the design allowable tension values as indicated on the Drawings. Deficient anchors and dowels shall be replaced and retested at the Contractors expense. The Engineer may change the frequency of tests as construction progresses.
  - 1. The depths to drill anchorage holes are indicated on the Drawings. The hole diameter shall be equal to the outside diameter of the anchor or dowel plus 1/8" unless otherwise recommended by the Epoxy Manufacturer. The holes shall be cleaned and dry per Manufacturer's recommendations prior to installation.
- B. **Reinforcements:** Install in accordance with approved Shop Drawings and Manufacturer's recommendations. The reinforcement in existing concrete shall not be cut or damaged by the new construction. The Contractor shall submit his procedures for identification of existing reinforcement and post-tensioned strands for Engineer's approval prior to commencing work. The reinforcing dowels related to this Section shall be free of all contaminates. The Contractor shall provide adequate means to support anchors and dowels in place during placing of new concrete.

### 3.02 FIELD QUALITY CONTROL:

- A. **Inspection:** Continuous inspection shall be provided during epoxy, anchor and dowel installation. Reinforcing bar placement shall be inspected and approved prior to concrete installation.

- B. Testing:** The testing laboratory shall perform appropriate tests of epoxy work and submit test reports.
- C. Field Tests:** The testing service will make additional pullout tests of in-place work for 10% of installed anchors. Tests shall be as directed by the Engineer and shall include tests at beginning of work for each size and condition of anchors and dowels.
- D. Schedule of Work:** Perform Work in existing facilities during such hours and by methods as are approved by Owner. Submit proposed schedules itemizing dates and hours that the various items of Work in existing facilities will be started and completed. Owner reserves the right to modify proposed schedules to eliminate conflicts and ensure use of existing facilities during the Work. Exactly follow the schedule as finally approved by Architect/Owner. No extra payment will be made to the Contractor for the Work required to be performed during night, Saturday, Sunday, or holiday hours. Revise and resubmit schedules when timing or sequence changes occur or are ordered by Owner/Architect.

END OF SECTION

**SECTION 05100**

**STRUCTURAL METAL FRAMING**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide structural steel and related items as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Structural steel framing.
2. Steel pipe and tube framing.
3. Shop priming and field tough-up to extent specified.

**B. Related Work Not In This Section:**

1. Setting of anchor bolts and inserts in concrete.
2. Reinforcing steel.
3. Sprayed fireproofing.
4. Field painting except as specified herein.
5. Miscellaneous metal fabrications.
6. Intumescent Fireproofing Paint

1.02 QUALITY ASSURANCE:

**A. Reference Standards:**

1. AISC Standards: Code of Standard Practice for Steel Buildings and Bridges; Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings; and Steel Construction Manual; as amended by Building Department.
2. AWS Standards: AWS D1.1, Structural Welding Code.

**B. Qualifications of Fabricator:** Fabricate structural steel in shop of a licensed fabricator approved by Building Department.

**C. Requirements of Regulatory Agencies:** Work of this Section shall conform to Code and Title 8, CCR.

**D. Source Quality Control:** Refer to Section 01400.

**E. Identified Structural Steel:** Tests are waived for steel identified by heat number, accompanied by mill analyses and mill test reports, and properly tagged with Identification Certificate so as to be readily identified for conformance with applicable ASTM.



Steel tubing:	ASTM A500, Grade B or ASTM A36.
Steel pipe:	ASTM A120 standard weight for general use; ASTM A53, Grade B where used for structural purposes.
Bolts and nuts:	ASTM A307.
Electrodes:	AWS D5.1, E70XX Series as required for intended use.
Primer:	Sinclair No. 15 Red Oxide Primer or equal.

- A. Gas Cutting:** Use of a cutting torch will be allowed where the metal being cut is not stressed during the operation, and provide stresses are not transmitted through a flame-cut surface. Make gas cuts with a smooth regular contour. Deduct 1/8" from the width of gas cut edges to determine the effective width of members that are gas cut. Make the radius of reentrant gas cuts as large as possible, but 1" minimum.
- 2.02 CONNECTIONS: Make connections with common bolts unless otherwise indicated.
- 2.03 WELDING: Conform to AWS D1.1, as modified by referenced AISC Standards, and as indicated or noted on the Drawings. Employ certified welding operators who are thoroughly trained and experienced in arc welding and produce uniformly reliable groove and fillet welds in flat, vertical, and overhead positions, and make neat and consistent welds. Weld structural steel joints by the shielded electric-arc method unless otherwise shown or specified.
- A. Weld Finishing:** Grind exposed welds subject to contact to smooth surfaces free of holes, slag, or other defects, flush with the adjoining surfaces. No finish treatment is required for permanently concealed welds and other exposed welds.
- B. Storage and Care of Electrodes:** Coatings of low-hydrogen type electrodes shall be thoroughly dry when used. Use electrodes as taken from hermetically sealed packages within 4 hours of the time the package is opened. Electrodes not used within this 4 hour period, and electrodes that have been exposed more than one hour to air having a relative humidity of 75% or greater, shall be dried for at least two hours at a temperature of 200 to 250° F before they are used, or shall be reconditioned according to the manufacturer's recommendations. Electrodes so dried or reconditioned not used within 4 hours after drying is completed shall be redried before use. Electrodes of any class that have been wet shall not be used under any conditions.
- C. Preparation:** Clean surfaces to be welded of paint, grease, oil, mill scale, and all foreign matter. Clean weld each time the electrode is changed. Chip entire surface of hand guided and controlled flame cut edges before welding. Surfaces prepared with automatic or mechanical guided and controlled equipment need not be ground or chipped before welding.
- D. Procedures:** During assembling and welding, hold components of a built-up member with adequate clamps or other means to keep parts straight and in close contact. Do no welding in wind until adequate protective screening has been set

up. Cut out defective welds or parts of welds with a chisel or air arc and replace.

**E. Characteristics of Welds:** Completed welds shall be wire brushed and shall show uniform section, smoothness of welded metal, feather edges without undercuts or overlays, and freedom from porosity and inclusions. Visual inspection at edges and ends of fillet welds shall show good fusion and penetration into base metal.

2.04 **SHOP PRIMING:** Clean surfaces according to AISC Specifications. Apply shop coat of metal primer to minimum 1.0 mil dry film thickness. Work primer into joints. Do not prime the following:

1. Steel surfaces embedded in concrete or masonry.
2. Permanently concealed structural steel surfaces.
3. Surfaces to receive sprayed fireproofing.

### **PART 3 - EXECUTION**

3.01 **ERECTION OF STRUCTURAL STEEL:** Brace and secure structural steel until permanent connections are completed. Provide accessories and fasteners to secure steel in place as indicated and required. Conform to Code, AISC Standards, and erection and bracing plan and procedure.

- A. General:** Employ qualified riggers and plan erection to require minimum cutting. Erect members plumb, true to line and level, and in precise positions. Provide temporary bracing and guying to resist loads and stresses to which the structure may be subjected, including those due to erection equipment and its operation.
- B. Damaged Member:** During erection, straighten or replace members which are bent, twisted, or damaged as directed. If heating is required, perform the heating by methods that ensure a uniform temperature throughout the entire member. When directed, remove the members that are damaged to an extent impairing appearance, strength, or serviceability and replace with new members at no extra cost to Owner.
- C. Anchor Bolts:** Furnish and deliver with setting drawings and templates. Verify position of bolts prior to delivery of steel; report all errors or deviation for correction.
- D. Bearing Plates and Columns:** Set bearing plates and columns in exact position for alignment, plumb and straight, supported on adjustable bolt supports or shims until grout has set. Set center of base true to column center within 1/16" and adjust height exactly. Maintain bases at exact position and level during grouting. Fill grout space solid with non-shrink grout.

- E. Connections:** Maintain steel in correct position during welding and bolting, and provide for dead loads, wind, and all erection stresses. Do no welding or final bolting until members have been aligned and plumbed.

  - 1. Field Welding: Conform to requirements for shop fabrication and perform under continuous inspection.
  - 2. Common Bolts: Tighten and upset bolt threads to preclude loosening, or use approved self-locking nuts.
  
- F. Tolerances:** Erect members of tolerances conforming to referenced AISC Standards and Code.
  
- 3.02 FIELD TOUCH-UP PAINTING: After erection and connections are approved, clean all connections to be painted and damage to shop painted surfaces, and apply a field touch-up coat of same metal primer used for shop coat.
  
- 3.03 FIELD QUALITY CONTROL: Refer to Section 01400.

  - A. Inspection:** According to Reference Standards and AWS "Welding Inspection". The Inspector shall visually inspect welds, and shall inspect all erection including grouting under base plates.
  
  - B. Schedule of Work:** Perform Work in existing facilities during such hours and by methods as are approved by Owner. Submit proposed schedules itemizing dates and hours that the various items of Work in existing facilities will be started and completed. Owner reserves the right to modify proposed schedules to eliminate conflicts and ensure use of existing facilities during the Work. Exactly follow the schedule as finally approved by Owner. No extra payment will be made to the Contractor for the Work required to be performed during night, Saturday, Sunday, or holiday hours. Revise and resubmit schedules when timing or sequence changes occur or are ordered by Owner.

END OF SECTION

**SECTION 05500**

**METAL FABRICATIONS**

**PART 1 - GENERAL**

- 1.01 DESCRIPTION: Division 1 applies to this Section. Provide miscellaneous metal fabrications complete as indicated, specified, and required.
- A. Work In This Section:** Principal items include:
1. Above-ceiling supports.
  2. All other miscellaneous metal fabrications required to complete the Work.
  3. Handrails.
- B. Related Work Not In This Section:**
1. Finish painting.
  2. Setting of anchor bolts and inserts in concrete.
  3. Steel backing plates on stud walls.
- 1.02 QUALITY ASSURANCE:
- A. Reference Standards:** Conform to the following as applicable:
1. AISC Standards: Code of Standard Practice for Steel Buildings and Bridges; Specification for the Design, Fabrication and Erection of Structural Steel for Buildings; and Steel Construction Manual.
  2. AWS Standards: AWS D1.1, Structural Welding Code.
- 1.03 SUBMITTALS: Refer to Section 01300 for procedures.
- A. Shop Drawings:** Submit Shop Drawings fully detailing all Work of this Section, including accessories, fastenings, and welding. Include minor connections and fastenings not indicated or specified to meet required conditions; indicate in detail on Shop Drawings.
- B. Samples:** Submit if requested by Architect.
- 1.04 PRODUCT DELIVERY AND HANDLING: Protect materials from damage during shipping, handling and storage. Work showing dents, creases, deformations, weathering, or other defects is not acceptable. Deliver welding electrodes to site in unbroken packages bearing manufacturer's name and contents identification.
- 1.05 JOB CONDITIONS: Verify conditions according to Section 01400. Verify all field measurements as required. Report any major discrepancy between the Drawings and field dimensions to Architect before fabrication of Work. Exercise caution to protect concrete floor surfaces and adjacent Work from damage.

## **PART 2 - PRODUCTS**

2.01 **BASIC MATERIALS:** Refer to Section 00880 Product and Finish Selections for required information. Furnish materials conforming to the following:

Steel shapes:	ASTM A36.
Steel tubing:	ASTM A500, ASTM A501, or ASTM A36.
Steel pipe:	ASTM A120 standard weight for general use; ASTM A53 Grade B where used for structural purposes.
Stainless Steel:	Type 304, Finish as selected by Architect.
Aluminum:	6063-T6 alloy mill finish.
Bolts and nuts:	ASTM A307.
Electrodes:	AWS D1.1, E70XX Series as required for intended use.
Primer:	Red Oxide Primer or equal.
Non-shrink grout:	Master Builders "Embeco", W. R. Grace "Vibro-foil", or equal.
Metallizing:	Provide zinc metallized "Galvalume" coatings on exposed metal elements, apply in accordance with applicator specifications and ASTM A792 for this factory process.
Galvanizing:	ASTM A123, hot dip, 2.0 ounce psf on actual surface with minimum 1.8 ounce on any specimen.
Galvanizing repair material:	All States Galvanizing Powder, Drygalv by American Solder and Flux, or equal hot applied material, or anodic zinc-rich galvanizing repair paint conforming to MIL-P-21035.

2.02 **GENERAL FABRICATION REQUIREMENTS:** Conform to the approved submittals, reference standards as applicable to the Work, and the requirements herein. Fabricate and form the Work to meet actual installation conditions as verified at the site. Obtain necessary templates and information and provide all holes and drilling indicated or required for securing Work of other trades to metal fabrications.

- A. Welding:** Conform to AWS D1.1, as modified by referenced AISC Standards, and as indicated or noted on Drawings. Unless otherwise indicated or specified, weld joints by shielded electric-arc method. Grind exposed welds subject to contact to smooth surfaces free of holes, slag, or other defects, flush with adjoining surfaces. No finishing treatment is required for permanently concealed welds and other exposed welds except as specified herein. Cut out defective welding with chisel or air arc and replace.
- B. Shop Priming:** Clean all exterior exposed steel in accordance with SSPC-SP6 Commercial Blast Clean. Apply Tnemec 90-97 Tneme-Zinc (or approved equal) to all exterior exposed surfaces @ 2.5 to 3.5 mils DFT. 90-97 meets AISC slip

coefficient requirements as Class B rating. Clean all interior steel in accordance with SSPC-SP2 Hand Tool Clean and /or SSPC-SP3 Power Tool Clean. Apply Tnemec 10-99 Primer (or approve equal) @ 2.0 to 3.5 mils DFT. Do not prime galvanized items or items embedded in concrete or masonry.

- C. Galvanizing:** Galvanize specified items after fabrication is completed. Produce coating free of roughness, whiskers, unsightly spangles, icicles, barbs, sags, and other surface blemishes.
- D. Miscellaneous Items:** Fabricate items not specifically mentioned according to the Drawings, approved Shop Drawings, and as required to complete the entire Work. Galvanize exterior items and shop prime interior items unless otherwise shown or specified.

### **PART 3 - EXECUTION**

#### 3.01 GENERAL INSTALLATION REQUIREMENTS:

- A. Grouting:** Provide grouting for Work of this Section as shown, specified, and required. Use non-shrink grout and conform to manufacturer's directions.
- B. Galvanizing Repair:** Wire brush welds and damaged coating to clean bright metal. Apply one coat of galvanizing repair paint where surfaces are concealed or are to be finish painted. Use the specified hot-applied galvanizing repair compound where surfaces remain exposed and unpainted.
- C. Shop Prime Coat Repair:** Do not apply metal primer in wet weather unless steel is protected from dampness and is dry. Clean field welds, field bolts, and all damaged shop primer after erection and apply a spot coat of the same primer used for the shop coat.
- D. Fasteners:** Provide fasteners and connectors of approved types as required for the installations, whether or not indicated. Provide galvanized fasteners for galvanized items and for exterior use.

#### 3.02 SPECIFIC ITEMS: List of items hereinafter is not necessarily complete. Check all Drawings, other Sections of the Specifications, and with other trades, and provide miscellaneous metal fabrications as required to complete the entire Work.

- A. Above-Ceiling Supports:** Provide steel hangers, supports, attachments, and other framing for support of ceiling-hung items. Conform to approved Shop Drawings of related trades.
- B. New and Existing Handrail Extensions:** Provide new and existing handrail extensions; fabricate railings as indicated on drawings or as indicated by Architect, provide shop drawings for Architects approval. Standard weight steel pipe, joints mitered at angles and coped at intersections unless otherwise shown, and continuously welded, welds ground smooth and flush. Provide cast malleable

steel brackets with mounting plates for all railings on walls. Return exposed rail ends to walls unless otherwise shown. Metalize exterior railings only. Handrail brackets is designed based on the use of Julius Blum No. 386, 1386 where galvanized, malleable iron with concealed center fasteners, or approved equal. Locate at 48" on center maximum. Provide backing plate spacer appropriate to substrate and secure to structural substrate with 3/8" diameter bolt as recommended by manufacturer.

END OF SECTION

**SECTION 06100**

**ROUGH CARPENTRY**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide rough carpentry complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Rough construction wood and plywood framing.
2. Wood blocking, grounds, backing, stripping, cants, and nailers as indicated, specified, or required for securing other Work, except for those items specified to be furnished by other trades.
3. Provide rough hardware incidental to Work of this Section and install steel non-standard framing connectors furnished under Division 5.
4. Wood preservative treatment.

**B. Related Work Not In This Section:**

1. Concrete forms.
2. Finish carpentry and millwork.
3. Casework and cabinetwork.
4. Insulation.
5. Furnishing of steel non-standard wood framing connectors.

1.02 QUALITY ASSURANCE:

**A. Requirements of Regulatory Agencies:** Conform to CBC and Uniform Building Code, Chapter 23 for construction, nailing, and connections except as exceeded by requirements on Drawings or specified.

**B. Supervision:** Perform rough carpentry under the direction of capable experienced foreman.

1.03 PRODUCT DELIVERY AND STORAGE: Store lumber materials, plywood, and metal items off the ground, protected from rain and dampness.

1.04 JOB CONDITIONS: Coordinate with related trades and plan the framing and furring to accommodate structural members, finish materials, piping, conduits, ductwork, mechanical and electrical equipment, accessories, and fixtures.

**PART 2 - PRODUCTS**

2.01 LUMBER: Douglas fir and Larch, all S4S unless otherwise indicated or specified, manufactured, graded, and bearing grade mark of WCLIB Standard Grading Rules 16 or

WWPA Grading Rules, moisture content at time of enclosure not over 19% or less than 7%.

- A. Grades:** Use grades as scheduled, species as noted on Structural drawings.
  - 1. Miscellaneous. For blocking, nailers, and other non-stressed lumber, WCLIB "Economy", equivalent WWPA grade, or as scheduled for studs.
- B. Lumber Pressure Preservative Treatment:** Pressure treat all lumber for blocking, screeds, cants, nailers, grounds, stripping, rough bucks, plates, sills, and the like resting on or against steel, masonry, or concrete, or connected to roofing, in accordance with AWPA Standard C1 and AWPI Standard LP-2, each piece of lumber bearing the mark of an approved testing agency. Deliver to the site at maximum 14% moisture content. When necessary to cur, not, tap, bore, splice, or frame treated lumber, thoroughly paint newly cut surfaces with same preservative used in treatment of lumber.
- C. Plywood:** Provide Douglas fir plywood elsewhere conforming to PS 1-95, Group I, "Exterior" type, grade marked by recognized grading agency (APA), grades as noted on Structural Drawings. OSB panels may be allowed if approved by the Structural engineers. OSB panels shall conform to PS 2-92, Exposure-1. Use structural-1 sheathing for structural application (diaphragm and shear walls). Use plywood only at exterior walkways and deck surfaces.
- D. Fire-Retardant Treatment:** Provide as indicated on drawings and where required by the Building Code. Pressure treat to flame spread rating of 25 or less and fuel contribution of 30 or less when tested in accordance with ASTM E84, each piece bearing the UL label of conformance. Re-dry to maximum 14% moisture content.

2.02 **ROUGH HARDWARE:** Provide rough hardware required to complete the Work shown and specified. The term "rough hardware" includes bolts, nuts, nails, washers, lag screws, washers, plates, post and beam anchors, joist hangers, framing hangers, wood connectors, and similar items used for construction of rough wood framing. Non-standard steel framing connectors are specified in Division 5 and installed under this Section.

- A. Nails:** Provide common wire nails, sizes as indicated. Provide ring-shank nails for plywood on floors.
- B. Adhesive:** Elastomeric adhesive RainBuster 345 or approved equal conforming to American Plywood Assn. Specification AFG-01 for "APA Glued Floor System".
- C. Bolts and Nuts:** ASTM A307, galvanized for exterior or exposed use.
- D. Washers:** As noted on Drawings, galvanized for exterior or exposed use.

- E. Stock Framing Connectors:** By "Simpson" or approved equal, types indicated or required, galvanized, with nails furnished by manufacturer of anchors used. Fully drive nails in all holes in anchors. If other than Simpson connectors are proposed for use, submit Code approval catalog data with proposed substitutions circled.

### **PART 3 - EXECUTION**

- 3.01 **GENERAL:** Fabricate, install, connect and fasten, bore, notch, and cut wood and plywood framing with joints true, tight, and well-nailed, screwed, or bolted as required, all members with solid bearing without being shimmed. Set horizontal members subject to bending with crown up. Install framing plumb, square, true, and cut for full bearing. Splices are not permitted between bearings. Use full lengths except as detailed. The notching, drilling, splicing, or cutting of any structural member is not permitted without prior approval. Reinforce or replace wood framing members damaged by erroneous cutting as directed. Perform cutting for other trades under their direction. Wherever necessary to avoid splitting, sub-drill for nails and screws with diameter of hole smaller than that of nails or screws.
- 3.02 **NAILING:** Use nails or spikes of such lengths that penetration into second piece of wood is not less than one-half the nail or spike length, except 16d nails may be used to connect pieces of 2" nominal thickness. Set nails no closer together than one-half nail length, nor closer to wood edges than one-fourth-nail length. Sub-drill holes where necessary to prevent splitting. Use of power driven nails is subject to approval by the Engineer. Demonstrate satisfactory installation of machine nailing at the site and obtain approval by Structural Engineer before using machine-applied nails; such approval is subject to continued satisfactory performance.

#### **A. Nails and Spikes:**

1. Furnish only common wire nails or spikes whenever indicated, specified or required.
2. Whenever necessary to prevent splitting, holes shall be pre-drilled for nails and spikes.
3. Nails in plywood shall not be overdriven.
4. Machine Applied Nailing: Use of machine nailing is subject to a satisfactory Project site demonstration for each Project and review by the Engineer. Installation is subject to continued satisfactory performance. Machine nailing is not permitted for 5/16" plywood. Do not permit nail heads to penetrate outer ply. Maintain minimum allowable edge distances when installing nails.
  - a. Powder Driven Fasteners:
    1. Loads shall not exceed 75 pounds unless indicated on the Drawings or when reviewed by the Architect.
    2. The operator, tool, and fastener shall perform the following as observed by the Engineer.

- a. Observe installation of first 10 fasteners.
- b. Test the first 10 fasteners by performing a pullout test. Load shall be at least twice the design load, or 150 pounds, whichever is greater.
- c. Random testing:
  3. Load less than 75 lb. - approximately 1 in 10 pins.
  4. Load 75 lb. or greater - 1/2 of the pins.
  5. Failure of any test will result in testing of all installed pins.
  6. Nail heads shall not break the outer skin of sheathing.
  7. Non-compliant pins shall be replaced.

3.03 LAG SCREWS. Place by screwing; do not hammer drive into place. Install screws with anchorage embedment in piece lagged of not less than 60% of screw length or 8 diameters. Provide standard malleable iron or steel plate washer under heads. Bore a hole of same diameter and depth as shank. For threaded portion of screw, bore the hole with a bit not larger than base of thread.

**A. Lag Screws:**

1. When installing lag screws in a wood member, pre-drill hole as recommended by CBC.
2. Lag screws, which bear on wood, shall be fitted with standard steel plate washers under head. Lag screws shall be screwed and not driven into place.

3.04 BOLTS: Clamp members together and bore holes true to line and 1/32" larger than bolt diameter. Provide standard malleable iron or steel washers under heads and nuts when bearing on wood. Draw nuts up tight as installed and again just prior to being enclosed with other materials or at completion.

**A. Bolts:**

1. Lumber and timber to be fastened together with bolts shall be clamped together with holes for bolts bored true to line.
2. Bolts shall be fitted with steel plates or standard cut washers under heads and nuts. Bolts shall be tightened when installed and again before completion of the Work of this section.

3.05 WOOD SCREWS: When installing wood screws, pre-drill holes as recommended by CBC/UBC.

3.06 FRAMING ANCHORS: Framing anchors, joist hangers, ties, and other mechanical fastenings shall be galvanized or furnished with a rust inhibitive coating. Nails and fastenings shall be of the type recommended by manufacturer.

3.07 SILLS ON CONCRETE OR MASONRY: Anchor as indicated or required by Code. Tighten with washers and nuts to level bearing. Use pressure treated lumber or approved redwood.

3.08 STUD WALLS, PARTITIONS AND FURRING:

- A. **Wood stud walls**, partitions and vertical furring shall be constructed of members of size and spacing indicated. Provide single plate at bottom and double plate at top unless otherwise indicated. Interior, nonbearing non-shear partitions may be framed with a single top plate, installed to provide overlapping at corners and at intersections with other wall and partitions or by metal ties as detailed.
- B. **Walls and partitions** shall be provided with horizontal staggered blocking at least 2" nominal thickness and same width as studs, fitted snugly, and nailed into studs. Blocking shall be installed at mid-height of partition or not more than 7 feet on center vertically. Install wood backing on top of top plate wherever necessary for nailing of lath or gypsum board.
- C. **Walls, partitions and furred spaces** shall be provided with 2" nominal thickness wood firestops, same width as space to be firestopped, at ceiling line, mid-height of partition and at floor line. Firestops at floor line are not required when floor is concrete. If width of opening is such that more than one piece of lumber is necessary, provide 2 thicknesses of one inch nominal material installed with staggered joints.
- D. **Firestops shall be** installed in stud walls and partitions, including furred spaces, so the maximum dimension of any concealed space is not over 10 feet.
- E. **Corners, and where wood** stud walls and wood vertical furring meet, shall be constructed of triple studs. Openings in stud walls and partitions shall be provided with headers as indicated and a minimum of 2 studs at jambs, one stud of which may be cut to support header in bearing.
- F. **Where wood masonry or concrete** walls intersect, end stud shall be fastened at top, bottom and mid-height with one 1/2" diameter bolt through stud and embedded in masonry or concrete a minimum of 4". Bolts shall be provided with washers under nuts.
- G. **Sills under bearing, exterior** or shear walls shall be bolted to concrete with 5/8" diameter x 12" long bolts spaced not more than 4 feet on center. There shall be a bolt within 9" of each end of each piece of sill plate. Sills shall be installed and leveled with shims, washers, with nuts tightened to level bearing. Space between sill and concrete shall be dry packed with cement grout.

3.09 CEILING FRAMING: Provide joists as shown, placed with crowning edge up. Conform to the following requirements unless otherwise indicated.

- A. **Ceiling Framing:**
  - 1. Wood joists shall be of the size and spacing indicated, installed with crown edge up, and shall have at least 4" bearing at supports. Provide 2"

- solid blocking, cut in between joists, same depth as joists, at ends and bearings, unless otherwise indicated.
2. Ceiling joists of more than 4" in depth and roof joists of more than 8" in depth shall be provided with bridging. Floor joists shall be bridged every 8 feet with solid blocking or metal cross bridging. Roof joists shall be bridged every 10 feet.
  3. Joists under and parallel to bearing partitions shall be doubled and nailed or bolted together as detailed. Whenever a partition containing piping runs parallel to floor joists, joists underneath shall be doubled and spaced to permit passage of pipes and blocked with solid blocking spaced at not more than 4 feet intervals.
  4. Trimmer and header joists shall be doubled, when span of header exceeds 4 feet. Ends of header joists more than 6 feet long shall be supported by framing anchors or joist hangers unless bearing on a beam, partition, or wall. Tail joists over 12 feet long shall be supported at header by framing anchors or on ledger strips at least 2 x 4.
  5. Provide solid blocking between rafters and ceiling joists over partitions and at end supports where indicated.

**B. Beams, Girders and Joists:**

1. Ends of wood beams, girders and joists which are 2 feet or less above finished outside grade and which abut, but do not enter concrete or masonry walls, as well as wood blocking used in connection with ends of those members shall be treated with wood preservative.
2. Where wood beams, girders and joists enter masonry or concrete walls 2 feet or less above outside wall, metal wall boxes or equivalent moisture barriers shall be provided between wood and masonry or concrete.

**C. Bridging:** Provide 2" solid wood blocking, cut in between joists for same depth as joist, as indicated.

- 3.10 **NAILING STRIPS AND PLATES:** Provide wood nailing strips, plates, and blocking as shown or required, securely nailed or screw fastened in place. Bolt wood strips and plates to metal. Use treated lumber for members on concrete or masonry.
- 3.11 **WOOD BACKING:** Provide wood backing to receive mechanical or electrical fixtures and equipment, bases, cabinets, door stops, wall plates, toilet accessories and partitions, and other fixed equipment or other fixed items, as indicated or required, securely nailed or screw fastened to framework. Coordinate locations with related trades.

END OF SECTION

**SECTION 06200**

**FINISH CARPENTRY**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide and perform finish carpentry complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Plastic Laminate Countertops
2. Solid Surface Countertops
3. Plastic laminate finished cabinets and casework.
4. Back priming to extent specified.
5. Installation of finish hardware except as otherwise specified.
6. Installation of hollow metal doors and frames.

**B. Related Work Not In This Section:**

1. Finish painting.
2. Furnishing hollow metal doorframes.
3. Furnishing finish hardware for doors.
5. Mechanical connections, plumbing.
6. Electrical connections.

1.02 QUALITY ASSURANCE: Work of this Section shall conform to the Manual of Millwork of the Woodwork Institute (WI), Current Edition, grades as specified herein or indicated. Prior to delivery to site, submit WI Certified Compliance Certificates indicating each millwork product for the Work and that all products will fully conform to the WI grades and other requirements shown and specified.

**A. High-Pressure Decorative Laminate:** NEMA LD 3, grades as indicated, or if not indicated, as required by woodwork quality standard.

1. Manufacturer: Subject to compliance with requirements, provide high-pressure decorative laminates by one of the following:
  - a. WilsonArt Plastics Co.
  - b. Formica Corporation
  - c. Nevamar Corp.

1.03 SUBMITTALS: Refer to Section 01300 for procedures.

**A. Shop Drawings:** Submit for following items,

1. Provide shop drawings for all cabinets and caseworks for Architects approval prior to fabrication.

2. Show locations of steel backing plate or wood blocking required for the anchoring of cabinets, casework, and other Work of this Section. This work to be done by others.

**B. Samples and Product Data:** Submit as required by Architect:

1. Finished material samples and trim profiles.
2. Solid Surface Material. "Avonite" or "Corian", with all exposed edges polished. Thickness as indicated and approved by Architect. Refer to Drawings schedule for selections.

## **PART 2 - PRODUCTS**

2.01 **MATERIALS AND MANUFACTURER:** Conforming to WI Manual unless otherwise specified. Details on Drawings and requirements specified herein govern arrangement, sizes, construction, and fabrication. In all other respects, manufacture Work of this Section to conform to the WI grades specified.

- A. Plastic Laminate Countertops:** WI Section 16, "Custom" grade, all self-edged unless otherwise shown. Seal the edges of sink and plumbing trim cutouts with resin sealer. Make stops up to 12-foot length in one piece; for longer lengths, use not over two pieces, assembled with draw-bolts and splines, jointed flush and smooth as shown on approved Shop Drawings. Splices shall not occur across sink cutouts. Seal joints at splices with mastic. Provide non-drip rolled bullnose edges and rolled backsplash.
- B. Decorative Synthetic Countertops:** WI Manual, "Premium" grade by Avonite, Corian or equal. Provide one-piece countertops, minimum 3/4" thickness, with backsplash, full bullnose cove roll edge treatment and exposed edges polished. Seal the countertops per manufacturer's recommendations. Install in accordance with manufacturers instructions for this type in installation. The color to be selected by Owner/architect or as scheduled on drawings. If Architect selects to use ceaserstone in lieu of material stated above contractor shall fabricate materials in accordance with stated above.
- C. Plastic Laminate Finished Cabinets and Casework:** Conforming to WI Manual "Custom" or better grade, or equal, with a high pressure plastic laminate for edge banding, white polyester overlay cabinet liner in cabinets and drawers. Low-pressure decorative polyester or melamine overlay is not permitted for other uses. Plastic laminate at semi-exposed locations, such as open shelf units.
- D. Cabinet Hardware:** Conforming to WI Supplement No. 1 to Section 14 and 15 except as modified herein, US26D finish except USP hinges for opaque paint finished items, plus related cabinet hardware as required for completely equipped installations, all of approved types. Include the following:
1. Hinges: Concealed (European Style) or pin hinges as selected by

Architect.

2. Door and drawer pulls, wire pull US26D finish as selected and approved.
3. Magnetic catches except elbow catches for inactive leaf of locked pairs of doors.
4. Drawer guides, full extension type.
5. Adjustable shelf hardware as required.
6. Base adjusters with covers.
7. Door and drawer locks as indicated.
8. Door Silencers.

**D. Back Priming:** Use exterior wood primer or enamel undercoater of type specified in Section 09900, except use a tinted resin sealer on natural finished woodwork with care not to coat exposed surfaces. Back prime the following items:

1. Items so specified.
2. Wood, particleboard, or hardboard against plaster, concrete, or masonry.
3. Concealed surfaces of exterior wood opening frames.
4. All exterior wood trim.

**E. Fire Resistive Adhesives:** For plastic laminates use and countertop segment adhesive use rigid (urea, resorcinol) adhesive complying with WI Type II Water Resistant adhesive approved type for required installation.

### **PART 3 - EXECUTION**

3.01 **INSTALLATION OF CABINETS AND CASEWORK:** Perform by manufacturer's skilled and experienced mechanics according to the approved submittals, scribe cabinets, casework and molding to walls and adjoining surfaces, using first class workmanship throughout. All installation shall conform to Section 26 of the WI Manual of Millwork.

- A. Fixed Cabinets:** Set base and wall cabinets level and straight. Securely fasten to walls or floors with fasteners and anchors as required and approved. Conform anchorages to Code.
- B. Cabinet Hardware:** Fit and install cabinet hardware at the shop. After cabinets are in place, readjust each item and leave in correct working condition.

3.02 **INSTALLATION OF FINISH CARPENTRY:**

- A. General:** Conform to Drawings, approved submittals, and the WI Manual. Repair all damage as approved.
- B. Wood Work:** Provide wood work in single lengths where possible. Make allowance for scribing by cutting on job. Cope or miter corners. Use waterproof glue for all gluing. Species as scheduled or shown on drawings.

- 3.03 INSTALLATION OF FINISH HARDWARE: Install hardware supplied under Section 08710, excluding only hardware specified to be installed at the factory or under other Sections. Drill pilot holes for screws and screw home; hammer driving of screws is not allowed. After installation and fitting, remove finish hardware items on surfaces to be painted, except prime coat items, repack in original containers, and perform final installation, testing, and adjustment after finish painting is completed. Adjust hinges to swing smoothly but not loosely, without sticking or hinge-bound conditions. Adjust other hardware for correct operation.
- 3.04 INSTALLATION OF HOLLOW METAL WORK: Conform installation to submittals approved under Section 08110 and manufacturer's instructions. Install all frames plumb, straight, in true alignment, rigidly connected to walls and building structure. Erect in proper sequence with other trades to prevent delays. Erect within the tolerances specified or shown in the approved submittals.

END OF SECTION

## **SECTION 07210**

### **BUILDING INSULATION**

#### **PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide building insulation complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Thermal batt insulation for exterior walls and under floor and roof deck and above ceilings where indicated on drawings.

**B. Related Work Not In This Section:**

1. Sound insulation in interior partitions in Section 09250.
2. Insulation for mechanical systems in Division 15.

#### **PART 2 - PRODUCTS**

2.01 MATERIALS:

- A. Thermal Batt Insulation:** Per ASTM C665, Type III, Class A, FSK, labeled flame spread of 25 or less and smoke developer of less than 450 where exposed or required by Code the greater of, R-30 for roof and R-19 for exterior walls or as indicated on drawings unless otherwise indicated or required by Code, batts with flanges for use under roof decks and friction-fit batts for use above ceilings in studs and metal framing. Type II batts with kraft facing to be used in areas enclosed by incombustible finish materials provided such batts and usage are approved by Building Department or as specified in fire rated assemblies. Manufacturer shall match those specified in the fire rated assemblies noted on the drawings. Insulation type and facing shall match that required by indicated fire assemblies.
- B. Staples:** Stainless steel, monel, or copper-coated steel, size directed by batt manufacturer.
- C. String Wires:** Minimum 18 gage galvanized steel wire.

#### **PART 3 - EXECUTION**

3.01 INSTALLATION OF BATTES: Install all batts with close fit, free of gaps, holes, or sagging. Maintain a nominal 3/4" air space between insulation and interior wall or ceiling finish material. Staple flanges at 4" centers and ensure batt facings form a continuous vapor barrier. Provide taut stretched string wires along the center of horizontal or sloping batts where support spacing exceeds 16" on centers.

- A. Wood and Metal Stud Framing:** Provide friction-fit batts, tightly fitted to stud webs and wood furring.
  
- B. Floor and Roof Decks:** Install insulation secured with staple flanges together at 4" centers. Seal all stapled flanges and the joints at abutting vertical surfaces with pressure-sensitive plastic tape, forming a continuous vapor barrier. Provide 18 gage galvanized string wires under batts where necessary to prevent sagging, stretched taut.

END OF SECTION

**SECTION 07260**

**INTUMESCENT FIREPROOFING**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this section. Provide labor, materials, equipment, and application necessary for, and incidental to, the complete and proper installation of intumescent fire protection for application to steel structures and supports in accordance with all applicable requirements of contract documents.

**A. Work In This Section:** Principal items include:

1. Intumescent fire protection material.
2. Paint finish.

**B. Related Work Not In This Section:**

1. Section(s) 05120 and 05500: Structural steel and metal fabrications with reference to primer receiving fire protection materials.
2. Section 07270: Firestopping.
3. Section 09900: Painting.

1.02 REFERENCES:

**A. Listings:**

1. ULI – List of Equipment and Materials.
2. Intertek Testing Services/Warnock Hersey Certification Listing.
3. Test Standards.
  - a. ANSI/UL 263 (ASTM E119 and NFPA 251) – Fire Tests of Building Construction and Materials.
  - b. ASTM E84 – Surface Burning characteristics of Building Materials.
  - c. ANSI/UL 1709 – Rapid Rise Fire Tests of Protection Materials for Structural Steel.
4. Steel Structures Painting Council (SSPC) Surface Preparation Standards.
5. Material manufacturer's current published information.

1.03 SYSTEM DESCRIPTION: The intumescent fire protection materials shall be applied at the required thickness and rating per code requirements.

1.04 SUBMITTALS: Refer to Section 01300 for requirements.

**A. Submittals:**

1. **Manufacturer's Data:** Submit manufacturer's specifications, including certification as may be required to show material compliance with contract documents.
2. **Test Data:** Submit certified copies of test designs from nationally certified testing laboratory verifying for protection applied to substrates and tested in accordance with Reference 1.4.3.A. and B.
3. **Application Instructions:** Submit manufacturer's application instructions.

**B. Manufacturer's Instructions:** Submit copies of the manufacturer's specifications for fireproofing materials and application methods, with copies of Code and UL approvals.

**C. Certification:** Upon completion, the Contractor shall inspect fireproofing and deliver to Architect a written certification that installed materials and workmanship conform to Specifications.

#### 1.05 QUALITY ASSURANCE

**A. Requirements:**

1. **Manufacturer -** Company specializing in manufacturing products of this section.
2. **Applicator -** A firm with expertise in the installation of fire protection or similar materials. This firm shall be approved by the fire protection material supplier.
3. **Product -** The product shall be approved by the architect and applicable authorities having jurisdiction.

1.06 **DELIVERY, STORAGE AND HANDLING:** Deliver materials to the project in manufacturer's unopened packages, fully identified as to trade name, type, and other identifying data. Packaging shall bear the ULI or ITS labels and seals for fire resistance ratings. Store materials at a temperature above 40 degrees F (4 degrees C) in a dry location, protected from the weather. Damaged packages found unsuitable for use and any materials which have come into contact with contaminants prior to use shall be rejected and removed from the project.

1.07 **PROJECT/SITE CONDITIONS:** When the temperature at the job site is less than 40 degrees F a minimum substrate and ambient temperature of 40 degrees F shall be maintained prior to, during, and a minimum of 24 hours after application. If necessary for job schedule, the General Contractor shall provide enclosures and heat to maintain proper temperatures and humidity levels in the application areas. The General Contractor shall provide normal and or mechanical ventilation to allow proper drying of the intumescent and to ensure that a safe working area is achieved, during and after application. In enclosed areas, ventilation shall not be less than 3 complete air exchanges per hour. Intumescent fire protection shall not be applied until concrete toppings and or roofing applications have been installed. Relative humidity shall not exceed 80% throughout the total period of application and drying for the intumescent fire protection

material, and must not exceed 80% throughout the application and drying for the protective decorative finish coat.

- 1.08 **SEQUENCING AND SCHEDULING:** Applicator shall cooperate in the coordination and scheduling of fire protection work to avoid delays in job progress. The installation of piping, ducts, conduit, or other suspended equipment shall not commence until the application of the sprayed fire protection is complete in that area.
- 1.09 **MOCK UP:** Before proceeding with the work, the applicator shall apply the fire protection material to a section as a mock up. This section shall be witnessed by the architect's or owner's representative and shall be subject to their approval to be used as a guide for texture, and thickness of the finish work.

## **PART 2 – PRODUCTS**

- 2.01 **PRIMER:** Primer shall be approved by the manufacturer and applied in full accordance with the primer manufacturer's written instructions. See Section 09900 Painting.
- 2.02 **INTUMESCENT FIRE PROTECTION SYSTEM:** The intumescent fire protection shall be Nullfire® S605 as provided by Carboline Company, (805) 925-6416. Intumescent fire protection material shall be applied in accordance with drawings and/or specification, and shall have been tested, in accordance with REF. 1.4.3 A and B. 9or equivalent nationally certified testing laboratory and reported by Underwriter's Laboratories or Warnock Hersey. ULC is not acceptable.
- 2.03 **TOPCOAT DECORATIVE COATING:** Topcoat materials shall be as required for color-coding, aesthetics or additional surface protection, as supplied by Carboline Company, color as selected by the Architect. See Section 09900 Painting.

## **PART 3 – EXECUTION**

- 3.01 **PREPARATION:** All surfaces to receive fire protection material shall be clean, dry, and free of oil, grease, loose mill scale, dirt, dust, or other materials, which would impair bond of the fire protection material to the surface. Any cleaning of the surfaces to receive fire protection material shall be the responsibility of the General Contractor or steel erector, as outlined in the structural steel section. Confirm compatibility of surfaces to receive fire protection material. Steel surfaces shall be primed with a compatible primer recommended by the fire protection material manufacturer. All unsuitable substrates must be identified and made known to the General Contractor and corrected prior to the application of the fire protection material. The application of fire protection material shall not commence until certification has been received by the General Contractor that all surfaces to receive fire protection material have been inspected by the applicator and are acceptable to receive fire protection material. Provide masking, drop cloths, or other suitable coverings to prevent over spray onto surfaces not intended to be sprayed.
- 3.02 **APPLICATION:** Application of intumescent fire protection shall not begin until the General Contractor is notified by the applicator that surfaces to receive fire protection

have been inspected and are acceptable. Equipment and application shall conform to the manufacturer's written application instructions. The fire protection material shall be applied in sufficient thickness to achieve the required fire resistance rating with as many passes as necessary. The fire protection material and the topcoat decorative finish shall be applied by spray, brush, or roller in shop or field. Topcoat shall be applied according to the manufacturer's recommendations. Proper temperature and ventilation shall be maintained as specified in 1.9.

- 3.03 **CLEAN UP AND REPAIR:** The work area shall be maintained in an orderly condition. After the completion of work, equipment shall be removed and all surfaces not to be sprayed shall be cleaned to the extent previously agreed to by the applicator and the General Contractor. Upon completion of installation, all excess material, over spray, dropping and debris shall be cleared and removed from the job site. All patching of and repair to fire protection material, due to damage by other trades, shall be performed under this section and paid for by the trade responsible for the damage.
- 3.04 **INSPECTION AND TESTING:** In addition to continuous wet film thickness checks performed by the applicator during application, the installed intumescent shall be inspected by a qualified independent testing laboratory for thickness in accordance with the Steel Structures Painting Council (SSPC) Dry Film Thickness Testing. The results of the above tests shall be made available to all parties at the completion of each area and approved prior to the application of topcoat.

END OF SECTION

**SECTION 07270**

**FIRESTOPPING**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide firestopping and smoke seals complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. All openings in fire-rated floors and walls both empty and those accommodating penetrating items such as cables, conduits, pipes, ducts etc.
2. Head of wall openings between walls and connecting floors or roof assemblies.
3. Expansion joints in fire-rated walls.

**B. Related Work Not In This Section:**

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. Vertical fire spread at exterior walls.

1.02 QUALITY ASSURANCE: Firestopping materials shall conform to ratings as per ASTM E-814 (UL-1479). The ratings must be a minimum of one hour, but not less than the fire resistance rating of the assembly being penetrated. Fire tests shall be conducted with a minimum positive pressure differential of 0.03" of water column. Systems and materials and must be listed by one of the appropriate agency: UL, ICBO, California State Fire Marshal.

1.03 SUBMITTALS: Refer to Section 01300 for procedures.

**A. Product Data:** Within 35 calendar days after the Contractor has received the Owners notice to proceed, submit:

1. Materials list of items proposed to be provided under this Section.
2. Manufacturer's specifications, test data, and other data required to provide compliance with the specified requirements.
3. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

- 1.04 **PRODUCT HANDLING:** Protect the materials of this Section before, during and after installation, and protect the work and materials of all other trades. In the event of damage, immediately make replacements and repair to the approval of the Architect and at no additional cost to the Owner.

## **PART 2 - PRODUCTS**

### 2.01 **FIRESTOPPING:**

- A. Manufacturers:** Where firestopping or smoke seals are called for on the Drawings or as specified herein, provide materials manufactured by one (1) of the following manufacturers:
1. Hilti Corporation
  2. Dow Corning Corp., (517) 496-4000.
  3. 3M Contractor Products, (800) 328-1687.
  4. USG, (800) 964-4874.
  5. Tremco, Trimstop, (800) 551-3949
- B. Materials:** All materials shall restrict the transmission of temperature as well as the passage of flame, smoke and water. Materials shall be tested under ASTM E-814 (UL 1479) and pass.
1. Firestop Mortar: Single component portland cement/fly ash mortar. Requiring no support or anchoring devices to pass water hose stream tests.
  2. Firestop Sealant: Single component sealant, use gun grade for walls and overhead. Intumescent, endothermic sealant, caulk or mastic as required by Code for approval.
  3. Backing Material: Mineral wool, 4 pcf thickness manufactured by USG or approved equal.
  4. Firestop Sleeve: Fabricated sleeve, collar or boot used around plastic pipe and other penetrations in fire-rated walls.
  5. Firestop Compound: Firestop compound as required by system for Code approval.
  6. Metal Components: Provide metal components as required by system manufacturer to meet fire test requirements.
  7. Firestop Wrap Strips: Use intumescent wrap strips as required for Code approval.
  8. Firestop Pillow System: A moisture resistive sensitive bag containing semi-intumescent material.
  9. FireMaster Duct Protection System: A encapsulated fireproof blanket system for up to a 2 hour UL rating.
  10. Safing Insulation: UL approved, incombustible, by USG, Tremco, or equal, with Code approved galvanized steel closures, clips, and ties to secure insulation and conform to Code.

**PART 3 - EXECUTION**

- 3.01 SURFACE CONDITIONS: Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.
- 3.02 PREPARATION: Prepare the surface in accordance with approved manufacturer's recommendations.
- 3.03 APPLICATION: Apply the approved system and product to the designated surfaces in strict accordance with the manufacturer's recommended application procedures meeting Code requirements and approved by Architect. Firestop systems and materials shall have no adverse effect on the overall fire-rating or structural integrity of the wall or floor assembly.

END OF SECTION

**SECTION 07410**

**PREFORMED METAL PANELS**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide prefinished, preformed metal panels complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Preformed, prefinished metal panels.
2. Extruded vinyl weather seal.
3. Prefinished metal flashings and trim
4. Concealed fastenings and accessories as required.

**B. Related Work Not In This Section:**

1. Rough carpentry.
2. Structural supports for panels.

1.02 QUALITY ASSURANCE: Panel System (matching existing, location by location) by AEP SPAN Co., (214) 827-1740 or (800) 527-2503. Refer to Section 01600 for substitutions. Applicator shall be employed by preformed metal panel manufacturer or be approved by him and have a minimum 10 years experience performing this type of work.

**A. Applicable Standards:**

1. American Iron and Steel Institute - AISI Light Gauge Cold-Formed Steel Design Manual.
2. American Society for Testing and Materials.
3. Metal Building Manufacturers Association, Inc., MBMA 1996 Low Rise Building Systems Manual.
4. National Roofing Contractors Association, NRCA, The NRCA Construction Details.

**B. Manufacturer's Qualifications:**

1. Panel Siding as manufactured by AEP-SPAN, or Berridge Manufacturing Company or approved equal alternate by the Architect.

1.03 SYSTEM PERFORMANCE REQUIREMENTS

**A. Performance Testing:**

1. Structural load capacity to be determined by testing in accordance with ASTM E-1592-95 protocol for negative loading. Extrapolation is unacceptable.
2. UL Class 90 rating.
3. Metal siding shall have a maximum air infiltration rate of .06 cfm/ft<sup>2</sup> at a pressure differential of 6.24 psf. when tested in accordance with ASTM E-1680-95.
4. Metal siding shall have no uncontrollable leakage at a pressure differential of 6.24 psf when tested in accordance with ASTM E-1646-95.

#### 1.04 DESIGN REQUIREMENT

**A. General:** The Metal Panel System shall be supplied by the manufacturer as a complete system. All components of the system shall also be furnished by the same manufacturer.

**B. Design Loads:**

1. The Metal Panel System shall be designed in accordance with an applicable building code (choose one, MBMA, UBC, ASCE-7, SBCCI or any other local building code).

#### 1.05 SUBMITTALS: Refer to Section 01300 for procedures.

**A. Samples:** Submit samples of proposed metal shapes, finish, fasteners and accessories.

#### 1.04 PERFORMANCE REQUIREMENTS: Air infiltration shall be tested in accordance with ASTM E283. Infiltration shall not exceed 1.57 cfm per square foot (.003 M<sup>3</sup>/5M<sup>2</sup>) of fixed area. Water infiltration shall be tested in accordance with ASTM E331. No water penetration at a test pressure of 6.24 P.S.F.

#### 1.05 PRODUCT DELIVERY AND HANDLING: Protect materials from damage during shipping, handling and storage. Materials showing dents, scratches, deformations, rust or other defects will be rejected.

#### 1.06 JOB CONDITIONS: Verify condition according to Section 01400. Verify field measurements, report major discrepancies between Drawings and field measurements to the Architect before fabrication and installation.

#### 1.07 WARRANTY: Furnish manufacturer's warranty stating architectural fluorocarbon finish will be 1) Free of fading or color change in excess of 5 NBS units as measured per ASTM D 2244 68, 2) Will not chalk in excess of numerical rating of 7 when measured in accordance with ASTM D 659 74, 3) Will not peel, crack, chip or delaminate. Furnish also a written warranty by the manufacturer/applicator for a period of 10 (Ten) years from the date of substantial completion of the Work covering materials, labor required to maintain the roof and flashings in watertight conditions.

## **PART 2 - PRODUCTS**

2.01 **FLAT PANEL SYSTEM:** Provide Panel System (matching existing, location by location) by AEP-SPAN Co., Dallas, Texas 75226 (214) 827-1740 or (800) 527-2503 or equal system Berridge Manufacturing Company, (800) 231-8127 represented by D.V. Troyer Company (562) 402-2080 or, or approved equal, complete as indicated on Drawings and as specified herein. Panels shall be roll-formed in continuous lengths. Seams shall be capable of preventing siphoning, flooding and air infiltration through the seam.

**A. Panels:**

1. **Base Metal:** Steel shall conform to ASTM-A792 Galvalume<sup>®</sup>, minimum yield 40,000 psi, thickness 26 gauge.
2. For primers thicker than 0.5 mil. Steel conforming to ASTM A924 formerly ASTM A446. G-90 Galvanized, minimum yield 40,000 psi, thickness 26 gauge.
3. Conform to ASTM-A792 AZ50 (Galvalume<sup>®</sup>), 26 gage steel, coated both sides with a layer of GALVALUME(R) aluminum-zinc alloy (approximately 55% aluminum, 45% zinc) applied by the continuous hot dip method. Triple-spot minimum 0.55 ounce per square foot as determined by the triple-spot test per ASTM Specification A-792.

**B. Fabrication:** Unless otherwise shown on drawings or specified herein, panels shall be full length. Fabricate flashings and accessories in longest practical lengths. Siding panels shall be factory formed. Field formed panels are not acceptable.

**C. Material and Finish:** Flat panels shall be Galvalume 40 ksi embossed pre-finished, 26 gauge steel conforming to ASTM A792, with a factory finish, Color to match existing siding as approved by Architect.

**D. Accessories:** Provide corner and jamb panels, closure panels, drip flashing, and similar accessory units as shown and required, exposed surfaces finished the same as metal siding.

2.02 **FASCIA AND FLASHING:** Exposed adjacent flashing shall be prefinished and preformed with the material as indicated on drawings and finish as the panel. Gauge to be heavy enough to minimize oil canning effect.

2.03 **FASTENERS AND ACCESSORIES:** Standard product of the metal panels, as approved by the Architect.

**PART 3 - EXECUTION**

3.01 INSTALLATION:

- A. **Acceptance of Wall Condition:** Commencing installation by this Contractor will indicate that he has inspected the existing structure and accepts conditions as satisfactory as a base for the application of the work of this Section.
  
- B. **Install the work** of the Section in accordance with the drawings, and printed instructions of the metal siding manufacturer in relation to siding materials, fasteners and miscellaneous items required for proper installation. Conform installation to approved submittals and manufacturer's instructions, with recommended practices of AA, NRCA, SMACNA and MCA preformed metal guidelines, fasteners, joint lines plumb and uniformly spaced on panel surfaces. Immediately remove damaged Work that cannot be acceptably repaired and provide acceptable Work at no extra cost to Owner. Completed work shall be plumb, true and free of dents. Panel ribs shall be on the module indicated on the approved layout drawings. Excess sealant shall be removed. Panel lengths shall be continuous and only have lap joints where specifically shown on the drawings.

END OF SECTION

**SECTION 07600**

**SHEET METAL**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide sheet metal items complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Sheet metal flashings in connection with roofing.
2. Reglet and counterflashing assemblies.
3. Miscellaneous metal flashing and counterflashing as required, except where provided by mechanical and electrical trades.
4. Gutters and downspouts.
5. Wall flashings.
6. Drip flashings.
7. Coping caps.
8. Splash pans.
9. Equipment platforms.
10. Shop priming and field touch-up.
11. Calking.

**B. Related Work Not In This Section:**

1. Sheet metal in connection with Plumbing, Air Conditioning, and Electrical.
2. Metal accessories for drywall, lathing, and acoustical treatments.
3. Finish painting.
4. Sleeves for embedded items.
5. Built-up roofing.

1.02 QUALITY ASSURANCE: Drawing details and requirements herein govern, if required items are not detailed then SMACNA requirements are to be adhered to and coordinate instructions with manufacturers. Conform to the current "Architectural Sheet Metal Manual" published by Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) for conditions not indicated or specified and for general fabrication of sheet metal items.

1.03 SUBMITTALS: Refer to Section 01300 for procedures.

**A. Shop Drawings:** Submit for fabricated sheet metal showing details, methods of joining, anchoring and fastening, thicknesses and gages of metals, concealed reinforcement, expansion joint details, sections, and profiles.

**B. Samples and Product Data:** Submit Samples and data for materials or assemblies as Architect may request.

## **PART 2 - PRODUCTS**

### 2.01 BASIC MATERIALS:

Galvanized steel:	ASTM A525, coating G90, mill phosphatized for paint or waterproofing adhesion, 26 gage unless otherwise indicated or specified.
Aluminum:	T6065-T5 alloy, temper best suited for each purpose.
Lead:	FSQQ-L-201 4 lbs. sheet lead
Solder:	ASTM B32, B284.
Solder flux:	Standard brand non-corrosive acid-base type.
Fasteners:	Zinc or cadmium coated steel or stainless steel.
Felt:	ASTM D226, 30-pound type.
Primer:	Approved brand of zinc-dust zinc-oxide primer per Section 09900 with manufacturer's pretreatment materials.
Sealant:	Conforming to Section 07900.

### 2.02 RELATED MATERIALS:

- A. Reglets and Counterflashings:** Fry Reglet Corp. flashing systems complete with unions and preformed corners of necessary types for particular locations, of 26 gage galvanized steel, or approved equals by Metco Metal Products Co., Pacific Loxtite Flashing Co., National Cornice Works, Redco, Lane-Air, or equal. Use single manufacturer's products throughout equivalent to Type CO at concrete, Type MA at masonry, Type ST at plaster, or Type SM, as required by Drawings and details.

### 2.03 GENERAL FABRICATION REQUIREMENTS: Fabricate to avoid distortion and overstress of fastenings due to expansion and contraction. Provide expansion joints where necessary in continuous runs of sheet metal, constructed watertight and spaced 30-foot apart maximum. Lock and solder corners and blind hem exposed edges. Make joints with 4" lap and solder unless otherwise shown or specified. Fill single lock seams with sealant where soldering is not feasible. Extend flanges 4" minimum onto roof and wall surfaces. Fabricate sheet metal items in nominal 8-foot lengths unless otherwise shown or specified. HEM ALL EXPOSED EDGES.

- A. Soldering:** Do soldering slowly, immediately after application of flux, seams showing evenly flowed solder. Clean and neutralize finished soldering.
- B. Shop Priming:** Clean completed items, apply pretreatment, and prime all exposed surfaces with specified primer.

### 2.04 FABRICATED ITEMS: Of 24 gage galvanized steel as indicated on drawings except as otherwise indicated or specified.

- A. Coping Caps:** Corner units having maximum 18" long legs and joints locked and soldered watertight, intermediate joints at maximum 8-foot centers and equally

spaced. Make intermediate joints of the flush butted type, edges spaced about 1/4" apart and centered over an 8" long backing plate of same profile and gage as the cap, set in a 1/2" wide bead of sealant. Secure both edges with 1-1/2" wide 20 gage galvanized steel cleats spaced at maximum 32" centers and locked into drip hem.

- B. Drip Flashings:** Hemmed exposed edges, 1-piece lengths.
- C. Wall Flashings:** As detailed, all joints locked and soldered, top edge beaded for stiffening.
- D. Equipment Platforms:** All joints locked and soldered watertight, flanges extending at least 4" into roofing, outer edges hemmed.
- E. Custom Fabricated Items:** Fabricate in accordance with SMACNA requirements for each item. Provide to Architect shop drawings for approval prior to fabrication. Fabricate from materials using the proper alloy, oz. and thickness to prevent oil canning or telegraphing of any concealed fastener. Finish shall be "Bare" mill as scheduled on drawings. Install in accordance with approved shop drawings.

### **PART 3 - EXECUTION**

- 3.01 **GENERAL INSTALLATION REQUIREMENTS:** Install metal items as indicated, according to approved submittals, and as required to complete the Work. Securely fasten and assemble, and make watertight and weathertight. Back prime items with asphalt bitumen when in contact with concrete at grade.
- A. Coordinate Sheet Metal Items** in connection with roofing for proper installation, and furnish in sufficient time to avoid delay in roofing construction. Install roofing sheet metal simultaneously with roofing.
  - B. Calking:** Provide sealant calking as indicated and required to seal and complete Work of this Section. Conform to Section 07900.
  - C. Isolation:** Isolate sheet metal from contact with concrete or masonry with one layer of roofing felt or asphalt bitumen, except embedded items. Field preparation or cleaning of sheet metal items to receive paint or waterproofing products is unacceptable.
  - D. Provide Corner Heel Flashings** for all flashings that intersect walls, columns, door jambs, etc. Heel flashings will be fabricated to weather board lap with adjacent flashing and or building paper felts. Heel flashings indicated on drawings are minimums and do not indicate all intersections variations but are intended to indicate intent.

3.02 COMPLETION: Examine installed sheet metal, water test if necessary or directed, and correct damaged or defective items.

END OF SECTION

## **SECTION 07900**

### **CALKING AND SEALANTS**

#### **PART 1 - GENERAL**

- 1.01 DESCRIPTION: Division 1 applies to this Section. This Section covers calking of openings and joints indicated, specified, and required to make the entire building weatherproof and watertight, covers calking requirements for the entire Work, and pertains to any Section requiring calking, unless specified otherwise. Provide where required paintable acrylic calking materials, refer to Section 09900 Painting. Coordinate with Firestopping Section 07270 for fire rated joint materials.
- 1.02 QUALITY ASSURANCE: Employ a specialist-calking contractor having not less than 5 years experience in calking installations of size and complexity required for the Work. Prior to award of any subcontract for calking, submit qualifications and project history of the proposed Calking Subcontractor, including bid price information. If proposed Calking Subcontractor is not approved, provisions of the General Conditions will apply.
- 1.03 SUBMITTALS: Refer to Section 01300 for procedures.
- A. Samples and Data:** Submit the following:
1. Submittals for calking and sealants shall be provided at exposed conditions only, review shall be for color only. Samples of cured sealants showing full range of designated colors.
- 1.04 PRODUCT DELIVERY: Deliver calking and sealant materials in unopened factory labeled containers, each label bearing statement of conformance to standards specified for each material.
- 1.05 WARRANTY: Refer to Section 01740. Furnish a written warranty against defects in materials for 5 years and defects in workmanship for 2 years, covering all loss of adhesion or cohesion, deterioration, color changes, leaking, and other defects.

#### **PART 2 - PRODUCTS**

- 2.01 MANUFACTURERS: Provide sealants by one of the following manufacturers; Pecora, Dow Corning, Tremco, Sonneborn, General Electric and Johns Manville or approved equals. Obtain each type of joint sealant through one source from a single manufacturer. If sealants from separate manufacturers must be used and could come in contact with each other, provide written certification from every manufacturer involved that the sealants are compatible and will adhere to each other.
- 2.02 MATERIALS: Furnish sealants meeting following in-service requirements: Normal curing schedules are acceptable; Non-staining, color fastness (resistance to color change), and durability when subjected to intense actinic (ultra-violet) radiation are required. Furnish the products of only one manufacturer unless otherwise approved, sealant colors

as selected to match the adjoining surfaces; special colors may be required. Use sealants selected from the following types where required on drawings and as appropriate to the joint being sealed. The manufacturer shall confirm that the appropriate calking or sealant(s) are used for on each type application required.

- A. Type A Sealant:** Urexpam NR 200 Sealant, self-leveling or non-sag two-part urethane Type I, conforming to FS SS-T-00227 and ASTM D1850 as manufactured by Pecora, Trimco or approved equal.
- B. Type B Sealant:** Dyntrol II Sealant, three-part polyurethane sealant conforming to FS SS-T-00227 Type II, Class A as manufactured by Tremco, Pecora or approved equal.
- C. Type C Sealant:** Pecora 895 or 896 for door and window frames (all types) in stucco areas and Dow Corning 999 Silicone Glazing Sealant, one-part silicone rubber sealant, this is not used on masonry, all conforming to FS TT-S-001543A and FS TT-S-00230C or approved equal.
- D. Type D Sealant:** Sikaflex 1A or Dynatrol I-XL or AC-20 Acrylic Latex Sealant polyurethane conforming to FS TT-S-00230C, Type II, Class A by Sonneborn or Pecora or approved equal.
- E. Type E Sealant:** Sanitary 1700 Silicone Rubber Sealant or 898 Sanitary Silicone Sealant with mold inhibitors, as manufactured by General Electric, Pecora or approved equal.
- F. Type F Sealant:** Pecora AC-20 FTR Firestopping Systems by Pecora or Type 3-6548 Silicone RTV foam as manufactured by Dow Corning or RTV850 as manufactured by General Electric or Fire Resistive Joint Sealing System as manufactured by Trimco with backup of Cerablanket-FS backups, primers and bond breakers as manufactured by Johns Manville.
- G. Type G Sealant:** Proglaze System, including silicone construction sealant, Polyslim Tape, Poly-Wej gasket, Aro-Shim spacer and CCN sponge, as manufactured by Trimco or approved equal.
- H. Type H Sealant:** AC-20 FTR or AIS-919 Acoustical and Insulation Latex Sealants by Pecora or Trimco Acoustical Sealant or approved equal.
- I. Type I Sealant:** Pecora 895 or Trimco Proglaze or approved equal.
- J. Type J Traffic Bearing Application:** Furnish multi-component self leveling, non-sag, non-tracking sealant with Shore "A" Hardness range of 40 to 55 where subject to foot or vehicular traffic, meeting requirements of ASTM 920-79 or Federal Specification TT-S-227E, "Sealing Compound, Elastomeric Type, Multi-Component".

1. HPL, by Tremco.
  2. SL-2, by Sonneborn.
  3. Dynatred, by Pecora.
- K. Sealant Primer:** Non-sagging sealant meeting requirements of ASTM C920-79. Sealant primer as recommended by sealant manufacturer.
- L. Joint Cleaner:** Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- M. Joint Backing Material:** ASTM D1056 or ASTM D1565; round, closed cell polyethylene urethane or neoprene foam rod; oversized 30 to 50 percent larger than joint width; #92 Closed-Cell Polyethylene Backer Rod by Pecora.
- N. Bond Breaking:** Pressure sensitive tape as recommended by sealant manufacturer to suit application.

### **PART 3 - EXECUTION**

- 3.01 **INSPECTION:** Refer to Section 01400. Inspect surfaces and joints to be calked. Report to Architect in writing all conditions that prevent correct preparation, priming, and calking installation.
- 3.02 **TECHNICAL ASSISTANCE:** Furnish sealant manufacturer's technical field assistance as required to ensure proper use of sealants, preparation, and application.
- 3.03 **PREPARATION AND PROTECTION:** Conform to sealant manufacturer's instructions and apply materials to clean dry surfaces free of grease, oil, wax, or other matter that destroys or impairs adhesion. Remove lacquer and apply temporary masking tape on both sides of joints where surface staining may occur. Fill joints with joint backing material until the joint depth does not exceed 50% of joint width. Provide bond breaker to prevent bonding of sealant to backing material wherever joints exceed 1/2" width, or joint width is shown or required to exceed depth. Prime surfaces as required by manufacturer's instructions.
- 3.04 **APPLICATION:** Do not exceed 3/8" sealant depth unless specifically dimensioned. Minimum joint width is 1/8" for metal-to-metal joints and maximum 3/4" width elsewhere unless otherwise shown. Apply all sealant under sufficient pressure to fill voids. Finish exposed joints smooth and flush with adjoining surface unless recessed joints are shown. Remove temporary masking as soon as joint is completed.
- 3.05 **SCHEDULE:** Sealants shall conform to the following application schedule, unless the manufacturer requires another type of material.
- A. Expansion and Control Joints in Masonry and Concrete.** - Type B.
  - B. Expansion and Control Joints in Glass, Aluminum and Plastic.** - Type C.

- C. Expansion and Control Joints in Horizontal Traffic Surfaces.** - Type J
  - D. Nonexpanding Joints in Concrete, Masonry, Aluminum, Steel and Wood:** - Type D
  - E. Nonexpanding Joints in Glass and Plastic:** - Type C
  - F. Around Plumbing Fixtures in Toilet and Bath:** - Type E
  - G. Mechanical, Ductwork and Air Conditioning:** - Type D
  - H. Acoustical Applications:** - Type H
  - I. At Floor, Wall and Ceiling Penetrations Requiring Vibration Isolation, Sound or Fire Rating:** - Type F
  - J. At Window Wall Where Channel Glazing is Required:** - Type I
  - K. Cross Joints in all Copings:** - Type D
  - L. Any Gypsum Board Joints and/or Settings:** - Type D
  - M. For Sink, Tub or Bath Areas Including Countertop Joints:** - Type E
  - N. Intersection of Wall Surface and Metal Cap Strip at Resilient Flooring Integral Cove Sealant:** - Type D
  - O. Traffic Bearing Application:** - Types A or J
  - P. Sealant at Doors, Windows and Penetrations in Other Material Application:** - Types C
- 3.06 **CLEANING:** Clean material from surfaces not to receive sealant and restore the finish as required. If surfaces adjoining joints are stained and cleaning is not acceptable, remove the affected Work and provide new Work as directed and approved, at no extra cost to Owner.

END OF SECTION

**SECTION 08110**

**HOLLOW METAL**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide hollow metal items complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Hollow metal doors.
2. Hollow metal frames.
3. Dual glazed wall openings.
4. Hollow metal rated windows.
5. Prefinished interior hollow metal doorframes.

**B. Related Work Not In This Section:**

1. Installation of hollow metal doors and frames.
2. Furnishing finish hardware for hinged metal doors.
3. Glazing in hollow metal.
4. Grouting or back plastering of hollow metal frames.
5. Sheet metal louvers in hollow metal transom openings.
6. Glass and Glazing.

1.02 QUALITY ASSURANCE:

**A. Requirements of Regulatory Agencies:** Construct labeled openings in accordance with manufacturer's standard procedures filed with and approved by UL. Provide required UL labels on doors and frames.

**B. Tolerances:** Provide hollow metal door and frame assemblies having maximum 3/32" gap between top and side edges of wider door face and frame after installation, and maximum 1/4" clearance above finish floor except as otherwise required by floor finish material; provide maximum 3/32" gap between door edges at meeting stiles of pairs of doors.

1.03 SUBMITTALS: Refer to Section 01300 for procedures.

**A. Shop Drawings:** Submit Shop Drawings fully detailing materials, finishes, sizes, profiles, moldings, location of hardware items with reinforcement, and methods for anchoring, assembly, and erection.

**B. Samples:** Submit following Samples if requested by Architect:

1. Frame corner construction.
2. Door panel and edge construction.

3. Door louvers.
4. Glazing stop corners.

**C. Product Data:** Submit as required by Architect.

## **PART 2 - PRODUCTS**

2.01 **MATERIALS:** As supplied by one of following manufacturers subject to conformance with requirements herein; refer to Section 01600 for substitutions:

1. Overly Manufacturing Co.
2. Krieger Steel Products Co.
3. Steelcraft Manufacturing Co.
4. Amweld Metal Doors and Frames
5. Americraft
6. J-Door Company

**A. Types:** The sizes, types, thicknesses, profiles, details, and features indicated for doors and frames govern. In all other respects, provide doors and frames as standard with manufacturer except as specified herein. Where doors and frames are to be exterior type, provide galvanized steel (shop primed).

**B. Hollow Metal Doors:** Flush seamless type, minimum 16 gage galvanized steel at exterior applications and a minimum of 18 gage steel at interior applications, all doors shall have one-piece face panels, all parts welded and finished flush and smooth. Reinforce face panels with internal welded stiffeners, or bond to a plastic-treated honeycomb core or a foamed plastic core except foamed plastic is not allowed for labeled doors. Fill hollow core doors with mineral wool material to eliminate all metallic ring. Provide flush top edges of exterior doors. Reinforce the top, bottom, and both edges according to manufacturer's standards. Finish both face panels and all edges smooth and free of seams and distortion. Provide 1-3/4" by 12 gage full-height astragal on active leaf of pairs of doors.

1. Glazed Lights In Doors. Manufacturer's standard steel assembly, one side integral with door and other side equipped with applied steel stops of minimum 20 gage steel, one piece lengths, secured within 3" of ends and at 9" centers with oval-head screws.
2. Louvers. Manufacturer's standard inverted chevron steel type for interior doors, stormproof profile type with removable insect screens on interior side for exterior doors.

**C. Hollow Metal Frames:** Form the stops integral with frames. Reinforce heads over 42" wide with a full-length 12 gage channel. Provide frame anchors as required, not less than 3 anchors per jamb, except 4 anchors for openings over 7'-0" high. Provide galvanized steel plaster guards back of cutouts for hinges or mortised hardware on frames installed in concrete, masonry, or plaster. Fabricate frames of 14 gage or heavier gage steel if required by UL label requirements.

1. Frames: Fabricate frames of minimum 16 gage steel, weld all joints, all exposed welds ground smooth and flush.
- D. Both Single and Double-Glazed Wall Opening Frames:** Fabricate of minimum 18 gage steel, weld all joints, all exposed welds ground smooth and flush. Fabricate applied stops of minimum 20 gage steel, one piece lengths, secured with 3" of ends and at 12" centers with oval-head screws. At exterior walls, form exterior glass stops integral with frames.
- E. Hardware Preparation:** Prepare, reinforce, mortise, drill, and tap the doors and frames according to the templates supplied by the hardware supplier, reinforcing as standard with door and frame manufacturer except minimum 10 gage steel behind butts and 12 gage steel for mortised or surface-applied hardware. Conform to ANSI A115 Series as applicable to the hardware specified in Section 08710 unless otherwise indicated.
- F. Finish:** Thoroughly clean all surfaces and chemically treat for paint adhesion. Paint inaccessible surfaces before assembling. Sand exposed surfaces of hollow metal and accessories and make smooth with mineral filler as required. Apply a baked-on coat of manufacturer's standard rust inhibitive primer, including all interior surfaces of doorframes.

### **PART 3 - EXECUTION**

3.01 INSTALLATION: Refer to Division 6, Section 06200.

END OF SECTION

**SECTION 08210**

**WOOD DOORS**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Furnish and deliver wood doors complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Wood doors.
2. Installation of wood doors including hardware.

**B. Related Work Not In This Section:**

1. Hollow metal door frames.
2. Furnishing finish hardware for wood doors.
3. Glass and glazing.
4. Finish painting except for prefinished wood doors.

1.02 QUALITY ASSURANCE:

**A. Reference Standard:** Furnish doors conforming to National Wood Window and Door Association (NWWDA) and WI Manual for Hardwood Veneered Flush Doors unless otherwise required herein.

**B. Rejected Doors:** Furnish new doors conforming to requirements of this Section as replacements for doors rejected because of damaged surfaces, improper fitting or hardware preparation, or other cause, at no extra cost to Owner. Patching is not permitted for correction of defects.

**C. Fire-Rated Door Assemblies:** Where fire-rated door assemblies are indicated or required, provide fire-rated door and frame assemblies that comply with UL and NFPA 80 "Standard for Fire Doors and Windows", and have been tested, listed and labeled in accordance with ASTM E152 "Standard Methods of Fire Test of Door Assemblies", by a nationally recognized independent testing and inspection agency acceptable to authorities having jurisdiction.

**D. Labeled Fire Doors and Frames:** Doors and Frames designated to be labeled shall bear either UL or the "Warnock Hersey International Inc." label. The Door and Frame supplier must be a Warnock Hersey authorized door and frame supplier. Rating of assembly shall be as listed in door schedule.

1.03 SUBMITTALS: Refer to Section 01300 for procedures.

**A. Samples:** Submit Samples of the following unless waived by Architect.

1. Face veneer.
2. Door construction.
3. Baked enamel finish colors for specified items, conforming to Architect's prior instructions.

**B. Product Data:** Submit the following:

1. Manufacturer's specifications for all wood doors.

**C. Certificates:** Submit certificates by manufacturer that doors supplied conform to or exceed requirements of these Specifications.

1.04 WARRANTY: Refer to Section 01740 for warranty form. Furnish to Owner a written warranty, subject to provisions of the WI Manual or NWWDA "Standard Door Guarantee" except as modified herein, against defects in materials and workmanship for the following periods:

- |    |                          |              |
|----|--------------------------|--------------|
| 1. | Solid core panel doors - | 2 years.     |
| 2. | Interior flush doors -   | Life of door |

## **PART 2 - PRODUCTS**

2.01 MANUFACTURE: By one of the following manufacturers subject to conformance with requirements shown or specified; refer to Section 01600 for substitutions:

Eggers Industries, Inc. (920) 793-1351  
Marshfield Door Systems, Inc. (650) 579-5829

2.02 SOLID CORE WOOD DOORS: Solid core, conforming to the above reference standard and to requirements herein, either 5-ply for transparent finish, as approved by the Architect.

**A. Core:** Staved glued low-density lumber core, or solid particleboard core with minimum 28 pcf density conforming to Type I, Density C, Class I of CS 236, hot press resin bonded.

**B. Edges:** Minimum total 1-1/8" wide top and bottom rails with minimum 1/2" thick hardwood edge banding, and minimum total 1-3/8" wide stiles with minimum 1/2" thick hardwood edge banding, 1-piece or laminated. Fully bond laminated edge strips together and to core before cross banding is applied. Provide vertical edge banding of species to match face veneers for transparent finished doors.

- C. Crossbanding:** For 7-ply doors, two layers of minimum 1/16" thick hardwood extending to four edges of door, grain applied vertical and horizontal.
  - D. Face Veneer:** Of following type:

    - 1. Opaque paint finished interior doors - "Sound" grade birch or other dense closed grain hardwood, or a paintable medium density plastic overlay to match existing.
  - E. Adhesives:** For interior doors, Type I or II for cores, crossbanding, and face veneers.
- 2.03 **LABELED SOLID CORE WOOD DOORS:** Face veneers as specified above, conforming to UL re-examination label requirements for the rating scheduled, bearing required UL label on hinge stile. Provide lock blocks 5" wide at top and bottom rails and where required for hardware reinforcement. For fire rated doors use mineral cores and fire treated stiles.
- 2.04 **DOOR LOUVERS:** Inverted chevron units with straddle type frames, minimum 20 gage steel, welded construction, Air Louvers Ltd. 600-A, Anemostat-West CHDL-2F, or equal, with factory baked enamel finish to match door frames.
- 2.05 **HOLLOW CORE DOORS:** Same as solid core doors, including face veneers and edges, except hollow core construction of manufacturer's "Institutional" grade; include a horizontal rail near mid-height. Provide lock blocks on both stiles, minimum 4" by 24", and minimum 10" high solid top and bottom rails.
- 2.06 **SEALING:** Seal all door edges with clear resin sealer at factory or mill, except prefinished doors.

### **PART 3 - EXECUTION**

- 3.01 **INSTALLATION OF WOOD DOORS:** Install doors in accordance with NWWDA and WI Manual requirements except as modified herein. Field trimming of prefit doors is not allowed. Fit doors square and plumb with frames with due allowance for possible swelling and shrinking, maximum 1/8" clearance at top, edges, and meeting stiles, and 3/8" clearance at sill unless otherwise indicated or required by floor or threshold finish. Round arises to 1/16" radius. Bevel lock stiles to conform to lock and latch hardware.
- 3.02 **INSTALLATION OF FINISH HARDWARE:** Install hardware supplied under Section 08710, excluding only hardware specified to be installed at the factory or under other Sections. Drill pilot holes for screws and screw home; hammer driving of screws is not allowed. After installation and fitting, remove finish hardware items on surfaces to be painted, except prime coat items, repack in original containers, and perform final

City of Torrance  
Torrance Transit Facility  
Torrance, California

Wood Doors  
08210 - 4

installation, testing, and adjustment after finish painting is completed. Adjust hinges to swing smoothly but not loosely, without sticking or hinge-bound conditions. Adjust other hardware for correct operation.

END OF SECTION

**SECTION 08335**

**COILING DOORS**

**PART 1 - GENERAL**

- 1.01 DESCRIPTION: Division 1 applies to this Section. Provide coiling metal doors complete as indicated, specified, and required.
- A. Work In This Section:** Principal items include:
1. Coiling steel service door.
- B. Related Work Not In This Section:**
1. Structural supports for doors.
  2. Finish painting.
  3. Electrical services and wiring
  4. Rough and finish carpentry.
- 1.02 SUBMITTALS: Refer to Section 01300 for procedures. Submit Shop Drawings with Product Data covering all Work of this Section.
- 1.03 JOB CONDITIONS: Verify all measurements and field conditions at site prior to submittal of Shop Drawings and fabrication.

**PART 2 - PRODUCTS**

- 2.01 MANUFACTURE: Specifications are based on the products of the Cookson Company to establish intended types and qualities. Equivalent products of McKeon Doors, Overhead Door Corp., Windsor, or Pacific Rolling Doors are acceptable.
- 2.02 MOTOR-OPERATED SERVICE DOOR: Cookson Type FCM with Model 13 or Model 21 motor operator as required by door size and gage, correct operator mounting for site conditions and equipped with an emergency chain operator, and No. 4 galvanized bonderized steel slats. Equip with end locks, galvanized steel guides and hood, all operating and counterbalancing devices, and "Detectedge" device on bottom bar. Furnish keyed-alike pushbutton station for each door and keys (number of keys to be determined by owner). Include complete weatherstripping and wind locks for exterior doors.
- 2.03 ELECTRICAL COMPONENTS AND CONTROLS: Provide electrical items conforming to Code and UL Bulletin 325, including constant pressure down circuit unless the door is equipped with a conforming door safety device.
- 2.04 FACTORY PRIMING: Provide door manufacturer's standard gray baked metal primer on galvanized surfaces and operating devices to be field painted.

**PART 3 - EXECUTION**

- 3.01 INSTALLATION: Employ an authorized representative of manufacturer to install Work of this Section in accordance with manufacturer's printed recommendations and approved submittals. Produce secure completed installations that operate freely without bind or stoppage. Touch-up damaged or abraded primed surfaces after erection.

END OF SECTION

**SECTION 08400**

**ALUMINUM STOREFRONT**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide aluminum storefront, window walls and entrances complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Aluminum storefront.
2. Factory finish on aluminum surfaces.
3. Glass and glazing.
4. Calking and sealing.

**B. Related Work Not In This Section:**

1. Drywall and/or concrete/plaster support framing at exterior wall specified in Section 06100.
2. Gypsum wallboard specified in Section 09250.

1.02 QUALITY ASSURANCE:

**A. Quality Standards:** In addition to Code, glass installations shall comply with ANSI Z97.1, as applicable, and Federal Safety Standard 16 CFR 1201. Metal Storefront Window guide specification manual published by A.A.M.A.

**B. To Establish Level of Quality and Performance,** the specifications are based upon Arcadia Inc. as detailed (scheduled) on drawings for all applications.

**C. Reference Sections:** Requirements specified in Section 07900, including submittal and warranty requirements.

1.03 SUBMITTALS: Refer to Section 01300 for procedures.

**A. Shop Drawings:** Submit Shop Drawings for all Work of this Section, prepared and approved in advance of fabrication. Show materials, finishes, sizes, profiles, moldings, dimensioned locations of hardware items with reinforcement, methods of anchoring, assembly, erection, internal drainage, isolation, glazing, and procedures and materials. Include the manufacturer's technical and structural data. Include structural calculations showing that materials proposed for use conform to load and deflection requirements specified.

**B. Samples and Product Data:** Obtain Architect's instruction prior to submission. Submit the following:

1. Storefront window sections with specified finish, corner and intersecting joint construction, fasteners, hardware and accessories.
2. Glazing channels with manufacturer's data covering materials and warranty.
3. Samples of glasses as requested.
4. Cured sealant colors.

**C. Full-Size Samples:** Install full-size Samples of glass specified below, Samples installed in the frames forming a part of the Work, locations designated by the Architect. Glass showing defects, including excessive distortion, which detract from the artistic effect, appearance, and design concept of the building, in the Architect's opinion, shall be removed and acceptable glass installed at no extra cost to the Owner. The approved Sample installations establish the standard of quality required for all glass installations of the same kinds and types. Samples are required for:

1. Fully tempered glass.
2. Heat strengthened glass.

**D. Certificates:** Submit from manufacturer stating the quality, thickness, and type of all unlabeled glass delivered to the site for field cutting.

**E. Purchase Orders:** Within 35 working days after execution of the Contract, submit evidence that firm purchase orders for all glass required for the Work have been placed with the glass suppliers.

#### 1.04 JOB CONDITIONS:

**A. Job Measurements:** Refer to Section 01400. Verify field measurements pertaining to this Section. Report all detrimental differences between Drawings and field dimensions to Architect before fabricating Work of this Section.

**B. Protection:** Protect Work of this Section until completion and final acceptance. Repair or replace damaged or defective Work to original specified condition, at no additional cost to Owner. Damaged or defective Work includes surfaces which cannot be acceptably cleaned or repaired.

1.05 **DESIGN RESPONSIBILITY:** This specification and all criteria for the solution of a watertight and structurally sound window system as detailed on the drawings and herein specified is for the sole purpose of defining the design intent and performance requirements. The details shown are intended to emphasize the preferred profiles and performance requirements for this project. The Contractor is hereby advised that the responsibility for the window wall is totally his and that all designs and resolutions proposed in the Contractor's Shop Drawings, structural calculations and related documentation and certification must be demonstrated not only in the field water leakage test procedures, as approved by the Architect, but also through-out the special guarantee periods as herein specified.

- A. Adjustments:** Thickness of metal, dimension and profile adjustments shall be made in the proposed system to facilitate fabrication or erection methods or techniques, the weatherability factor, or the design and performance requirements. The design is limited only to the dimensional space allowed for the window wall as indicated by the capacity of the system to meet or exceed the design and performance requirements specified herein.
- B. Proposal Submission:** Design proposal submissions which follow exactly the detail indicated on the drawings will not relieve the Contractor of responsibility for the design, fabrication, erection, or performance of work included in this Section.
- C. Right To Reject:** The Architect will have the right to reject components and assemblies during assembly and erection if the workmanship and intent are not in strict accord with the approved Shop Drawings, structural calculations, documentation, certifications, Samples and as herein specified.
- D. Changes:** Document changes to the Architect's Drawings and Specifications in writing for architectural review. Design proposal must equal or better the design, function and material standards as described on the Architect's Drawings and herein specified. In the event of a controversy over the design, the decision of the Architect will take precedence.
- E. Supplementary Parts:** Provide and install all supplementary parts necessary to complete the work as described on the Drawings and herein specified, though not definitely shown or specified. Unless otherwise noted or specified to be furnished or installed by another Subcontractor, this work shall include type and thickness and temper of all glass, the design and sizing of all wall sections and anchor assemblies to meet the performance, design requirements and the furnishing of inserts to be installed by others, fasteners, clips, bracing, and steel framework as required even if not shown for the proper anchorage of the storefront, window wall and entrance elements to the structure.
- F. Review of Submittals:** Architect's review of all submittals as designed in this Section will be issued only with the understanding and assurance that the Window /Door Contractor is fully responsible for the performance of all work included within the scope of this Section. The Contractor's submittals and proposals will be understood and assumed to be the most appropriate and best suited for their intended use and, in fact, as recommended for the specific use or uses, including assurance that the Owner can receive the optimum life expectancy for all materials.
- G. Systems:** Storefront and door areas as detailed on the Drawings are to be designed to accommodate the performance requirements herein specified, including, but not limited to, the accommodation of shear stresses and movement in sealant joints and the opening of joinery during dynamic movements. All metal

joinery within, adjacent and common to the window wall systems must maintain structural, weathering and watertight integrity when subjected to the performance criteria.

- 1.06 **PERFORMANCE REQUIREMENTS:** All components, assemblies and completed work included in and pertinent to the work of this Section shall conform to the following minimum performance standards and comply with applicable sections of the California Building Code (CBC) 2007 California Title 24, Division 4, Section 4.1.6. Air leakage requirements of Division 4, and codes and regulations of all governing agencies having jurisdiction. Except when applicable codes make other provisions, or as otherwise noted herein, all loads shall act in combinations that provide the most unfavorable conditions. Wind loading need not be considered as additive to seismic loading. The performance requirements shall include, but not necessarily be limited to, the following items:
- A. Thermal Movement:** Provide and/or make allowances for free and noiseless vertical and horizontal thermal movement due to the contraction and expansion of component parts, for an external surface metal temperature range of from plus 20 degrees F. to plus 180 degrees F. Buckling, opening of joints, glass breakage, undue stress on fasteners, failure of sealants or any other detrimental effects due to thermal movement of component parts will not be permitted. Fabrication, assembly and erection procedure can take into account the ambient temperature range at the time of the respective operation.
  - B. Air Infiltration:** Shall comply with the most restrictive: (1) Title 24, test for air infiltration, and shall not exceed 0.75 cfm per foot length of crack for fixed windows constructed on site tested in accordance with ASTM E 283-75, Standard Method of Test for Rate of Air Leakage Through Exterior Windows, Curtainwalls, and Doors or with the pressure differential of 1.567 lb/sq. ft., equivalent to a 25 MPH wind; or (2) 0.06 cfm per square foot of fixed stick unit area and 0.04 cfm per square foot of unitized are when tested at 25 psf in accordance with AAMA standard TM-1-76.
  - C. Water Penetration and Moisture Control:** It is the responsibility of the Contractor to furnish and install a totally watertight window and storefront assemblies. The systems shall either be factory tested or field tested as required by Architect for approval.
  - D. Water Penetration** in this Section is defined as the appearance of water, other than condensation, on the roomside of any part of the assembly offering protection from the exterior elements to the interior building space which cannot be drained to the exterior.
  - E. Provision** shall be made to drain to the exterior of the wall any water entering at joints or glazing reveals and any condensation occurring within unit. Weep slots shall be baffled or staggered.

**F. Wind Loads:**

1. Assemblies herein specified shall be designed for flexural, shear and torsional stresses for the following positive and negative wind pressures acting normal to the plane of the assemblies.
2. Design: Minimum design wind pressures, both positive and negative and acting normal to the plane of the wall, shall be per CBC, Exposure "C", basic 70 M.P.H. wind speed, with a minimum of 20 psf at ground floor assemblies and 30 psf at assemblies above first floor.
3. CBC/UBC Wind Pressures shall be used when computing allowable stresses for window wall elements and components. No wall element and wall framing, including sealants and sealed joints, shall sustain permanent deformation or failure under loading equivalent to 1.5 times the code wind pressures herein specified. However, deflection limitations herein specified may be exceeded.
4. The Deflection at design wind pressures of any metal framing member in a direction normal to the plane of the wall shall not exceed  $L/180$  of its clear span or  $3/4"$ , whichever is less. Reduce allowable deflection where conditions require.
  - a. Maximum Deflection at design wind pressures of any metal framing member in the plane of the glass shall not exceed  $L/360$  of the clear span or  $1/8"$  whichever is less.
  - b. Deflection of Horizontal Member supporting glass, when carrying its full design dead load, shall not exceed  $L/360$  of the clear span of the member, or  $1/8"$  whichever is less.
  - c. Deflection of Any Member in a direction parallel to the plane of the wall, when carrying its full design load, shall not exceed 75% of the design clearance dimension between the member and the top of the panel, sash, glass or any other part immediately below it.
5. Special Care must be employed in the analysis, selection, design and sizing of the wall framing, glass and sealant joints in order to insure the functional and structural integrity of both the glass and glazing sealant and to accommodate building and window wall dynamics herein specified.

**G. Seismic Forces:**

1. Seismic Lateral Force requirements shall comply with the minimum requirements as established by the California Building (CBC), 2007 Edition, and other applicable City, County, and State Codes or regulations. The seismic forces shall be assumed to come from any direction including vertical components but do not have to be considered as acting simultaneously with the wind load forces.
2. Connections anchoring the window wall units to the building structure shall be designed using a force factor ( $C_p$ ) of 2.00 in any direction. The window wall system must accommodate a story drift of not less than 0.01 times the story height in inches.
3. At Design Displacement or seismic loading (.005 times the story height)

no failure or deterioration of any kind may occur including glass to metal contact.

4. At Two Times Design Displacement or seismic loading (0.010 times the story height) gaskets may disengage and sealants may split or lose adhesion, but no other failure or deterioration of any kind may occur, including glass to metal contact.

#### 1.05 BUILDING DYNAMICS:

- A. Building Dynamics** are defined as any building movement or deflection caused by the singular or combined effects of wind, or seismic, thermal, live, impact and/or concentrated loads, including the kinetic deflections resulting from the dead load of materials, and live load of personnel and equipment. The design, fabrication, assembly and installation of the window wall, entrances assemblies herein specified shall accommodate all inherent building dynamics, including the fabrication, assembly and installation tolerances of related work not included in this Section, without the loss of, or any detrimental effect to, the performance requirements herein specified. The Contractor shall verify and accommodate such movements, deflections and tolerances.
- B. Window / Door Components and Systems** shall accommodate a live load floor deflection of not less than plus or minus 3/8 inch. This is in addition to any erection, fabrication and thermal expansion deflections which shall be accommodated. Live load deflection shall be assumed to occur on individual floors but not on all floor simultaneously.
- C. Structural Design Loads:** The allowable stresses for aluminum window wall elements shall conform to the minimum standards as published in the Aluminum Association's "Aluminum Construction Manual - Specification for Aluminum Structures", dated April 1976, and other applicable codes or regulations. The minimum design loads herein specified shall comply with the California Building Code (CBC) 2007 Edition, and other applicable building codes and regulations.
- D. Anchorage and Structural Support Framing:** Unless otherwise noted on the Drawings, all anchor assemblies and components, and support framing, including related connections and/or fasteners for window wall/entrance assemblies shall be designed, furnished and/or installed as required for full compliance with the specified performance criteria. All such items indicated and/or noted on the Drawings are schematic and do not necessarily indicate the exact and/or required scope, type, shape, or profile. Additional anchorage and structural support framing shall be added, or complemented as required. Bracing shall not be laterally supported to bottom flanges of the structural framing without an explicit written request submitted to and approved by the Architect. Anchorage and structural supports shall not spall or weaken the integrity of the structural support system. All structural steel to be primed. Repair prime coating after weldments.

- E. Point of Support** for the assemblies shall be properly braced in the three orthogonal directions (vertical, transverse and longitudinal) to resist loads from all directions, including but not necessarily limited to, the positive and negative wind pressures, and seismic forces.
- F. Anchorage and Support Framing** shall be designed to accommodate wind load, thermal, seismic and building movements without any harmful effect to the assemblies as herein specified, including glass and glazing and sealant applications. All anchorage clips, bolts, etc. to be designed for code stresses and no less than maximum wind loads x 1.5.
- G. Coordination with Concrete Trade:** Furnish Contractor with a dimensioned placement drawing showing location of embedded anchors. Verify correct placement of anchors before and after concrete is placed.
- H. Glass Performance:** The maximum overall size, minimum thickness and type of glass shall conform to the applicable glass manufacturer's recommendation for the openings or sizes indicated on the Drawings and the performance requirements as herein specified. Glass shall also conform to governing codes and regulations. Glass shall be designed to perform to a specified safety factor of 2.5 and sustain at maximum wind loading at a statistical glass breakage of no more than 8 lights per 1000 lights. Provide heat strengthening or tempering where conditions of thermal breakage may occur.

1.06 WARRANTIES: Refer to Section 01740 for warranty form.

- A. General:** All work included in the Section shall be fully guaranteed for performance, materials and workmanship for a period of not less than (5) Five Years from the date of beneficial occupancy (as certified by the Architect) unless otherwise noted herein. Guarantees and warranties shall be delivered to the Owner in duplicate, in an acceptable form, executed by an authorized officer or manufacturer of each material and shall be dated and notarized by a duly authorized Notary Public. Any failure in any of the window wall components shall result in an extension of the guarantee period until the deficiency is permanently repaired.
- B. Glazing Channels:** Warranty for 5 years deterioration or failure of any kind including, without limitation, shrinkage causing loss of seal and failure from exposure to sun, elements, ozone, air pollution, and glass cleaners.
- C. Exterior and Interior Aluminum Sheet and Extrusion Surfaces:** Provide a Clear Anodized Factory finish on surfaces of aluminum components in accordance with AAMA Factory Finish Standards. Refer to schedules on drawings for selections of finishes and colors.
  - 1. Aluminum components shall be finished in accordance with the designations and proprietary identifications set forth in the schedule on the

drawings.

2. Designations refer to the finishes defined in The Aluminum Association Designation System for Aluminum Finishes, DAF-45.

**D. Sealants:** Provide a written statement in approved form guaranteeing that sealed joints shall remain watertight for a period of (5) Five Years. Guarantee shall further state that installed sealants are guaranteed against the following:

1. Adhesive or cohesive failure of joints.
2. Surface degradation or crazing greater than 3 mils in depth developing on surface of material.
3. Staining of surfaces adjacent to joints by sealant or primer by migration through building materials in contact with them.
4. Chalking or visible color change on surface of the cured sealant materials.
5. Shore "A" durometer hardness to the extent stated in the manufacturer's published literature.
6. Increase or decrease of Shore "A" durometer hardness (5 second reading) of sealant of more than 30% of value of 7-day value of Shore "A" durometer hardness of sealant.

Include a guarantee provision agreement to repair and replace, at the Contractor's expense, sealant defects which develop during guarantee period. Guarantee shall include all labor and materials required to repair and replace faulty sealants.

**E. Glass:** Guarantee to remove and replace at the Contractor's expense, any and all glass lights that fail to meet the design and performance requirements. This replacement guarantee shall include all labor and materials required to remove and replace the faulty glass and installation.

**F. Defective Work:** Defective work shall be removed and replaced, at the expense of the Contractor. Include in (5) Five Year guarantee period the provision to repair and replace, at the Contractor's expense, glass lights that fail in concentrated or massive quantities, or isolated glass breakage proven defective in manufacture or installation. Other isolated cases will be replaced at the expense of others, pending determination of cause. This special replacement guarantee shall include all labor and materials.

**G. Form of Warranty:** Guarantees and warranties shall be delivered to the Architect in duplicate, in an acceptable form, executed by an authorized officer of manufacturer of each material and shall be dated and notarized by a duly authorized Notary Public.

**H. Warranty Extension:** Any failure in any of the window wall components shall result in an extension of the guarantee period until the deficiency is permanently repaired.

- I. Corrections of Defective Work:** Should any work under this Contract be found defective in materials or workmanship, it shall be corrected in accordance with the following provisions: If, within Five (5) years after the date of substantial completion or within such longer periods of time as may be prescribed by laws or by the terms of any of the work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner. The Owner shall give such notice promptly after discovery of the condition. If exploratory work is required to determine the cause of the defects, the cost of this work shall be borne by the Contractor. The Contractor shall be responsible for continuing corrections of defective work beyond the guarantee period if initial corrective measures were executed per the requirements as noted above but later found to be inadequate or not acceptable after the specified period.

## **PART 2 - PRODUCTS**

- 2.01 **ENTRANCE MATERIALS:** Extrusions shall be 6063-T5 alloy and temper (ASTM B221, Alloy 6.5. 10A-T5). Fasteners, where exposed, shall be aluminum, stainless steel or zinc plated steel in accordance with ASTM A164. Perimeter anchors shall be aluminum or steel providing the steel is properly isolated from the aluminum. Glazing gaskets shall be elastomeric extrusions. Major portions of door stiles shall be nominal .125" in thickness and glazing moldings shall be .050" thick.
- A. Types:** Details shown establish required sizes, types, and appearance. Provide for expansion and contraction through an ambient temperature range of 20 degrees to 130 degrees F., minimum.
- B. Manufacture:** Minor modifications in non-essential details to accommodate the use of manufacturer's standard sections of same sizes, profiles, and glazing features are acceptable, subject to approval. Provide products of one of the following manufacturers, or equal; refer to Section 01600 for substitutions:
- Arcadia Inc.  
U.S. Aluminum Co.  
Kawneer
- C. Window Members:** Provide complete as detailed and required, including glass setting bars, transom bars, trim, mullions, and door frames. Provide necessary setting accessories, including screws, fittings, and anchors. Design all joints and connections for flush tight hairline fitting and to allow for structure and thermal movement and deflections without loss of glass edge grip and clearances or watertight integrity.
- D. Drainage:** Provide inconspicuous weep holes or equal method to ensure positive drainage of internal moisture or condensate to the exterior. Detail on Shop Drawings.

- E. Fasteners:** Place no fasteners on exposed surfaces unless approved on the Shop Drawings.

2.02 **GLASS MATERIALS:** Refer to drawings for schedule of types of glass. Glass shall meet requirements Domestic brand conforming to ASTM C1036 and ASTM C1048 for tempered, by Pilkington, Libbey-Owens-Ford, Viracon or equal. Substitutions will be considered. Glass and mirrors shall be factory labeled on each pane and labels shall not be removed until final acceptance is obtained. All tempered and heat-strengthened glass shall be processed in the horizontal position to eliminate tong marks. The maximum overall size, minimum thickness and type of glass shall conform to the applicable glass manufacturer's recommendations for the openings or sizes indicated on the drawings and the performance requirements as herein specified. Glass shall also conform to governing codes and regulations. Glass shall be designed to perform to a specified safety factor of 2.5 and sustain at maximum wind load a statistical glass breakage of no more than 8 lights per 1000 lights. All glazing and glazing materials shall conform to requirements set for in the GANA Field Glazing Manual

- A. Tempered Glass:** Furnish factory fully tempered glass. Handle and size glass in accordance with manufacturer's instructions. Furnish glass free of visible tong marks when installed. On each sheet, include an inconspicuous but visible label fused to the glass and placed in a lower corner, identifying the tempered glass. Provide fireman's tempered glass label if required by the local Fire Department. Furnish Low E Tinted glass as scheduled on Drawings or indicated or required.

- B. Insulating Duel Glass Units:** Refer to Drawings for selections Insulating Glass Units" and requirements herein, which establish intended types; refer to Section 01600 for substitutions.
1. Unbanded Units: Low E Clear, or equal, 1/4" thick inner pane, outer pane 1/4" thick glass.
  2. Tempered Panes: Provide fully tempered interior and exterior glass panes as indicated, required by Code, or required by the Quality Standards under "Quality Assurance".
  3. Altitude Adjustment: Include altitude adjustment provisions of type standard with unit manufacturer and that preserves the integrity of desiccated air spaces as required for transportation of units to site.
  4. Precaution: Verify the glazing gaskets and glazing sealants are chemically and physically compatible with insulating glass unit separators and are approved by the insulating glass unit manufacturer.

2.03 **DOORS:**

- A. Aluminum Entrance Doors and Frames:** Provide doors and frames shall be as detailed on drawings and/or selected by Architect stile type with 10" bottom stile and water repellent treated mohair weatherstripping in aluminum retainers at all four edges.

2.04 FABRICATION:

- A. The Storefront Window Framing System** shall provide for Front (Exterior) glazing on all sides with no projecting stops, unless indicated for special conditions on Architectural drawings. Vertical and horizontal framing members shall have a nominal face dimension of 1-3/4". Overall depth shall be approximately 4-1/2" with 1" glass pocket width as required. Entrance framing members shall be compatible with glass framing in appearance.

**PART 3 - EXECUTION**

3.01 GENERAL INSTALLATION REQUIREMENTS: Conform to approved submittals and the other requirements herein.

- A. Isolation:** Isolate aluminum from all dissimilar metals and materials other than non-magnetic stainless steel. At metals, apply on both contact surfaces a heavy brush coat of zinc chromates primer made with a synthetic resin vehicle, followed by two heavy brush coats of spar varnish based aluminum metal and masonry paint; or apply a heavy coat of alkali-resistant bituminous paint; or separate surfaces with non-absorptive exterior quality vinyl tape or gasket, or coat the surfaces with two coats of a fluid-applied neoprene membrane material. Coat both contact surfaces with alkali-resistant bituminous paint at concrete, masonry, plaster, tiles, and like cementitious materials. Conceal all isolation in finished Work.
- B. Calking:** Provide calking and sealing as indicated and required to make Work of this Section watertight and properly finished, including joints between frames and adjoining Work. Use sealants of selected or approved colors and conform to Section 07900 including warranty.

3.02 INSTALLATION OF STOREFRONT ENTRANCES:

- A. Erection:** Member or miter joints with hairline joints. Securely anchor to the building structure. Set frames level, plumb and in true alignment. Construct completely waterproof assemblies. All work under this section to be performed by an authorized Manufacturers distributor. Upon completion, a company representative shall submit a "Field Service Report" to the Owner and Architect attesting that the entire installation conforms to the company's standard of workmanship and materials.

3.03 GLAZING: Employ skilled and experienced glazers. Set all glass true and tight with glazing channels. Perform glazing in accordance with the "Glazing Manual" issued by Flat Glass Jobbers Association and PPG Technical Service Report #104, as applicable. Conform all glass edge bearings, clearances, and lap to Code.

- A. Glass Fastenings:** Set glass in rebates with glazing blocks and spacers so glass does not touch metal, and to preclude loose or rattling glass.
  - B. Glazing Channels:** Compress channels at least 5% lengthwise during installation and at least 15% by stops.
- 3.04 **COMPLETION:** Wash all soiled surfaces with mild soap solution, rinse with clear water, and wipe dry. Do not use harsh cleaning agents, caustics, or abrasives for cleaning. Leave free of dirt, streaks, and labels.

END OF SECTION

**SECTION 08710**

**FINISH HARDWARE**

**PART 1 - GENERAL**

1.01 SUMMARY: Refer to drawings for Finish Hardware Schedule

**A. Section Includes:**

1. Door hardware for all doors.
2. Aluminum entrance doors.

**B. Related Sections:**

1. Section 06200 - Finish Carpentry: Finish Hardware Installation.
2. Section 07900 - Joint Sealers – exterior thresholds.
3. Section 08110 - Hollow Metal.
4. Section 08210 - Wood Doors
5. Section 08400 - Aluminum Storefront

**C. Specific Omissions:** Hardware for the following is specified or indicated elsewhere.

1. Windows.
2. Cabinets, including open wall shelving and locks.
3. Signs.
4. Toilet accessories, including grab bars.
5. Installation.
6. Rough hardware.
7. Access doors and panels.
8. Corner Guards.

1.02 REFERENCES:

- A. Use date of** standard in effect as of Bid date.
- B. American National Standards Institute** – ANSI 156.18 – Materials and Finishes.
- C. ANSI A117.1** – Specifications for making buildings and facilities usable by physically handicapped people.
- D. ADA** – Americans with Disabilities Act of 1990
- E. BHMA** – Builders Hardware Manufacturers Association
- F. DHI** – Door and Hardware Institute
- G. NFPA** – National Fire Protection Association
  1. NFPA 80 – Fire Doors and Windows
  2. NFPA 101 – Life Safety Code
  3. NFPA 105 – Smoke and Draft Control Door Assemblies
  4. NFPA 252 – Fire Tests of Door Assemblies

- H. UL** – Underwriters Laboratories
  - 1. UL10C – Fire Tests of Door Assemblies (Positive Pressure)
  - 2. UL 305 – Panic Hardware
- I. WHI** – Warnock Hersey Incorporated
- J. State of California** Building Code
- K. Local applicable codes**, e.g. municipal security codes, etc.
- L. SDI** – Steel Door Institute
- M. WDI** – Wood Door Institute
- N. WI** – Woodwork Institute
- O. NAAM** – National Association of Architectural Metal Manufacturers

### 1.03 SUBMITTALS & SUBSTITUTIONS

- A. SUBMITTALS:** Submit six copies of schedule per Division 1. Organize vertically formatted schedule into “Hardware Sets” with index of doors and headings, indicating complete designations of every item required for each door or opening. Include following information:
  - 1. Type, style, function, size, quantity and finish of hardware items. Use BHMA Finish codes per ANSI A156.18.
  - 2. Name, part number and manufacturer of each item.
  - 3. Fastenings and other pertinent information.
  - 4. Location of hardware set coordinated with floor plans and door schedule.
  - 5. Explanation of abbreviations, symbols, and codes contained in schedule.
  - 6. Mounting locations for hardware.
  - 7. Door and frame sizes, materials and degrees of swing.
- B. Bid and submit manufacturer’s** updated/improved item if scheduled item is discontinued.
- C. Make substitution requests** in accordance with Division 1. Include product data and indicate benefit to the Project. Furnish operating samples on request.
- D. Furnish as-built/as-installed** schedule with closeout documents, including keying schedule, manufacturers’ installation, adjustment and maintenance information, and supplier’s final inspection report.

### 1.04 QUALITY ASSURANCE:

- A. Qualifications:**
  - 1. Hardware supplier: Direct factory contract supplier who employs a Certified Architectural Hardware Consultant (AHC), available at reasonable times during course Work for project hardware consultation to Owner, Architect and Contractor.
    - a. Responsible for detailing, scheduling and ordering of finish hardware.

- B. Hardware:** New, free of defects, blemishes and excessive play. Obtain each kind of hardware (latch and locksets, exit devices, hinges and closers) from one manufacturer. Mounting height of latching hardware shall be 30" to 44" A.F.F. per CBC Section 1133B.2.5.1. Pressure to operate door shall not exceed: 5 lbs. (38 N) for exterior doors, 5.0 lbs (38 N) for interior doors and when fire doors are required 5 lbs. (38 N) maximum or the maximum effect to operate the door may be increased to the minimum allowable by the appropriate administrative authority, not to exceed 15 lbs. (66.72 N) per 1133B.2.5. All hardware shall meet the requirements of CBC Section(s) 1133.B.2.1, 1133B.2.5.1 AND 1003.3.1.8.
- C. Exit Doors:** Operable from inside with single motion without the use of a key or special knowledge or effort.
- D. Fire-Rated Openings:** In compliance with NFPA 80. Hardware UL10C/UBC-7-2 (positive pressure) compliant for given type/size opening and degree of label. Provide proper latching hardware, non-flaming door closers, approved-bearing hinges, plus resilient and required intumescent seals. Furnish openings complete.
- E. Pre-Installation Meetings:** Initiate and conduct with supplier, installer and related trades, coordinate materials and techniques, and sequence complex hardware items and systems installation. Convene at least one week prior to commencement of related work.

#### 1.05 DELIVERY, STORAGE AND HANDLING:

- A. Delivery:** Coordinate delivery to appropriate locations (shop or field).
- B. Acceptance at Site:** Items individually packaged in manufacturers' original containers, complete with proper fasteners and related pieces. Clearly mark packages to indicate contents, locations in hardware schedule and door numbers.
- C. Storage:** Provide locked storage area for hardware, protect from moisture, sunlight, paint, chemicals, etc...

#### 1.06 PROJECT CONDITIONS:

- A. Where exact types** of hardware specified are not adaptable to finished shape or size of members requiring hardware, provide suitable types having as nearly as practical as the same operation and quality as type specified, subject to Architect's approval.

#### 1.07 SEQUENCING AND COORDINATION:

- A. Coordinate** with concrete.
- B. Reinforce** walls.
- C. Coordinate finish** floor materials and floor-mounted hardware.

- D. Conduit and raceways** as needed for electrical, electronic and electro-pneumatic hardware items. Fire/life-safety system interfacing. Point-to-point wiring diagrams plus riser diagrams to related trades.
- E. Furnish manufacturer** templates to door and frame fabricators.
- F. Use hardware consultant** to check Shop Drawings for doors and entrances to confirm that adequate provisions will be made for proper hardware installation.
  - 1. Confirm that door manufacturers furnish necessary UBC-7-2 compliant seal packages.

1.08 WARRANTY:

- A. Part of respective manufacturers' regular terms of sale. Provide manufacturers' warranties:**
  - 1. Closers: Ten years mechanical, two years electrical.
  - 2. Exit Devices: Three years.
  - 3. Hinges: Life of Building.
  - 4. Other Hardware: Two years.

1.09 COMMISSIONING:

- A. Test door hardware** operation with climate control system and stairwell pressurization system both at rest and while in full operation.

**PART 2 - PRODUCTS**

2.01 MANUFACTURERS: Corbin-Russwin Lock Bodies/Cores and Schlage L Series mortise Locksets/Latchsets are the City Standard – No Substitutions

- A. Listed of Manufacturers:** Refer to Schedule on Drawings.
- B. Provide hardware items** required to complete the work in accordance with these specifications and manufacturers' instructions.
  - 1. Include items inadvertently omitted from this specification. Note these items in submittal for review.
  - 2. Where scheduled item is now obsolete, bid and furnish manufacturers updated item at no additional cost to the project.

## 2.02 HANGING MEANS:

**A. Conventional Hinges:** Hinge open widths minimum, but, of sufficient throw to permit maximum door swing. Steel or stainless steel pins and concealed bearings.

1. Three hinges per leaf to 7 foot height. Add one for each additional 30 inches in height, or any fraction thereof.
2. Extra heavy weight hinges on doors over 3 foot, 5 inches in width.
3. Outswinging exterior doors: non-ferrous with non-removable (NRP) pins.
4. Non-ferrous material exteriors and at doors subject to corrosive atmospheric conditions.
5. Provide shims and shimming instructions for proper door adjustment.

**B. Continuous Hinges:**

1. Geared-type aluminum at exteriors: Include a non-removable cap to guard against foreign material, e.g. sticks, sand, epoxy etc.
  - a. Heavy-duty, double-bearing units for doors over 3 foot, 5 inches in width.
  - b. Heavy-duty, double-bearing units for doors with panic hardware or fire exit devices.

## 2.03 LOCKSETS, LATCHSETS, DEADBOLTS:

**A. Mortise Locksets and Latchsets:** As scheduled.

1. Chassis: Cold-rolled steel, handing field-changeable without disassembly.
2. Latchbolts:  $\frac{3}{4}$  inch throw stainless steel anti-friction type.
3. Lever Trim: Through-bolted, accessible design, cast lever or solid extruded bar type levers as scheduled. Filled hollow tube design unacceptable.
  - a. Spindles: Security design independent break-away. Breakage of outside lever does not allow access to inside lever's hubworks to gain wrongful entry.
4. Thumbturns: Accessible design not requiring pinching or twisting motions to operate.
5. Deadbolts: Stainless steel 1-inch throw.
6. Electric operation: Manufacturer-installed continuous duty solenoid.
7. Strikes: 16 gage curved steel, bronze or brass with 1 inch deep box construction, lips of sufficient length to clear trim and protect clothing.
8. Scheduled Lock Series and Design: As scheduled on Drawings
9. Certifications:
  - a. ANSI A156.13, 1994, Grade 1 Operational, Grade 1 Security.
  - b. ANSI/ASTM F476-84 Grade 31 UL Listed.

## 2.04 CLOSERS

- A. General:** One manufacturer for closer units throughout the Work. Door closer when provided then the sweep period of the closer shall be adjusted to so that from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3" from the latch, measured to the landing side of the door per CBC Section 1133B.2.5.1.
- B. Surface Closers:**
1. Full rack-and-pinion type cylinder with removable non-ferrous cover and cast iron body. Double heat-treated pinion shaft, single piece forged piston, chrome-silicon steel spring.
  2. ISO 2000 certified. Units stamped with date-of-manufacture code.
  3. Independent lab-tested 10,000,000 cycles.
  4. Thru-bolts at wood doors unless doors are provided with closer blocking. Non-sized, non-handed, and adjustable. Place closer inside building, stairs, and rooms.
  5. Plates, brackets and special templating when needed for interface with particular header, door and wall conditions and neighboring hardware.
  6. Opening pressure: Exterior doors 5 lb., interior doors 5 lb., labeled fire doors shall not exceed 15 lb.
  7. Separate adjusting valves for closing speed, latching speed and backcheck, fourth valve for delayed action where scheduled.
  8. Extra-duty arms (EDA) at exterior doors scheduled with parallel arm units.
  9. Exterior door closers: tested to 100 hours of ASTM B117 salt spray test, furnish data on request.
  10. Exterior doors do not require seasonal adjustments in temperatures from 120 degrees F to -30 degrees F, furnish data on request.
  11. Non-flaming fluid will not fuel door or floor covering fires.
  12. Pressure Relief Valves (PRV): unsafe, not permitted.

## 2.05 OTHER HARDWARE

- A. Kick Plates:** Four straight edges, .050 inches minimum thickness, height and width as scheduled. Sheet-metal screws of bronze or stainless steel to match other hardware.
- B. Door Stops:** Provide stops to protect walls, casework or other hardware.
1. Unless otherwise noted in Hardware Sets, provide floor type with appropriate fasteners. Where floor type cannot be used, provide wall type. If neither can be used, provide overhead type.
- C. Seals:** Finished to match adjacent frame color. UL label applied to seals on rated doors. Substitute products: certify that the products equal or exceed specified material's thickness and durability. Proposed substitutions: submit for approval.

1. Non-corroding fasteners at in-swinging exterior doors.
2. Sound control openings: Use components tested as a system using nationally accepted standards by independent laboratories. Ensure that the door leafs have the necessary sealed-in-place STC ratings. Adhesive mounted components not acceptable. Fasten applies seals over bead of sealant.
3. Fire-rated Doors, Resilient Seals: UL10C/UBC-7-2 compliant. Coordinate with selected door manufacturers and selected frame manufacturer's requirements. Where rigid housed resilient seals are scheduled in this section and the selected door manufacturer only requires an adhesive mounted resilient seal, furnish rigid housed seal at minimum, or both the rigid housed seal and the adhesive applied seal if necessary to fulfill door manufacturer's requirement. Adhesive applied seal alone is deemed insufficient for this project where rigid housed seals are scheduled.
4. Fire-rated Doors, Intumescent Seals: Furnish fire-labeled opening assembly complete and in full compliance with UL10C/UBC-7-2. Furnished by selected door manufacturer, these seals vary in requirement by door type and door manufacture. Adhesive applied intumescent strips are not acceptable. Careful coordination required.

**D. Fasteners:** Generally, exposed screws to be Phillips or Robertson drive. Pinned TORX drive at high security areas. Flat head sleeve anchors (FHSL) may be slotted drive. Sheet metal and wood screws: full-thread. Sleeve nuts: full length to prevent door compression.

**E. Silencers:** Interior hollow metal frames, 3 for single doors, 4 for pairs of doors. Omit where adhesive mounted seal occurs. Leave no unfilled/uncovered pre-punched silencer holes.

2.06 FINISH: Refer to drawings for schedule.

**A. Generally BHMA 626 Satin Chromium.**

**B. Door closers:** factory powder coated to match other hardware, unless otherwise noted.

**C. Aluminum items:** match predominant adjacent material. Seals to coordinate with frame color.

2.07 KEYING REQUIREMENTS:

**A. Key Systems:** Corbin-Russwin Lock Bodies is the City Transit Department Standard – No Substitutions

1. Provide temporary I.C. core cylinders keyed to Construction Master.

- B. Interchangeable Cores:** Utility patented, 6-pin solid brass construction.

### **PART 3 - EXECUTION**

#### 3.01 PREPARATION:

- A. Ensure that walls** and frames are square and plumb before hardware installation.
- B. Locate hardware per SDI-100** and applicable building, fire, life-safety, accessibility, and security codes.
1. Notify Architect of any code conflicts before ordering material.
  2. Where new hardware is to be installed near existing doors/hardware scheduled to remain, match locations of existing hardware.

#### 3.02 INSTALLATION

- A. Install hardware per manufacturer's** instructions and recommendations. Do not install surface-mounted items until finishes have been completed on substrate. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate for proper installation and operation.
1. Gaskets: Install jamb-applied gaskets before closers, overhead stops, rim strikes, etc. Install sweeps across bottoms of doors before astragals, cope sweeps around bottom pivots, trim astragals to tops of sweeps.
- B. Locate floor stops** not more than 4 inches from the wall.
- C. Drill pilot holes** for fasteners in wood doors and/or frames.
- D. Lubricate and adjust** hardware scheduled to remain. Carefully remove and give to Owner items not scheduled for reuse.

#### 3.03 ADJUSTING

- A. Adjust and check for** proper operation and function. Replace units, which cannot be adjusted to operate freely and smoothly.
1. Hardware damaged by improper installation or adjustment methods to be repaired or replaced to Owner's satisfaction.
- B. Inspection:** Use hardware supplier. Include suppliers with closeout documents.
- C. Follow-up inspection:** Installer to provide letter of agreement to Owner that approximately 6 months after substantial completion, installer will visit Project with representatives of the manufacturers of the locking devices and door closers to accomplish following:
1. Re-adjust hardware.

2. Evaluate maintenance procedures and recommend changes or additions, and instruct Owner's personnel.
3. Identify items that have deteriorated or failed.
4. Submit written report identifying problems and likely future problems.

3.04 DEMONSTRATION:

- A. **Demonstrate electrical**, hardware systems, including adjustment and maintenance procedures.

3.05 PROTECTION/CLEANING:

- A. **Cover installed hardware**, protect from paint, cleaning agents, weathering, carts/barrows, etc. Remove covering materials and clean hardware just prior to substantial completion.
- B. **Clean adjacent wall**, frame and door surfaces soiled from installation/reinstallation process.

3.06 SCHEDULE OF FINISH HARDWARE

- A. **See door schedule** in drawings for hardware set assignments.

END OF SECTION

**SECTION 08800**

**GLASS AND GLAZING**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide glass and glazing complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. All window and all door glass and glazing.

**B. Related Work Not In This Section:**

1. Hollow metal doors and frames.

1.02 QUALITY ASSURANCE:

**A. Quality Standards:** In addition to Code, glass installations shall comply with ANSI Z97.1, as applicable, and Federal Safety Standard 16 CFR 1201.

1.03 SUBMITTALS: Refer to Section 01300 for procedures.

**A. Samples and Product Data:** Obtain color instructions from the Architect prior to submission. Submit the following:

1. Samples of various glasses to extent requested by Architect, 12" square with smooth edges.
2. Glazing channels with manufacturer's data covering materials and warranty.

**B. Certificates:** Submit from manufacturer stating the quality, thickness, and type of all unlabeled glass and glazing delivered to the site for field cutting.

**C. Purchase Orders:** Within 30 working days after execution of the Contract, submit evidence that firm purchase orders for all glass and glazing required for the Work have been placed with the glass suppliers.

1.04 JOB CONDITIONS: Protect glass and glazing until completion and final acceptance. Repair or replace damaged or defective glazing to the original specified condition, at no extra cost to Owner. Damaged or defective glazing includes glass that cannot be properly cleaned.

- 1.05 **WARRANTY:** Refer to Section 01740. Furnish a written warranty covering glass and glazing channels for 5 years against all defective material or deterioration including, without limitation, shrinkage causing loss of seal and exposure to sun, ozone, elements, smog and other air pollution, and commercial glass cleaners. Furnish a written warranty covering unframed mirrors against silver spoilage for 15 years.

## **PART 2 - PRODUCTS**

- 2.01 **GLASS MATERIALS:** Refer to schedule on Drawings for types of glass and material selections from Domestic brand glass conforming to ASTM C1036 and ASTM C1048 for tempered, by PPG Industries, Inc., Glass Group, Libbey-Owens-Ford, Monsanto, St. Gobain, Spectrum, Viracon or equal. Factory cut glass lights shall be labeled and labels shall not be removed until directed. Job-cut glass, delivered unlabeled as "stock to cut", shall be accompanied by manufacturer's affidavit stating quality, thickness, type and manufacture; no such glass shall be cut until Architect's approval of material is obtained.
- A. Plate Glass:** Clear as scheduled, glazing quality float, 1/4" thick unless otherwise shown or specified.
  - B. Tempered Glass:** Furnish factory fully tempered glass. Handle and size glass in accordance with manufacturer's instructions. Furnish glass free of visible tong marks when installed. On each sheet, include an inconspicuous but visible label fused to the glass and placed in a lower corner, identifying the tempered glass. Provide fireman's tempered glass label if required by the local Fire Department. Furnish plate glass as indicated on Drawings.
  - C. Wire Glass:** Provide glass manufactured by Asahi Glass Company LTD, distributed by ACI Glass Products (213) 692-0395 polished "Misco" or "Baroque Style" 1/4", unless otherwise indicated, thick wire glass, pattern as selected by Architect, or Approved equal.
  - D. Fire Rated Glass:** Provide glass manufactured by Safti First (888) 653-3333 or approved equal Technical Glass Products (800) 426-0279, clear fire rated glass, thickness as indicated on drawings unless otherwise required as selected by Architect, or Approved equal.
  - E. Glass Adhesive:** Standard product adhesive expressly manufactured for glass installation, equal to Palmer Products "Mirro-Mastic" with Mirro-Mastic Bond".
- 2.02 **GLASS SETTING MATERIALS:**
- A. Glazing Channels:** Extruded neoprene or fibrous glass reinforced core vinyl type conforming to NAAMA SG-1-70, color as approved, with serrated channel legs for a tight seal to glass, meeting 5-year warranty requirements.
  - B. Blocks and Spacers:** Approved vinyl plastic or neoprene rubber type, nominal 50 to 90 Durometer except as recommended by glass manufacturer.

- C. **Glazing Sealant:** Tremco Mono One-Part Sealant, or equal, approved colors.

### **PART 3 - EXECUTION**

- 3.01 **GLAZING:** Employ skilled and experienced glazers. Set glass air-tight and true with glazing channels. Perform glazing according to the "Glazing Manual" of the Flat Glass Jobbers Association and with PPG Technical Service Report #104 except as required herein. Install glass in metal frames according to manufacturer's instructions to obtain weatherproof and waterproof installations. Conform glass edge bearings, clearance, and edge laps to Code. Use glazing channels specified herein unless channels are furnished by manufacturers under other Sections.
- A. **Glass Fastenings:** Set glass in rabbets with glazing blocks and spacers so glass does not contact frame. Set glass to preclude looseness and rattling.
- B. **Glazing Channels:** Compress channels at least 5% lengthwise during installation, and at least 15% by stops. Produce air and water tight installations.
- 3.02 **COMPLETION:** Do not use harsh cleaning agents, caustics, acids, or abrasives for cleaning. Wash and polish glass both sides and leave free of dirt, streaks, and labels.

END OF SECTION

**SECTION 09100**

**METAL SUPPORT SYSTEMS**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide metal support systems complete metal support systems where indicated on drawings, specified, and required.

**A. Work In This Section:** Principal items include:

1. Metal stud framing and furring for plaster walls and ceilings.
2. Metal framing for gypsum wallboard walls and ceilings.
3. Metal backing plates for securing materials of other trades.
4. Installation of access panels on metal framing as furnished by other trades.
5. Provide access panels indicated on Architectural drawings.

**B. Related Work Not In This Section:**

1. Gypsum wallboard.
2. Hanger wires and framing for suspended grid acoustical ceilings.
3. Thermal and sound insulation.
4. Furnishing access panels for mechanical and electrical trades.
5. Firestopping.
6. Load bearing metal studs.

1.02 QUALITY ASSURANCE:

**A. Code:** Conform all installations to Code. In case of conflict between Contract Documents and Code, the more stringent requirements shall govern.

**B. Reference Specification:** Except as modified herein or required by Code, conform metal support systems for plaster to the Plaster Metal Framing/Lath Manual of the California Lathing and Plastering Contractors Association Inc., hereinafter referred to as Ref Spec.

**C. Tolerances:** Erect walls and partitions on straight lines, plumb, free of twists or other defects, and contacting a 10-foot straightedge for its entire length at any location. Erect all horizontal framing level within a tolerance of 1/8" in 12-foot in any direction. Erect sloped framing in true planes to same tolerance as horizontal framing.

**D. Regulatory Requirements:** Comply with all applicable requirements of ASTM C 754 and the referenced Manual as referred to above.

1.03 SUBMITTALS: Refer to Section 01300 for procedures.

- A. **Shop Drawings:** Shop Drawings showing details for each typical partition, wall, ceiling, and shaft support framing system will not be required, provided construction complies with Contract Documents.
- B. **Product Data:** Submit complete materials list for all Work of this Section.
- C. **Samples:** Submit such Samples as Architect may request.

## **PART 2 - PRODUCTS**

2.01 MATERIALS:

- A. **Standard Plaster Studs:** Pressed steel non-load-bearing type, punched, minimum 20 gage, by current member of the Steel Stud Manufacturers Association (SSMA), with floor and ceiling tracks of same gage as studs, and shoes. Studs and tracks shall have the manufacturer's standard rust-inhibitive paint finish except furnish hot-dip galvanized studs with matching tracks at all exterior locations and where indicated or specified.
- B. **Screw-On Drywall Studs:** ASTM C645 and following requirements:
  - 1. **Standard Drywall Studs:** Of minimum 25 gage electro galvanized steel having punched utility openings and knurled flanges at least 1-1/4" wide, with flange returns, except where 20 gage or heavier is shown or specified.
    - a. Roll-formed C channel with knurled edges and keyhole shaped punched openings along the web, widths as indicated on drawings.
    - b. Shaftwall Studs: C-H type studs, as manufactured by US Gypsum or equal, size as required or as indicated on the drawings.
  - 2. **Stud Height:** Gages specified above are minimum. Where required stud height exceeds Code approvals, provide heavier gage studs and/or decrease stud spacing as necessary to conform to Code approvals, at no extra cost to Owner.
  - 3. **Stud Accessories:** Provide all standard related accessories including floor and ceiling tracks, clips, fasteners, and the like, of the same manufacture as each type of stud specified, as required for complete installations.
- C. **Furring and Runner Channels:** Hot-rolled or cold-rolled steel channels coated with rust-inhibitive paint and weighing per 1,000 lineal feet, before coating, not less than:

<b>Size</b>	<b>Hot-Rolled</b>	<b>Cold-Rolled</b>
3/4 inch	300 lbs.	300 lbs.
1-1/2 inch	1120 lbs.	475 lbs.
2 inch	1260 lbs.	590 lbs.

- D. **Screw-On Drywall Furring Channels:** ASTM C645, minimum 0.022" thick

zinc coated steel, minimum 1-3/4" face, 2-3/4" base span, and 7/8" furring depth.

1. Hat Shaped: 7/8" deep with 1-3/8" screwable surface and 1/2" wing flanges equal to USG DWC-25.
2. Z-Shapes: Fabricated with 7/8" attachment flange, 1-1/4" face flange, by depth as indicated on drawings, equal to USG Z-Galvanized Furring Channels.
3. Resilient Channels: Equal to USG RC-1 or RC-2 galvanized resilient channels, 1/2" deep.

**E. Stiffeners and main Runner Channels:** Cold-rolled or hot-rolled steel channels, size as required, coated with non-inhibitive paint. Use Bridge Clip as manufactured by The Steel Network, or equal with locking down cold rolled channels.

**F. Ceiling Deflection Track:** Provide one of the following: 1) 20 gage No. 53 Flex Track, deep leg track manufactured by Superior Metal Trim, or equal conforming to requirements of ASTM C645 or 2) VertiClip SLD deflection clip, in conjunction with 25 gage standard track for interior walls.

**G. Wires:** ASTM C 754, soft-annealed galvanized steel wire, 8 gage for hanger wires and 16 gage for framing unless otherwise specified.

**H. Sound Insulating Tape Seals:** "Bear Tape" by Norton Industries, or equal.

**I. Acoustical Sealant:** By USG, Gold Bond, or equal, permanently resilient type.

**J. Metal Primer:** Red Oxide Primer or equal.

**K. Steel Backing Plates:** Fabricate of minimum 4" wide by 16 gage steel except as otherwise indicated. Apply shop coat of metal primer.

2.02 ACCESS PANELS: Karp or Milcor; Style K at plaster; Style DW for wallboard finish; Style M-Standard at masonry; Style M-Stainless at ceramic tile; Style AP or AT as required at ceilings. For fire-rated walls, provide fire-rated access doors bearing appropriate UL fire-resistive label.

### **PART 3 - EXECUTION**

3.01 INSTALLATION OF STUD TRACKS: Bolt or screw fasten to metal and anchor at least 1-1/4" into concrete with bolts and expansion shields, sleeved "dryvins", cinch anchors, screws and lead plugs, drilled and bolted steel shells, powder-driven fasteners, or other approved device. Concrete nails are not acceptable. Secure all tracks within 6" of ends and at spacing to resist design loads, maximum 36" centers between unless otherwise indicated.

### 3.02 PLASTER WALL FRAMING AND FURRING:

- A. Standard Plaster Studs:** Install for walls not otherwise indicated or specified, spaced at 16" centers, complete with tracks and shoes. Allow for deflection of structure above. Provide doubled studs at jambs of openings more than 16" wide. Exterior walls shall be vertically self-supporting such that gravity loads are not delivered to perimeter roof beams. Connections to the perimeter roof beams shall allow for beam deflection.
1. **Lateral Bracing:** Lateral bracing shall be provided by use of gypsum board and gypsum sheathing or by horizontal straps or cold-rolled channels. Bracing shall conform to Section D3 of the AISI Specifications.
  2. **Wall Openings:** At doors and other openings more than 16" wide, install lateral bracing horizontally not over 6" above opening head. Extend beyond the second stud on each side of opening. Provide lateral bracing 6" below sill of wall openings in same manner.
- B. Structural Plaster Studs:** Provide where shown or specified. Weld connections in accordance with AWS D1.1, Structural Welding Code. Provide a 1-1/2" horizontal bridging channel in exterior walls, set at the mid-height of building story and welded to each stud, unless otherwise shown or required by the wall openings. Install structural studs the same as standard plaster studs for interior walls and partitions, including bridging and channels at opening heads except channels shall be welded.
- C. Wide-Flange Plaster Studs:** Provide these studs wherever plastered walls receive gypsum wallboard finish on one side.
- D. Wall Furring For Plaster:** Install metal stud or channel furring as indicated. Secure channel furring with adjustable steel brackets at maximum 32" centers vertically and horizontally.
- E. Welding Repair:** Wire brush, scrape, and remove burned or damaged factory paint finish. Coat all welds and bare metal with metal primer.

### 3.03 WALL FRAMING AND FURRING FOR GYPSUM DRYWALL:

- A. Screw-On Drywall Studs:** Provide 25 gage studs at maximum 24" centers except as otherwise shown, specified, or required under Subparagraph "Stud Height". Secure to top track in manner that allows for deflection of structure above. Provide full height doubled studs at jambs of openings. Form heads and sills of openings with track sections screwed or bolted to jamb studs, unless otherwise shown. Install 16 gage studs at wall-hung lavatories, urinals, grab bars, wall-hung equipment, and elsewhere shown.
- B. Walls Over 6" Wide:** Where partitions are shown with stud dimensions more than 6" in depth, install two rows of 2-1/2" minimum wide studs, using 1-1/2" runner channel cross ties at 16" centers vertically and 24" centers horizontally,

all bolted, screw fastened, or welded in place. In lieu thereof, install systems equal to Expandable partition No. 7 (Blue Diamond Company) in conformance with manufacturer's requirements.

- C. **Wall Bracing:** Lateral bracing shall be provided by use of gypsum board and gypsum sheathing or by horizontal straps or cold-rolled channels. Bracing shall conform to Section D3 of the AISI Specifications. At heads of all doors, and heads and sills of wall openings, provide lateral bracing extending to the second stud beyond each side of jambs.
- D. **Wall Furring:** Install metal stud or channel furring as indicated.

#### 3.04 SUSPENDED CEILINGS, SOFFITS, AND FURRING:

- A. **Hanger Wires:** Secure to the structure above according to Code and the approved submittal. Allow sufficient length for two or more complete turns around runner channels at proper ceiling height.
- B. **Suspended Plaster Framing:** Provide 8 gage hanger wires at maximum 36" centers along 1-1/2" runner channels spaced at maximum 48" centers, and 3/4" furring channels spaced at maximum 16" centers, all wire tied. Install the framing for unrestrained ceilings and soffits unless otherwise shown.
- C. **Suspended Gypsum Wallboard Framing:** Provide 8 gage hanger wires at maximum 48" centers along 1-1/2" runner channels spaced at maximum 48" centers, and screw-on drywall furring channels spaced at maximum 16" centers; secure to runners with Code approved galvanized steel clips or wire ties.
- D. **Connections:** Turn twice or saddle tie hanger wires around runner channels and twist three times around standing wire. Adjust hanger wire to bring furring and ceilings to level and true plans. Lap runner channels a minimum 12" at splices and tie with a double wrap of 16 gage wire 2" from each end of splices. Saddle tie furring channels to each runner channel with not less than two strands of 16 gage tie wire. Lap furring channels 8" minimum at splices and tie with a double wrap of 16 gage tie wire 1" from each end of splices.
- E. **Suspension Under Ducts:** For hangers spaced at 4 to 5-1/2 foot centers, provide 6 gage hanger wires with minimum 2" runner channels at maximum 48" centers. For greater spans, design system for live load of 10 pounds per square foot of area plus dead load and detail in Shop Drawings.
- F. **Furring:** Provide framing for horizontal furring as shown and required. Conform to above requirements as applicable.

- 3.05 **BACKING AND ANCHORAGE:** Install and attach to metal studs or furring for anchoring items indicated or specified in other Sections. Comply with approved submittals specified under other Sections as applicable to steel backing. Backing may be omitted where anchorage for wall-hung items is directly into steel studs of 18 gage or heavier, or items are furnished with equivalent mounting devices. Install backings of lengths to span over at least two supports, equipped with two countersunk machine screws at each support except backing may be welded to supports 18 gage or heavier. Wall-mounted items requiring backing include without limitation the following:
1. Wall railings.
  2. Grab bars.
  3. Toilet compartments and urinal screens and toilet room accessories.
  4. Millwork.
  5. Equipment (where indicated on drawings and in equipment schedule)
- 3.06 **CONNECTION TO CEILING:** Provide remolded neoprene filler strips matching the ceiling profile for non-fire-rated walls and partitions covered on one or both sides up to decking. For fire-rated walls and partitions, provide minimum 26 gage galvanized steel closure plates at tops of partitions fastened to decking. Use plates precision cut to fit the decking profile, installed on both sides, and pack the void spaces with UL listed and labeled incombustible mineral wool safing insulation. Where the top tracks are parallel to ceiling and do not fully close ceiling spaces, provide a safing insulation filler and minimum 18 gage galvanized steel plates screw fastened to close the ceiling spaces and secure the top tracks to the plates.
- 3.07 **ACCESS PANELS:** Install and rigidly connect to metal framing. Coordinate the exact required locations with related trades. On acoustical unit ceilings, install the panels to align with and maintain the grid pattern. Check all other Sections of Specifications for access panels specified to avoid duplication.

END OF SECTION

**SECTION 09250**

**GYPSUM WALLBOARD**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide gypsum wallboard complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Gypsum wallboard finish on walls and ceilings.
2. Joint, edge, corner, and fastener finishing.
3. Sound insulation in gypsum wallboard partitions.
4. Sound and airsealing Work of this Section.
5. Skimcoat finish where scheduled.
6. Interior tile backer board.

**B. Related Work Not In This Section:**

1. Wood/metal stud support framing.
2. Thermal insulation.
3. Painting.

1.02 SUBMITTALS: Refer to Section 01300 for procedures.

1.03 JOB CONDITIONS: Make a detailed inspection of areas and surfaces to be enclosed or covered by gypsum drywall and arrange for correction of defective workmanship or materials. Ascertain that other Work enclosed by drywall has been inspected and approved before starting installation; otherwise, uncover as directed at no extra cost to Owner.

**PART 2 - PRODUCTS**

2.01 MANUFACTURE: Use products of only one manufacture throughout for each specialty item specified unless otherwise noted or approved.

2.02 MATERIALS:

**A. Gypsum Wallboard:** ASTM C36, provide 5/8" Type X or Type C gypsum board, or any other type of drywall that may be required by fire rated assemblies shown on drawings, tapered edges for exposed surfaces, regular grade by the Code. For walls in toilets and bathrooms, and where indicated, provide Type W/R or Type X W/R water resistant boards as required by the jurisdiction and where recommended by the Gypsum Association. Gypsum wallboard manufacturer and type shall match description of rated fire assemblies. Assemblies may be proprietary.

- B. Screws:** ASTM C646, corrosion-resistant self-tapping bugle-head spiral threaded type, minimum 1" long except 1-5/8" for double layer walls or longer where RC channels are used, lengths to penetrate all supporting metal at least 3/8". Furnish specially hardened type screws where required by code for support.
- C. Drywall Nails:** ASTM C514, supplied or recommended by the wallboard manufacturer, No. 13 gage 1-5/8" long, 19/64" head, Dry Tite, acid etched or No. 098 gage, 1-3/8' long annular ringed 6d, cooler nails.
- D. Metal Trim and Corner Beads:** Of electrogalvanized steel with taping flanges, as manufactured or recommended by drywall manufacturer, corner beads at all outside corners and "J" shaped trim members where abutting other materials. Provide "bullnose" corner beads at all areas, unless otherwise required by the Architect/Owner.
- E. Finishing Materials:** ASTM C475, joint tape, joint bedding compound, finishing cement, and adhesive, and laminating compounds supplied or recommended by wallboard manufacturer.
- F. Calking Compound:** Permanently non-hardening type as supplied or recommended by wallboard manufacturer.
- G. Sound Insulation:** Owens Corning Fiberglass batts maybe used in locations as approved by the Architect in advance for interior sound control. "Thermafiber" friction fit fibrous batts, nominal 2.80 pcf density by USG Corp are required for fire rated assembly meeting the required 2.80 pcf density as stated above.
- H. Resilient (RC) Furring:** ASTM C645, minimum 25 gage, either "Z" or "hat shaped" as indicated or required, designed for sound reduction by gypsum wallboard manufacturer.

### **PART 3 - EXECUTION**

#### 3.01 INSTALLATION OF GYPSUM WALLBOARD:

- A. General:** Perform wallboard installation and finishing according to ANSI A997.1 and the wallboard manufacturer's instructions. Do not install wallboard until building is weathertight. Conform to fire-rating requirements, Building Code approvals, and requirements herein.
- B. Temperature:** Maintain minimum 65 degrees F within building during installation. Furnish ventilation to eliminate excessive moisture.
- C. Fasteners:** Install screws or nails so heads are below wallboard surface without breaking surface paper around the fastener. Space screws according to listed assembly requirements.

- D. Openings:** Accurately cut and fit the wallboard at openings. At door and other openings, cut wallboard to continue across area above opening head; do not cut board to both jambs and fill in area over openings with separate pieces. Make the dimension from joint overhead of an opening to jamb of openings 6" minimum. Stagger joints on opposite side of partition. Maximum opening around electrical outlets 1/8" calked.
  - E. Single Layer Walls:** Place wallboard horizontally with long dimension across the studs or in one-piece vertical heights, vertical joints centered on supports and staggered on walls so as not to occur on opposite sides of same stud. Secure to each stud and tack with screws keeping screws 3/8" from edges.
  - F. Multi-Layer Walls:** Apply first layer same as for single layer walls, all joints in subsequent layers staggered with respect to first layer.
  - G. Ceilings:** Apply wallboard with long dimension at right angles to the framing, end joints staggered and centered over framing. Use boards of maximum practical length to minimize end joints and properly support around cutouts and openings. Secure with screws or nails.
- 3.02 **JOINT TREATMENT AND FINISHING:** Apply tape bedding compound, tape, and at least three coats of finishing cement on exposed joints, and other joints as required for sound insulating or fire-rated construction. Apply joint cement and two or more layers of finishing cement over screw or nail heads. Treat all inside corners with joint cement, tape, and finishing cement. Treat all outside corners with corner beads and finishing cement. Provide metal-casing beads at all edges of gypsum wallboard, which abut ceiling, wall, or column finish, and elsewhere as required, such as openings, offsets, etc. Make all exposed joints, trims, and attachments non-apparent following application of paint or other finishes; if the joints and fasteners are apparent, correct defects as directed with no extra cost to Owner. Seal the raw edges of plumbing openings and of boards that have been cut to fit with manufacturer's recommended sealant brushed on. When entire installation is completed and prior to installation of finish materials by other trades, correct and repair broken, dented, scratched, or otherwise damaged wallboard surfaces.
- 3.03 **AIR SEALING:** Seal connections between shaft walls, ducts, plenums, and building structure airtight with specified calking compound or tape and cement, including vertical shafts.
- 3.04 **SOUND INSULATED PARTITIONS:** Install sound insulation continuously between studs from finish floor to top of wall in which it occurs. Where cutouts are made for J-boxes, conduit, piping, and like items, back wall insulation with insulation so that one additional layer of insulation at least 24" wide and high is placed in back of cutout. Snugly fit in place free of gaps or holes. Calk between the wallboard edges and floors, walls, and at structures above other than acoustical ceilings with calking compound, forming a complete perimeter seal. Calk around outlet boxes and other penetrations in same manner. Where resilient channels occur a separate fastener will attach the RC

channel to the framing member. The gypsum wallboard will be attached to the RC channel and will at no time fasten directly to a framing member.

3.05 **SKIM COAT FINISH:** Provide where scheduled, apply USG Product that will produce a "orange peel" texture or "smooth" finish as indicated and as approved by Owner/Architect. Apply after taping and screw head finishing is dry and sanded to produce surfaces free of trowel marks or other defects.

**A. GA 214 -** Gypsum wallboard finish shall conform to requirements of GA 214, and as specified herein. Levels required for the Work are described as follows:

**Level 3:**

All joints and interior angles shall have tape embedded in joint compound and one additional coat of joint compound applied over all joints and interior angles. Fastener heads and accessories shall be covered with two separate coats of joint compound. All joint compound shall be smooth and free of tool marks and ridges.

**Level 4:**

All joints and interior angles shall have tape embedded in joint compound and two separate coats of joint compound applied over all flat joints and one separate coat of joint compound applied over interior angles. Fastener heads and accessories shall be covered with three separate coats of joint compound. All joint compound shall be smooth and free of tool marks and ridges.

END OF SECTION

**SECTION 09300**

**CERAMIC TILE**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide ceramic tile complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Glazed ceramic tile walls and bases.
2. Unglazed ceramic tile floors.
3. Expansion joints.
4. Brass, zinc, bronze or aluminum edging angles at exposed floor tile edges.
5. Cement plaster backing for tile walls and bases.
6. Membrane waterproofing.

**B. Related Work Not In This Section:**

1. Cementitious wallboard backing for tile walls and bases.
2. Plaster subslabs.
3. Metal thresholds.

1.02 QUALITY ASSURANCE:

**A. Reference Standards:** Conform to following standards unless otherwise required herein:

1. American National Standards Institute (ANSI).
  - A108.1 Glazed Wall Tile, Ceramic Mosaic Tile, Quarry Tile and Paver Tile Installed With Portland Cement Mortar.
  - A108.5 Ceramic Tile Installed With Dry-Set Portland Cement Mortar.
  - A108.6 Ceramic Tile Installed With Chemical Resistant Water Cleanable Tile-Setting and Grouting Epoxy.
  - A118.1 Dry-Set Portland Cement Mortar.
  - A118.3 Chemical-Resistant Water-Cleanable Tile Setting and Grout Epoxy.
  - A118.4 Latex-Portland Cement Mortar.
  - A137.1 Standard Specifications for Ceramic Tile.
2. Tile Council of America (TCA).
  - a. Handbook for Ceramic Tile Installation, Current Edition.

1.03 SUBMITTALS: Refer to Section 01300 for procedures.

**A. Samples:** Obtain Architect's instructions and submit the following for selection and approval:

1. Each type, shape, and trimmer of tile in each color proposed for use.
2. Grout colors for tile.
3. Cured sealant colors for expansion joints in tile.
4. Brass, zinc, bronze or aluminum edging angles, 12" lengths.

**B. Product Data:** Submit the manufacturer's printed directions for latex mortar and latex waterproofing.

**C. Master Grade Certificates:** Submit for each lot of tile before installing.

1.04 MOCK-UP: If required by Architect provide all labor and materials to build and test mock-up. Mock-up shall accurately represent job conditions including joints, sealants, tile underlayment, anchors and tile finishes. Construct mock-up in strict accordance with approved Shop Drawings. Any deviations from or additions to details shown on Drawings are subject to the Architect's approval.

1.05 PRODUCT DELIVERY AND STORAGE: Deliver all tile to the site in unopened factory containers sealed with Grade Seal bearing printed name of manufacturer and the words "Standard Grade". Keep grade seals intact and containers dry until tiles are used. Keep cementitious materials dry until used.

1.06 JOB CONDITIONS:

**A. Conditions:** Inspect and verify surfaces according to Section 01400 and report defects to Architect for correction before proceeding.

**B. Protection:** Provide protection wherever required. Do not use lumber or other material likely to stain or deface installed materials. Close tile flooring to traffic completely for 24 hours after installation; thereafter, permit traffic only over protective covering of heavy paper or equivalent.

## **PART 2 - PRODUCTS**

2.01 BASIC MATERIALS: Dal Tile or approved equal.

Portland cement:	ASTM C150. Type I or II, low alkali.
Dry-set portland cement mortar:	ANSI A118.1, white or gray as specified.
Hydrated lime:	ASTM C207, Type S.
Mortar sand:	ASTM C144, at least 4% passing No. 100 sieve.

Joint sand:	Same as mortar sand except as passing No. 30 sieve.
Water:	From domestic potable source.
Admix:	Anti-Hydro, Sika Red Label Suconem, or equal.
Reinforcing mesh:	Galvanized welded wire mesh, 1-1/2" by 2" mesh or 2" square mesh, minimum 16 gage, or equivalent or equal steel cross-section area.
Metal lath:	Expanded from galvanized steel sheets, 3.4 pounds per square yard, self furring type, galvanized nails, or as specified for reinforcing mesh.
Latex mortar:	ANSI A118.4 (factory inclusion of aggregate is not required), one of the following, or equal: Mer-Krete Tile Setting Adhesive. Custom-Crete Custom Building Products. Laticrete by Laticrete International.
Latex admix:	For joint grout, by same manufacturer as above latex mortar.
Epoxy, tile setting mortar and grout:	ANSI A118.3, as indicated on drawings and color as selected by Architect.
Waterproofing membrane:	The Noble Company, Chloroloy 240-CPE for wire reinforced mortar beds. Nobleseal TS for thin set tile applications, or approved equal.
Color pigments:	Pure ground mineral oxides, non-fading, alkali and lime proof, factory weighed and packaged.
Tile backer board:	Provide GP Dens Shield or Durock backer boards, thickness as indicated for interior and exterior applications as approved by the Architect.

2.02 **TILE MATERIALS:** Standard Grade conforming to ANSI A137.1, of following types. Perforated paper backed tile is not acceptable where the paper remains as a permanent part of installation.

- A. Glazed Wall Tile:** Tile as scheduled on drawings, colors as selected, dust pressed, white body, square edged, with two integral joint spacing lugs on all edges, matte glazed, with matching integral cove base having spherical corner and angle units, integral bullnose for external angles and exposed edges, and integral cove for internal angles.
- B. Unglazed Floor Tile:** Tile as scheduled on drawings colors and patterns as selected, porcelain type unglazed tile, cushion or all-purpose edges, premium colors and patterns, square unless otherwise shown.
- C. Non-Slip Unglazed Floor Tile:** As above for unglazed floor tile, containing at least 7-1/2% of non-rusting abrasive aggregate. Provide for floors and tile floors in wet areas.

- 2.03 **SETTING BED MORTAR:** Machine mix mortar after first dry mixing materials. Mix mortar not less than 5 minutes after water is first added. Accurately measure materials using calibrated measuring boxes; shovel measurement is not permitted. If required add admix for flexibility as recommended by Manufacturer. Discard mortar that is not placed and compacted before initial set is reached. Measure all materials by volume. Provide epoxy mortar where required by Code, conforming to ANSI A118.3, color as scheduled or as selected by Architect.
- A. For Wall Tile:** Quantity ranging from 1-part portland cement, 1/2-part hydrated lime, and 5-parts damp sand to 1-part portland cement, 1-part hydrated lime, and 7-parts damp sand and metal lath and waterproofing membrane.
- B. For Floor Tile:** Quantity of 1-part portland cement, up to 1/10-part hydrated lime, and 6-parts damp sand, mixed to consistency and workability that allows maximum compaction during tamping of mortar bed.
- 2.04 **BOND COAT:** White or gray portland cement mixed with water and latex admix to a creamy consistency. For glazed wall tile only, gray or white dry-set portland cement mortar mixed in the same manner may be used. Do not add water or cement after initial mixing, and discard material not used prior to initial set.
- 2.05 **TILE JOINT GROUT:** Provide Laticrete Premixed, Sanded Grout as indicated on the drawings.
- 2.07 **EDGING ANGLES:** Extruded aluminum as indicated or required of minimum 1/8" leg thickness, as approved.

### **PART 3 - EXECUTION**

- 3.01 **PREPARATION:** Clean substrates of dust, dirt, oil, grease, and other deleterious substances. Conform preparation to requirements of the applicable Reference Standards and to recommendations of manufacturers of materials used.
- A. Concrete Slabs To Receive Mortar Setting Beds:** Keep concrete damp for at least 8 hours and scrub with a neat portland cement slurry just before placing setting bed mortar.
- B. Cementitious Board:** Prime with epoxy or latex primer as required or admix if required by instructions of epoxy or latex mortar manufacturer.
- 3.02 **TILE INSTALLATION:** Arrange tile surfaces according to the patterns detailed or approved. Accurately set tile with flush well-fitted joints, finished in true plan, plumb, square, sloped or level as required. Neatly cut and fit the tile closely against abutting surfaces. Construct joints of uniform width. Form corners and returns with approved trimmers. Neatly drill and cut tile without marring. Carefully grind and joint tile edges and cuts. Fit tile close around outlets, pipes, and fixtures so that escutcheons or collars overlap the tile. Arrange surfaces so that not less than half-size tile occurs. Drill holes

for pipe penetrations through wall tile, do not cut or split tile, and set with tight ungrouted joint.

- A. Reinforcing Mesh:** Provide mesh at the center of all mortar setting beds that are not direct-bonded to concrete slabs, lapped one full mesh and wire tied at splices. Keep mesh 1" away from expansion joints and walls. Run mesh up walls and over curbs of shower receptors, but do not secure through waterproofing.
  - B. Mortar Bed Set Tile:** Dampen glazed wall tile according to applicable Reference Standard. Apply setting bed mortar, mixed as specified, and screed surfaces of setting beds to required planes. Spread no more mortar than can be covered with tile before mortar initially sets. No retempered mortar may be used. Lay tile to avoid small or unsightly cuts. Set tile with uniform joint width. Trowel a 1/32" to 1/16" thick bond coat over the plastic setting bed mortar just prior to setting tile or apply to back of each tile as placed; use white bond coat where white tile joints occur. Set tile in position and beat firmly into the mortar. Bring tile faces to a true and proper plane. Complete all beating and leveling before mortar sets and in no case later than one hour after first placing. When ready, wet and remove paper and glue, avoiding the use of excess water. At this time adjust any out-of-line or out-of-level tile.
  - C. Thin-Set Tile:** Mix epoxy or latex mortar according to manufacturer's directions. Do not dampen tile. Conform to the instructions of both mortar and tile manufacturers. Apply mortar to areas no larger than can be covered with tile within 30 minutes. Remove traces of mortar from tile surfaces before final set.
  - D. Latex Waterproofing:** Apply according to manufacturer's directions, sealed into floor drains and turned up at walls. Pond test for 24 hours, repair all leaks, and retest until no leakage occurs.
  - E. Joint Sizes:** Install tile with uniform joint widths as follows:

    - 1. Glazed wall tile, 1/16" with maximum 1/8" at any location, unless otherwise indicated.
    - 2. Porcelain floor tile, 1/16" with maximum 1/8" at drains and any other location, unless otherwise indicated.
  - F. Ceramic Tile Joint Grouting:** Grout joints full after washing out and saturating with clean water. Mix grout with water to a thick creamy consistency and force into joints for entire joint depth, flush with surface. Clean off all excess and fill skips and gaps before grout sets. Provide dampness for minimum 3-day curing and polish with clean dry cloths.
  - G. Calking:** Calk all penetrations through wall tile with latex mortar or sealant conforming to Section 07900, concealed by collars or escutcheons.
- 3.03 EXPANSION JOINTS: Joints shall extend down for the full depth of mortar setting bed. Provide joint backing and sealant according to Section 07900, sealant of color to match

joint grout and maximum 3/8" depth. Provide expansion joints in mortar set floor tile and paving areas where indicated and where abutting rigid structures. Install at toe of cove base where base occurs. If not indicated, install expansion joints in the same manner and at maximum 16-foot intervals in runs, located as directed. Provide sealant joints that closely match the color and appearance of grouted joints but of minimum 1/8" width. Provide as required by installation and as recommended by the Tile Council of America. Joints to comply with Method EJ171. Consult Architect as to placement.

- 3.04 CLEANING: Remove stains, cement, grout, and foreign matter when grouted joints fully set. Do not use acid. Repair all defective joints as approved.

END OF SECTION

**SECTION 09510**

**ACOUSTICAL CEILINGS**

**PART 1 - GENERAL**

- 1.01 DESCRIPTION: Division 1 applies to this Section. Provide acoustical panel ceilings systems complete as indicated, specified, and required.
- A. Work In This Section:** Principal items include:
1. Suspended exposed grid acoustical unit ceilings.
  2. Metal trims and moldings.
  3. Access facilities.
- B. Related Work Not In This Section:**
1. Air conditioning grilles and fixtures.
  2. Lighting fixtures and wiring.
  3. Finish carpentry.
- 1.02 SUBMITTALS: Refer to Section 01300 for procedures.
- A. Samples:** Submit Samples of all acoustical units and of each grid component with metal trims and moldings.
- B. Maintenance Material:** Deliver to Owner, in unopened cases, at least 1% of total quantities of each type of acoustical unit installed in the Work.
- 1.03 PRODUCT DELIVERY, STORAGE, AND HANDLING: Deliver to site in the manufacturer's original unopened containers. Keep all materials dry, clean, and protected from deterioration.
- 1.04 JOB CONDITIONS: Verify locations of various electrical and mechanical fixtures and equipment items installed above ceilings and the required access to dampers, valves, and similar items. Coordinate the locations of hanger wires and ceiling installations with such fixtures and equipment to obtain neat symmetrical result with minimum cutting or patching of acoustical units.
- 1.05 WARRANTY: Refer to Section 01740. Furnish to Owner a warranty against defects of materials or workmanship including sagging or disconnection of grid systems, disintegration of acoustical units, or improper operation of access facilities, for a period of 3 years.

## **PART 2 - PRODUCTS**

- 2.01 **ACOUSTICAL UNITS:** Provide 24" x 24" and 24" x 48" lay-in units as scheduled on drawings or that are indicated to match existing tiles, location by location as manufactured by Armstrong World Industries or approved equal by USG Interiors, matching approved Sample and meeting specified requirements as evidenced by data in AIMA Bulletin.
- A. Flame Spread Rating:** Furnish incombustible acoustical units rated 0 to 25 flame spread rating (Class I) per ASTM E84 Tunnel Test.
- 2.02 **GRID SUSPENSION SYSTEMS:** Designed to support ceiling loads with deflections not exceeding L/360 of spans, manufactured of zinc-coated steel.
- A. Manufacturer:** Provide grid units as scheduled on drawings by Armstrong World Industries, or equal units by USG – Interiors or approved by the Architect.
- B. Exposed Grid System:** Conforming to ASTM C635, intermediate grids bearing UL label or listing as a 4-pound grid. Provide bulb-top main tees at least 1-1/2" high, cross tees of same type except may be 1" high, all tees with appropriate 15/16" grid matching existing unless another grid as scheduled on drawings. Factory finish exposed grid surfaces with low-luster enamel of color to match acoustical units.
- C. Trims and Moldings:** Provide "Shadow" mold at acoustical grids of minimum 0.024" thick zinc-coated steel, exposed surfaces factory painted with low luster enamel in color to match grid.
- D. Hanger Wires:** Minimum 12 gage galvanized annealed steel wires. Furnish heavier gage if required by Code or UL Design Approval for grid system furnished.

## **PART 3 - EXECUTION**

- 3.01 **GENERAL INSTALLATION REQUIREMENTS:** Install ceilings under the supervision of an experienced superintendent. Consult with and coordinate installation with other trades. Install suspended ceilings level within a tolerance of 1/8" in 12-feet in all directions. Conform to approved submittals. Inspect and verify existing conditions according to Section 01400.
- A. Pattern:** Unless otherwise indicated or specified, install ceilings in a regular pattern without border, joint lines parallel to walls. Install acoustical units symmetrically about centerlines of each room or space, avoiding narrow units at walls. Cut and closely fit units to ceiling penetrations.

- B. Framing For Lighting and Mechanical Equipment:** Obtain information from involved trades and provide additional hanger wires, framing members, and supports in the grids as required for lighting and mechanical fixtures, equipment, and all other loadings imposed on grids, with a safety factor of 4 minimum. Provide main grid tees along all edges of mechanical and lighting fixtures bearing on the grids.
  - C. Seismic Bracing:** Provide splayed seismic bracing wires as shown and required by Code. Fully detail in Shop Drawings.
- 3.02 SUSPENDED GRID CEILINGS: Conform to the UL Design Approval for the grid.
- A. Hanger Wires:** Space wires at maximum 48" centers along main tees and connect to structure above as shown in approved Shop Drawings.
  - B. Vibration Isolators:** Equip hanger wires with vibration isolators where located below and within 10-feet of rooms and spaces containing or supporting mechanical equipment.
  - C. Grid Members:** Space main tees at maximum 48" centers and install across tees to complete the grid. Lock suspension members together to form joints that resist 100 pounds tension and compression. Cope bottom flanges of tees, where exposed, for flush tight connections with metal trims at vertical surfaces.
  - D. Exposed Grid Acoustical Units:** Install units with all edges bearing on tees and secured with hold-down clips. Closely fit units to ceiling penetrations.
  - E. Trims and Moldings:** Provide painted metal trims and shadow moldings at walls and other vertical surfaces and penetrations, joints closely butted, mitered at angles and corners, and flush. Lapped joints are not permitted.
  - F. Ceiling Offsets:** Provide framing, trims, and other finishing materials as shown or required to properly finish at offsets or ceiling breaks, types as indicated, directed, and approved.
- 3.03 REPAIR OF EXISTING ACOUSTICAL UNIT CEILINGS: Generally conform to requirements specified for new ceilings. Remove all damaged grid members or units, clean and prepare the backings, and provide new matching Work. Removed materials that are sound and undamaged may be reinstalled.
- 3.04 REPAIR, CLEANING, AND COMPLETION: Remove and replace all discolored, broken, or damaged materials. Completed ceilings shall present a smooth plane surface free of edge or corner offsets or breaks, cupping, scratches, gouges, stains or hand marks, or other defects. Clean exposed surfaces and remove foreign matter.

END OF SECTION

**SECTION 09650**

**RESILIENT FLOORING**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide resilient flooring and base complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Vinyl composition tile flooring
2. Rubber and/or vinyl base
3. Reducer strips.

**B. Related Work Not In This Section:**

1. Raised metal thresholds.

1.02 QUALITY ASSURANCE: Furnish products by the following manufacturers, or approved equals:

**Rubber Base**

Burke Rubber Company  
Roppe Rubber Corporation

1.03 SUBMITTALS: Refer to Section 01300 for submittal procedures.

**A. Samples:** Submit the following for selection and approval:

1. Submit samples of each selected color or pattern of flooring and base for final approval.
2. Reducer strips and trims.

**B. Data:** Submit copies of the flooring manufacturer's recommended standard dryness testing, ADA, Section 4.29 compliance and required test results, and installation instruction for each type of flooring and base for approval.

**C. Moisture Testing Results:** Submit written reports covering all moisture test results for record purposes only and not for approval.

**D. Maintenance Materials:** At completion, deliver following maintenance materials to the Owner in unopened factory containers or in sealed cartons with labels identifying the contents, matching installed materials. Include unopened cans of adhesives adequate to install the maintenance materials.

1. Vinyl composition tiles, 5 unopened boxes of each color and pattern.

2. Sheet vinyl flooring, one piece 20-feet long by full roll width for each location, type and pattern of flooring.
3. Rubber base, at least 100 lineal feet with 10 end stop units, 15 outside corner units, and 15 inside corner units.

1.04 **PRODUCT DELIVERY AND STORAGE:** Deliver materials to site in the manufacturer's original unopened labeled containers. Store all resilient flooring at minimum 70 degrees F for 48 hours before installing.

1.05 **JOB CONDITIONS:** Do not start flooring installation until satisfactory moisture testing results are obtained and the Work of all other trades is substantially completed, including painting. Keep the areas of installation and materials at minimum 70 degrees F during and for 10 days after installation is completed. Maintain adequate ventilation for the removal of moisture and fumes. Verify conditions as specified in Section 01400.

## **PART 2 - PRODUCTS**

### 2.01 **MATERIALS:**

Vinyl composition  
tile:

Quality equal to or exceeding Fed Spec SS-T-312, Type IV, 12" by 12" by minimum 1/8", Mannington Commercial, materials and patterns as scheduled on drawings or as selected by Architect .

Rubber base:

Coved top-set 4" and 6" high as indicated on drawings using colors as scheduled on drawings or as selected by Architect, non-shrinking, 1/8" thick, with matching molded inside and outside corners and end stops.

Setting materials:

Adhesives, primers, and fillers of type and composition recommended by materials manufacturers, cut-back or equal types not containing water, factory labeled as to substrates on which application is approved by the manufacturer.

Reducer strips:

Extruded aluminum, edge-butting (not lapping) type.

## **PART 3 - EXECUTION**

3.01 **INSTALLATION:** Conform to flooring manufacturer's recommended moisture testing and installation procedures and to requirements herein.

- A. Preparation:** Clean substrates of all deleterious substances and foreign matter. Fill cracks or depressions with latex leveling compound of the type recommended by flooring manufacturer for specific job conditions. Prior to laying flooring, test concrete for adequate dryness using the testing procedure conforming to flooring manufacturer's directions. Prime concrete floor slabs on grade; prime other slabs if so recommended by flooring manufacturer.

- B. Vinyl Composition Tile Installation:** Mix sufficient quantity of tiles to complete each area before laying to avoid color variations. Install flooring with tight joints, pattern direction as approved. Lay flooring square with axis of rooms, starting on center lines with tile joint or tile center so that border tiles are not less than 4" wide, accurately aligned. Install reducer strips at exposed edges of flooring and where shown. Cut flooring mechanically to produce square true edges. Closely trim to pipes, jambs, outlets, and like conditions. Extend flooring into cabinets and casework without bottoms.
- C. Base Installation:** Securely cement to backing in long lengths, minimum 18" long filler pieces, top and toe continuously contacting wall and floor, all joints tight. Provide factory-made internal and external corners, and end stops where cove base ends at jambs and offsets.
- 3.02 **CLEANING, WAXING, AND COMPLETION:** Keep all flooring and base surfaces clean as installation progresses. Clean flooring and base when sufficiently seated and remove foreign substances. Immediately prior to Owner's acceptance of building, apply wax on resilient tile flooring in accordance with manufacturer's instructions. Clean adjacent surfaces of adhesive or other defacement. Replace all damaged or defective Work to the original specified condition.

END OF SECTION

**SECTION 09690**

**MODULAR CARPET TILE**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide modular carpet tile complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Modular carpet tile

**B. Related Work Not In This Section:**

1. Concrete substrate.
2. Vapor emission and Alkalinity Control

1.02 QUALITY ASSURANCE:

**A. Qualifications of Installing Mechanics:** Employ skilled journeymen carpetlayer mechanics.

**B. Requirements of Regulatory Agencies:** Carpeting shall meet the requirements of Federal, State and Local Regulatory Agencies for flammability, static control, or other properties as required and as specified herein. The carpet, pad and method of installation shall conform to CBC Section 1124B.3 with the pile height conforming to CBC Section 1124.3 and carpet edges conforming to CBC Section 1124B.2

1.03 SUBMITTALS: Refer to Section 01300 for procedures.

**A. Layout Shop Drawings:** Submit showing dimensioned layout of all seams, location of dye lot changes, and details for binder bars. Approval does not relieve the Contractor of responsibility for the satisfactory installation of carpet tile.

**B. Samples:**

1. Master Samples: After preliminary approval, submit three labeled minimum carpet tile square Samples from each dye lot of carpet required for the Work. Samples shall demonstrate that dye lots acceptably match and there will be no apparent color change between carpet tile pieces of different dye lots.

**C. Sample Installations:** Prepare as many Sample installations as are required for approval. Use preparation techniques, installation materials conforming to approved submittals, and installation methods proposed for the Work. Architect

will closely examine installations for workmanship, appearance, alignment and preservation of carpet pattern, non-detectability of seams when viewed from any direction or distance at the height of a standing or sitting person, and freedom from manufacturing or installation defects of any kind. Finally approved Sample installations establish the quality required for all carpet installations, shall be identified and recorded, and shall remain in place. Sample installations are required for:

1. All carpet tile in one area designated by Architect.

**D. Product Data:** Submit the following:

1. Carpet manufacturer's published technical data fully describing all carpet tile materials, construction, and recommended installation directions.
2. Technical data and usage instructions for each adhesive and sealer material.
3. Carpet manufacturer's published instructions for maintenance care, cleaning, and repair of carpet tile (5 copies).

**E. Certificate:** Submit a certificate from the carpet tile manufacturer that materials supplied comply with fire hazard resistance standards specified.

**F. Maintenance Materials:** Owner will select the amount of carpet tile to be retained for maintenance purposes.

1.04 **PRODUCT DELIVERY, STORAGE, AND HANDLING:** Deliver materials in original unbroken packages, containers, or bundles bearing name of manufacturer, complete material identification, brand, and grade. Store in dry ventilated locations. Handle by methods that prevent damage, soiling, and contamination. On delivery of carpet tile material, bale ticket on each roll shall be recorded by Contractor and delivered to Owner.

1.05 **JOB CONDITIONS:**

**A. Ventilation and Temperature:** Verify that areas to be carpeted are ventilated to remove fumes from installation materials, and areas are within temperature range recommended by the various material manufacturers for installation conditions.

**B. Protection:** Keep traffic and personnel off carpet tile until at least 12 hours after installation. Cover carpet with heavy non-staining kraft paper or equivalent in areas where Work of other trades is to be performed and passage areas. Protect carpet tile from damage or soiling. Keep protection in place until ready for final clean-up operations.

1.06 **WARRANTY:** Refer to Section 01740. Furnish a written warranty to Owner for one year covering defects in materials or workmanship. Include trimming, relaying, or replacement as necessary, at no cost to Owner. Warranty must be issued by Carpet Manufacturer.

## **PART 2 - PRODUCTS**

2.01 **SUBSTITUTIONS:** Refer to Section 01600. If required by the Owner or Architect, proposed substitute carpet shall be subjected to analysis at the Contractor's expense by a recognized testing laboratory, such as the Pittsburg Testing Lab, to determine the quality of proposed materials. Request for substitution shall be accompanied by a list stating the characteristics which differ from those of carpet tile specified with supporting data to justify the differences.

2.02 **CARPET TILE MATERIALS:**

**A. Identification and Labeling:** Carpet tile shall bear a positive identification by a label service showing the carpet fire hazard classification as determined by a nationally recognized testing laboratory such as UL.

**B. Carpet Tile Test Standards:** Carpet tile shall pass following tests and be so labeled:

1. Stratatec "Patterned Loop"
2. Fiber: 90% solution dyed / 10% yarn dyed
3. ASTM E Radiant Panel Test, results greater than or equal to .45 watts/sq.cm.
4. Flame and smoke spread, Class I Rating.
5. Yarn weight of 18 oz./yd<sup>2</sup>.
6. Pile thickness of 0.187 in.
7. Tuft gauge of 5/64
8. Stitches/inch of 8.5 ends/in.
9. Pile density (UM 44 D) 5735.
10. Backing structure of 129.5 oz./yd<sup>2</sup>, 100% Recycled Content.
11. Total weight of 18 oz./yd<sup>2</sup>
12. Total size of 24 in. x 24 in.

**C. Carpet Tile:** Provide carpet tile in size, color and patterns as scheduled on drawings.

**D. Carpet Tile Adhesive:** Provide Dynamix MB by XL Brands (800) 367-4583. Product is a water based pressure sensitive adhesive. The product is low order and is CRI Green Label Plus approved. Install in accordance with manufacturers specifications and recommendations.

2.03 RELATED MATERIALS: Use following products unless other materials are specifically recommended and named in carpet manufacturer's technical data.

- A. **Leveling Compound:** Latex type compound, Merkote Products "Mer-Ko Underlay L" or Crossfield Products "Dex-O-Tex G-26 Underlayment". Verify that the compound is compatible with floor adhesive.

### **PART 3 - EXECUTION**

3.01 INSPECTION: Verify conditions as specified in Section 01400. The Contractor, carpet tile supplier, and carpet tile installer shall inspect concrete floor slabs prior to start of carpet installation and shall report to Architect, in writing, all conditions which will adversely affect installation of carpeting. Do not begin carpet installation until all reported conditions are corrected.

3.02 PREPARATION: Do not start preparation until concrete floor slabs are at least 90 days old. Conform to the recommendations of Interface Flooring Systems, Inc. (877) 733-7403, Contractor shall obtain written instructions as to each type of application and/or installation prior to starting of the Work.

- A. **Cleaning and Drying:** Clean slabs of oil, grease, waxes, curing compound, dust, dirt, debris, paint, and other deleterious substances. Verify that concrete is dry and vapor emission levels should not exceed three pounds as determined by the proper application of the calcium chloride test, if higher than 8 pounds, STOP INSTALLATION, number of tests as needed to ensure that slabs are dry but at least one test per floor and for every 2500 square feet of floor area. Allow slabs showing excessive moisture to dry and re-test until dried to tolerance allowed by floor adhesive manufacturer. Use a commercial vacuum cleaner to remove dust and dirt. Damp mop to remove dust that may remain after first vacuuming, allow surface to dry, and again vacuum; repeat the procedure if necessary to eliminate all dust. Do not use oiled or chemical treated sawdust or any similar product for dust removal.
- B. **Leveling:** All floor slabs shall be true to level and plane within a tolerance of 1/8" in 10-feet. Test floor areas both ways with a 10-foot straightedge and repair high and low areas exceeding allowable tolerance. Remove high areas by power sanding, stone rubbing or grinding, chipping off and filling with leveling compound, or equivalent method. Fill low areas with leveling compound. Repair and level the surfaces having abrupt changes in plane, such as trowel marks or ridges, whether or not within the allowable tolerance. Again clean areas where repairs are performed.

3.03 CARPET INSTALLATION:

- A. **General:** Install carpet tile in each dye lot in the number sequence furnished by manufacturer. Carpet tile, quarter turn 45 degrees in one direction and do not

reverse direction at any locations. Align carpet tile with centerline of room or space, and adjust at edges for wall variations.

- B. Color Control:** Plan dye lot change locations to eliminate shading problems and rejection. Use only one dye lot for each area of the building unless otherwise approved; if more than one dye lot is used, obtain prior approval of color match between dye lots.
  - C. Laying and Seaming:** Follow highest quality professional installation procedures outlined by the National Association of Floor Covering Installers and the carpet tile manufacturer's directions as to workmanship. Preserve uniform row alignment and spacing on both sides and across seams. Lay carpet tile with tuft or loop rows in straight lines both ways, free of offsets, waviness, distortion, or misalignment. Trim carpet at walls, columns, and penetrations for a compressed fit.
  - D. Doorways:** Extend carpet into doorways without piecing in and seam to carpet tile on other side of door under door centerline except where metal thresholds occurs; no small filler pieces of carpet will be permitted at doorways.
  - E. Adhesive Installation:** Do not stretch carpeting and carpet tile during installation. Use notched trowel directed by adhesive manufacturer. Evenly spread adhesive free of excess or thin areas. Place and roll stair and carpet tile within "open time" of adhesive. Coat all seam edges with seam sealer (not floor adhesive) applied to bottom of face yarn and entire edge of backings, and produce tight compressed seams free of gaps, peaking, or ridging. Roll or broom carpet towards open seams free of gaps, peaking, or ridging. Roll or broom carpet towards open seams or edges to expel trapped air and obtain full embedding in adhesive.
- 3.04 **CLEAN-UP:** As each area is completed, clean up all dirt and debris, remove spots and soiling with proper cleaner, trim off loose threads with sharp scissors, and vacuum entire area clean.
- 3.05 **INSTRUCTION:** After installations are complete, carpet manufacturer's technical representative shall instruct Owner's personnel in maintenance of the installed carpeting tile. Give the instruction at time and location designated by Owner.
- 3.06 **COMPLETED INSTALLATIONS:** Clean and free of loose areas, defective or apparent seams, scallops, puckers, ripples, distortion, or other defects, and matching the quality of the approved Sample installation. All carpet tile installations not complying with these requirements, as determined by Architect, will be rejected. Contractor shall remove rejected carpeting tile and install new conforming carpeting at no extra cost to Owner.

END OF SECTION

**SECTION 09900**

**PAINING**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide and perform painting, complete.

**A. Work In This Section:** Principal items include:

1. Submittals.
2. Preparation of surfaces.
3. Painting of interior surfaces, except as otherwise specified.
4. Painting of exterior surfaces, except as otherwise specified.

**B. Related Work Not In This Section:**

1. Shop prime coats and factory finishes.
2. Painting specified as Work of other Sections.
3. Calking and sealants.
4. Miscellaneous work.

**C. Surfaces Not To Be Painted:**

1. Non-ferrous metal work (other than zinc-coated surfaces) and plated metal, unless particular items are specified to be painted.
2. Integrally colored concrete block.
3. Exterior concrete walls and surfaces.
4. Surfaces concealed in walls and above solid ceilings.
5. Non-metallic walking surfaces unless specifically shown or specified to be painted.
6. Factory finished surfaces.
7. Resilient flooring and base.
8. Surfaces indicated not to be painted.
9. Surfaces specified to be finish painted under other Sections.
10. Ceramic Tile and Plastic Finishes.

1.02 SUBMITTALS: Refer to Section 01300 for procedures.

- A. List of Paint Materials:** Prior to submittal of Samples, submit a complete list of proposed paint materials, identifying each material by manufacturer's name, product name and number, including primers, thinners, and coloring agents, together with manufacturers' catalog data fully describing each material as to contents, recommended usage, and preparation and application methods and all manufacturers warranties. Identify surfaces to receive various paint materials. All paints submitted must meet or exceed current State Of California health and environmental standards. All products submitted shall be free of ethylene glycol.

Do not deviate from approved list.

- B. Color Samples:** Prior to preparing Samples, obtain Owner's color and gloss selections and instructions. Using materials from approved list prepare and submit 8-1/2" by 11" Samples of each complete opaque paint finish, making sure that all samples meet the gloss percentage criteria set forth in the finish schedule.
- C. Natural or Stain Finish Samples:** Prepare Samples on 12" squares of the same species and appearance of wood as used in the Work.

#### 1.03 JOB CONDITIONS:

- A. Protection:** Protect all painting while in progress and cover and protect adjoining surfaces and property of others from damage. Exercise care to prevent paint from contacting surfaces not to be painted. During painting of exterior work, cover windows, doors, concrete, and other surfaces not to be painted.
- B. Examination of Surfaces:** Examine surfaces to be painted or finished under this Section and verify satisfactory condition; as specified in Section 01400, notify General Contractor and/or Owner and/or Architect in writing of unsatisfactory surfaces. Application of first coat of any finishing system constitutes acceptance of the surface by Painting Subcontractor. This does not relieve the Sub-Contractor from proper preparation of surfaces.
- C. Weather Conditions:** Apply paint to clean, dry, prepared surfaces. Do not apply exterior paint during rainy, damp, foggy, or excessively hot and/or windy weather. Arrange for temporary heat and ventilation required for interior painting.
- D. Precaution:** Place oily rags and waste in self-closing metal containers, removed from site at the end of each day. Do not let rags and waste accumulate.

### PART 2 - PRODUCTS

2.01 **MATERIALS:** Use the paint products of only one paint manufacturer unless otherwise specified or approved. In any case, primers, intermediate, and finish coats in each painting system must be products of same manufacturer, including thinners and coloring agents, except materials furnished with prime coat by other trades. To the maximum extent feasible, factory mix each paint material to correct color, gloss, and consistency for application. Dunn-Edwards Paint Company products specified designate intended types and qualities. Furnish paints from one of the following manufacturers; refer to Section 01600 regarding substitutions:

Frazer  
Tnemec

ICI - Sinclair  
Sherwin Williams

### **PART 3 - EXECUTION**

- 3.01 **WORKMANSHIP:** Apply painting materials in accordance with manufacturer's instructions by brush or roller; spray painting is not allowed without specific approval in each case. Apply each coat at the proper consistency, free of brush or roller marks, sags, runs, or other evidence of poor workmanship. Do not lap paint on glass, hardware, and other surfaces not to be painted; apply masking as required. Sand between enamel coats.
- 3.02 **PREPARATION:** Properly prepare surfaces to receive finishes.
- A. Clean all masonry** surfaces to be refinished of all dirt, dust, oil, grease, oxidized loose and scaly paint film, mildew, rust on metal and other foreign substances by a combination of the following methods to provide a clean sound surface prior to painting application:
- Existing masonry shall be clean by scraping and use "Armex" Sodium Bicarbonate based blast media or comparable products and systems. System or approved equal.
- B. Repair all cracks,** holes and voids in surfaces to be refinished with appropriate sealants and repair compounds to insure permanency to the surfaces and compatible to the painting systems to follow. "Float-Off" and texture the patching materials, to match the adjacent surfaces. Allow repair compounds to fully dry prior to painting application.
- C. Concrete:** Fill cracks, holes, and other blemishes with portland cement patching plaster or a stiff paste mixed of finish paint and fine sand, finished to match adjoining surface. Remove glaze by sanding, wire brushing, or light brush-off sandblasting. Neutralize alkali conditions according to paint manufacturer's directions. Dry the surfaces to receive breathing type latex paints at least two weeks, free of visible moisture. Dry the surfaces to receive oil, alkyd, or epoxy based paint until moisture content does not exceed 8% when tested with an electronic moisture-measuring instrument.
- D. Exterior Plaster:** Fill hairline cracks with portland cement patching material; report larger cracks to Owner for correction. Test and ensure plaster is sufficiently dry to receive the paint finish.
- E. Masonry:** Repair minor holes and cracks with a stiff paste of finish paint and fine sand or vinyl type block filler. Report major or unsightly defects to the Architect for correction. Neutralize all alkali and efflorescence according to paint manufacturer's directions.
- F. Gypsum Wallboard:** Touch-up minor defects with spackle, sanded smooth and flush. Report other defects as specified.
- G. Shop Coated Metal:** Degrease and clean of foreign matter. Clean and spot paint field connections, welds, soldered joints, burned, or abraded portions with same

material used in shop coats. After complete hardening, sand entire surfaces for coat to follow.

- H. Uncoated Ferrous Metal:** Degrease and clean of dirt, rust, mill scale, and other foreign matter using rotary brushes, solvent, or sandblasting. Remove pits and welding slag, and clean surfaces to bright metal before priming. Apply metal primer not more than three hours after preparation.
- I. Galvanized and Non Ferrous Metal:** Degrease and clean of foreign matter. Apply specified pretreatment, and immediately apply primer paint.
- J. Enameled Woodwork:** Sand smooth with grain and dust clean. After priming, putty all nail holes, cracks, or other defects with putty matching color of finish paint. Cover knots and sappy areas with shellac or approved knot sealer. Sand each base coat smooth when dry. Back prime exposed exterior wood or wood type products.
- K. Transparent Finished Woodwork:** Sand smooth with the grain and dust clean. Repair all defects with filler tinted to match stain or wood color, as required, after first coat of sanding sealer and remove all smears.
- L. Fixtures, Equipment, and Hardware Items:** Cooperate with other trades and coordinate removal of fixtures, equipment, and hardware as required to perform painting. Items to be removed include, without limitation: signs and graphics; switch and receptacle plates; escutcheons and like plates; all surface-mounted equipment; free-standing equipment blocking access; grilles and louvers at ducts opening into finished spaces; and other items as required and directed.
- M. Reveals:** In gypsum board, plaster and other surfaces reveals are to be painted to match adjacent color and finish, unless otherwise indicated or selected by the Owner. Obtain approval of the Architect prior to commencing work.
- N. Back Priming:** Refer to Section 06200 for requirements. Unexposed backside of all exterior siding, wood trim or other wood products shall be back primed and/or finished per manufacturer's recommendations.
- O. Surfaces Not Mentioned:** Prepare surfaces according to recommendations of the paint manufacturer's and as approved.

3.03 **COATS AND COLORS:** The number of paint coats specified to be applied are minimum. Ensure acceptable paint finishes or uniform color, free from cloudy or mottled areas and evident thinness on arises. "Spot" or undercoat surfaces as necessary to produce such results. Tint each coat a slightly different shade of finish color to permit identification. Conform to approved Samples. Obtain approval of each coat before applying next coat; otherwise apply an additional coat over entire surface involved at no additional cost to Owner.

3.04 EXTERIOR PAINTING:

**A. Plaster & Plaster Touch-up:**

1st Coat:	W6315 FLEX-PRIME
2nd Coat:	W 704V ACRI-FLAT
3rd Coat:	W 704V ACRI-FLAT

3.05 INTERIOR PAINTING: Provide finishes as scheduled on Drawings or directed, gloss of finishes as scheduled or, where not scheduled, as designated by the Architect. Enamel for finish shall be of the following glosses:

Gloss Enamel (70 – 89%)	W7600V, SPARTAGLOSS
Semi-Gloss Enamel (41 – 69%)	W603, ECOSHIELD Low Odor, Zero VOC, Or W7500V, SPARTAGLO, Interior / Exterior Modified Copolymer Semi-Gloss Paint
Eggshell Enamel (26 – 40%)	W7400 SPARTASHELL, Interior / Exterior Modified Copolymer Eggshell Paint
Low Sheen (10 – 25%)	W602, ECOSHIELD, Low Odor, Zero VOC
Or	W7300 SPARTASHEEN, Interior / Exterior Modified Copolymer Low Sheen Paint

**A. Flat - Drywall:**

1st Coat:	W 420V, WALLTONE, Interior Latex Flat Wall Finish
2nd Coat:	W 420V, WALLTONE, Interior Latex Flat Wall Finish

**B. Flat - Concrete Block Masonry:**

1st Coat:	SBPR00, SmoothBLOCFIL Premium
2nd Coat:	W 420V, WALLTONE, Interior Latex Flat Wall Finish

**C. Enamel - Concrete Block:**

1st Coat:	SBPR00, SmoothBLOCFIL Premium
2nd Coat:	Enamel, gloss as scheduled or designated
3rd Coat:	Enamel, gloss as scheduled or designated

**D. Enamel - Drywall:**

1st Coat	W 102, PROSEAL, Pigmented Interior Sealer
2nd Coat:	Enamel, gloss as scheduled or designated)
3rd Coat:	Enamel, gloss as scheduled or designated

**E. Enamel - Wood:**

1st Coat: IKPR00, INTER-KOTE Premium, Int. Modified  
Copolymer Enamel Under-coater  
2nd Coat: Enamel, gloss as scheduled or designated)  
3<sup>rd</sup> Coat: Enamel, gloss as scheduled or designated

**F. Flat - Metal:** Treat galvanized metal with SC-ME-01 Metal Clean n' Etch

1st Coat: GAPR00, GALV-ALUM Premium, Primer for galvanized  
metal  
OR BRPR00, BLOC-RUST Premium, Anti-Corrosive Metal  
Primer for ferrous metal  
2nd Coat: W 420V, WALLTONE, Interior Latex Flat Wall Finish  
3rd Coat: W 420V, WALLTONE, Interior Latex Flat Wall Finish

**G. Enamel - Metal:** Treat galvanized metal with SC-ME-01 Metal Clean n' Etch

1st Coat: GAPR00, GALV-ALUM Premium, Primer for galvanized  
metal  
OR BRPR00, BLOC-RUST Premium, Anti-Corrosive Metal  
Primer for ferrous metal  
2nd Coat: Enamel, gloss as scheduled or designated  
3rd Coat: Enamel, gloss as scheduled or designated

3.06 MISCELLANEOUS PAINTING:

**A. Weatherstripping or Sound Seals:** Paint exposed metal surfaces to match the doorframe, whether or not unfinished, furnished with factory prime coat, or factory treated for paint adhesion.

**B. Miscellaneous:** For any items not specifically shown or specified that require a paint finish, Contractor shall confer with Owner to determine if any additional painting is required, apply 3 coats of paint as directed.

3.07 CLEANING AND TOUCH-UP WORK: Make a detailed inspection of paint finishes after all painting is completed, remove splatterings of paint from adjoining surfaces, and make good all damage that may be caused by such cleaning operations. Carefully touch-up all abraded, stained, or otherwise disfigured painting, as approved, and leave entire painting in first-class condition.

END OF SECTION

## **SECTION 09955**

### **FIBERGLASS REINFORCED POLYESTER PANELS (FRP)**

#### **PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide fiberglass reinforced polyester wall panels (FRP) complete as indicated, specified and required.

A. Work In This Section:

1. Fiberglass reinforced polyester wall panels (FRP)
2. All other miscellaneous items required to complete installation.

B. Related Work Not In This Section:

1. Gypsum Wallboard.

1.02 SUBMITTALS:

A. **Samples:** Submit to Architect for approval 12" x 12" sample of FRP panels and 12" length of trim cap. Submit in accordance with Section 01300 Submittals.

1.03 PRODUCT HANDLING: Deliver product to jobsite with all finish surfaces protected against scratches, stains and all damage. Lay panels and trim flat in original containers raised off floor away from moisture.

#### **PART 2 - PRODUCTS**

2.01 FIBERGLASS REINFORCED POLYESTER (F.R.P.) PANELS: Panels shall be 4' x 8', 9' or 10' X 3/32" for walls, all fiberglass reinforced polyester panels. FRP panels shall be installed with 8' or 10' with harmonizing moldings, adhesive and sealant as supplied by the Marlite, Kemlite Sani-Grid or NUDO Products, Inc., or approved equal. Material must be applied strictly in accordance with the printed installation instructions provided. Finish texture and color as scheduled on drawings or as selected by Architect.

#### **PART 3 - EXECUTION**

3.01 INSTALLATION: Install wall panels per manufacturer's instructions, using recommended adhesive, including calking and sealant in moldings and at penetrations to comply with NSF requirements, refer to Sections 09250. Prepare all surfaces for proper installation against clean untextured smooth sanded taped gypsum board. Room temperature during installation must be 60 degrees or above. Place FRP panels before vinyl base is installed. Wall panels shall be flush, level and plumb. All trim and joints shall be level, plumb and true. Use large 4 x 10 or 4 x 8 panels so as to create no seams in small rooms (10'-0" dimension or less). In larger rooms, coordinate panel seams with Architect.

- 3.02 CLEAN-UP: Clean panels and trim for final acceptance with products as recommended by manufacturer. Protect from damage until construction is complete. Remove all scrap, debris and packaging from site.

END OF SECTION

**SECTION 10010**

**BUILDING SPECIALTIES**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide building specialties complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Fire extinguisher cabinets.
2. Projection screen.
3. Signs.

**B. Related Work Not In This Section:**

1. Metal fabrications.
2. Finish carpentry.
3. Painting.
4. Electrical connections.

1.02 SUBMITTALS: Refer to Section 01300 for procedures.

**A. Shop Drawings and Samples:** Submit for various items as specified hereinafter. Shop materials, finish, characteristics, construction and fabrication details and procedure, layout and erection diagrams, methods of anchorage to building construction, templates for backing or anchorage, and other criteria.

**B. Product Data:** Submit catalog data for the standard manufactured items and as applicable to shop-fabricated or shop-assembled items.

**PART 2 - PRODUCTS**

2.01 MANUFACTURE: Use products of only one manufacture throughout for each specialty item specified unless otherwise noted or approved.

2.02 FIRE EXTINGUISHER CABINETS: Provide where shown, cabinets manufacture by JL Industries, Inc., Provide Cosmic Series, Model 5E, 5 lb. cap. 2A: 10B: C UL rating. Color Red, Provide cabinets of Academy Series, Finish to be painted aluminum, color as selected by Architect, with square trim where surface mounted, rolled edge for semi-recessed installation, and return trim for full recessed installation. Provide door style B, solid door with # 17 clear tempered safety glass insert and SAF-T-LOK. Provide lockable fire extinguisher cabinets. Provide Fire-FX option at fire-rated walls. Mounting Brackets are Mark Bracket model MB818, marine type bracket.

- 2.03 PROJECTION SCREENS: Provide "Series" as selected by Architect, video format, nominal, size 120" high x 96" wide with 1-7/8" designer slate recessed/suspended ceiling screen as manufactured by Da-Lite or equal units by Bretford Manufacturing or approved equal. Screen will be mounted with UL approved electric motor, 120 V AC 60 HZ, lubricated for life with automatic thermal overload cut-off. Stops automatically when fully extended or retracted, and permits stopping at any point. Switching is low voltage (24 volts) permitting usage of a 3-button switch with key operation with cover plate. Projection screen shall have a matte white finish, steel hanger brackets, and designer slate, color to match ceiling. The screen shall bear UL label.
- 2.04 SIGNS: Fabricate and provide signs as detailed on drawings or as selected by Owner. Provide Shop Drawings for Architects approval prior to fabrication. Contracted Grade 2 Braille shall be used whenever Braille symbols are specifically required. Dots shall be spaced 1/10" on center within each cell with 2/10" space between cells. Dots shall be raised 1/40" above background. Refer to CBC Section 1117B.5.6. All signage shall conform to CBC Section 1117B.5 and 1103.2.4.

### **PART 3 - EXECUTION**

- 3.01 INSTALLATION: Conform to the approved submittals and the various manufacturers instructions.

END OF SECTION

## **SECTION 10162**

### **METAL TOILET PARTITIONS**

#### **PART 1 - GENERAL**

1.01 **DESCRIPTION:** Division 1 applies to this Section. Provide painted metal toilet partitions as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Floor mounted overhead-braced toilet partitions.

**B. Related Work Not In This Section:**

1. Toilet accessories.
2. Concealed backing or blocking in walls.

1.02 **SUBMITTALS:** Refer to Section 01300 for procedures.

**A. Shop Drawings:** Submit Shop Drawings showing dimensioned layouts, the required location of backing in walls, preparation and reinforcing of panels to receive various toilet accessories and grab bars, and erection diagrams.

**B. Product Data:** Submit catalog data for each hardware item and fitting.

**C. Samples:** Submit Samples of metal finishes in designated colors.

**D. Certificate:** Submit manufacturer's certificate attesting that steel, treatment, and finish provided conform to requirements specified.

#### **PART 2 - PRODUCTS**

2.01 **TOILET PARTITIONS:** Floor mounted flush panel painted steel type, of manufacturer and color(s) as scheduled on drawings or as selected by Architect, or approved equal:

**A. Construction:** As standard with manufacturer, modified as necessary to suit the installation requirements, using galvanized bonderized steel of minimum 22 gage for doors, 20 gage for partitions, and 18 gage for pilasters, with galvanized steel adjustable connector to secure the pilasters to supports and one-piece polished stainless steel shoes with concealed clips at floor. Make reinforced cutouts in the partitions where required for the toilet accessories. Provide concealed reinforcements for grab bar connections to panels, designed for at least 300 pound shear load. Provide manufacturer's standard tubular extruded anodized aluminum overhead bracing.

- B. Hardware:** Of brushed stainless steel with the partition manufacturer. Equip doors with concealed adjustable hinges, coat hook and bumper, latch bolt, and combination stop and keeper. Assemble compartments with continuous wall metal brackets matching hardware. Use theft-proof fasteners of matching materials. Provide U-shaped or loop type hardware at each side of door, and flip-over or sliding latch per CBC 1115B.7.1 (4) accessible stalls. Toilet stalls for disabled persons shall have slide bolt door latch, wire pulls both sides of the door and self closing hinges. Door hardware shall be mounted at 30" to 44" above finished floor. Disabled doors at front entry stalls shall have 32", and side entry stalls shall have 34" minimum clear width when the door is open 90 degrees. Coat hook shall be installed at 48" maximum.
- C. Finish:** Factory-applied oven-baked inhibiting primer and baked enamel paint coats on exposed zinc-coated surfaces, minimum total dry mil thickness of 1.5 mils.

### **PART 3 - EXECUTION**

- 3.01 **INSTALLATION:** Form and assemble work plumb, square, and in true plane without warp or wind, connections made tight and secure. Remove punctured or scratched material and provide conforming material. Leave the entire installation clean and free of oil, grease, handmarks, or other foreign matter, and with hardware adjusted for correct operation.

END OF SECTION

**SECTION 10500**

**METAL LOCKERS**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide metal lockers complete as indicated, specified, and required.

**A. Work In This Section:** Principal items include:

1. Metal two-tiered lockers.
2. Locker room benches.

**B. Related Work Not In This Section:**

1. Storage shelving.

1.02 SUBMITTALS: Refer to Section 01300 for procedures.

**A. Shop Drawings:** Indicate materials, thickness, finish, size and methods of fabrication, assembly and installation.

**B. Manufacturers' Literature:** Manufacturers' recommended installation instructions.

**C. Certificates:** Manufacturer's certification that materials meet Specification requirements.

1.03 COLOR SELECTION: Manufacturer's standard color as shown on the color schedule. Submit to Architect for selection.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING:

**A. Delivery:** Deliver items in manufacturer's original unopened protective packaging.

**B. Storage:** Store materials in original protective packaging to prevent soiling, physical damage, and wetting.

**C. Handling:** Handle so as to prevent damage to finish surfaces.

**PART 2 - PRODUCTS**

2.01 ACCEPTABLE MANUFACTURERS:

**A. Lyon Metal Products, Inc.**

**B. Art Metal Products Company.**

**C. Republic Steel.**

2.02 LOCKER COMPONENTS:

- A. Locker Type:** Double Tier as indicated on drawings, 18" deep, 12" wide, 36" high per tier, sitting on metal base at floor.
- B. Frames:** Minimum 16 gage steel channels or 12 gage steel angles, with welded corners and integral doorstops. Provide minimum 16 gage horizontal members between doors of double tier lockers to ensure rigidity. Extend vertical members to floor to form legs.
- C. Backs and Sides:** Minimum 24 gage sheet steel, except minimum 16 gage for exposed ends of non-recessed lockers. Flange backs on vertical edges, and sides where they intermember with backs, making double flanged rear corners.
- D. Tops, Bottoms, and Shelving:** Minimum 24 gage steel flanged edges.
- E. Door:** One piece, minimum 16 gauge sheet steel, flanged at all edges, reinforced to prevent springing. Ventilate door with punched louver openings at top and bottom.
- F. Hinges:** Heavy duty, not less than .0500-inch thick steel, full loop, five-knuckle tight pine, two inches high. Weld hinges to inside of frame and secure to door with not less than two factory-installed fasteners, completely concealed and tamperproof when locker door is closed.
- G. Latching:** All latching shall comply with ADA requirements. Latching shall be a one-piece, pre-lubricated, spring steel latch completely contained within the lock bar under tension to provide a rattle-free operation. The lock bar shall be of pre-painted, double-channel steel construction. The lock bar shall be securely contained in the door channel by self-lubricating polyethylene guides that isolate the lock bar from metal-to-metal contact with the door. There shall be three latching points for lockers over 42" in height and two latching points for all tiered lockers 42" and under in height. The lock bar travel is limited by contacting resilient elastomeric cushioning devices concealed inside the lock bar.
- H. Recessed Handle:** All handles shall comply with ADA requirements A non-protruding 14 gauge lifting trigger and slide plate transfer the lifting force for actuating the lock bar when opening the door. The exposed portion of the lifting trigger shall be encased in a molded ABS thermoplastic cover that provides isolation from metal-to-metal contact and be contained in a formed 20 gauge stainless steel. This stainless steel pocket shall contain a recessed area for the various lock types and a mounting area for the number plate.
- I. Locks:** Not in contract.

- J. Hooks:** Cadmium plated steel or cast aluminum. One double prong center hook and three single prong wall hooks.
  - K. Number Plates:** Manufacturer's standard non-ferrous metal number plates with numerals not less than 3/8-inch high, attach to door with matching fasteners. Number lockers in sequence as directed by the Architect.
  - L. Fasteners:** Cadmium, zinc, or nickel-plated steel, vandal resistant, concealed on fronts of lockers or frames.
  - M. Metal Base:** Manufacturer's standard, finished to match lockers.
  - N. Sloping Tops:** Not less than 20 gage sheet steel, approximately 25-degree pitch, with closers at exposed ends, and finished to match lockers.
  - O. Trim:** Manufacturer's standard for recessed installations, finish to match lockers.
  - P. Finish:** Chemically pretreated with degreasing and phosphotizing process. Apply baked-on enamel finish to all exposed and concealed surfaces, except plates and non-ferrous metal. Color as selected from manufacturer's standard colors.
- 2.03 **LOCKER ROOM BENCHES:** Manufacturer's standard benches with laminated hardwood tops approximately 9-1/2" wide by 1-1/4" thick, in lengths as indicated. Provide hot dipped galvanized steel pedestal supports not more than six feet on center with provisions for concealed fastening to floor and secure to bench, and all anchorages. Finish bench tops with manufacturer's standard clear coating and pedestals with baked enamel in color as scheduled on drawings or as selected by Architect.

### **PART 3 - EXECUTION**

- 3.01 **INSTALLATION:** Installation shall be done by factory-trained mechanics employed by a manufacturer-approved erector. Lockers shall be floor and wall anchored. Erection shall be in full accordance with approved Shop and Installation Drawings and manufacturer's recommendations.
- 3.02 **PROTECTION AND REPAIR:** Protect lockers until final acceptance of building. Blemishes and marred surfaces shall be repaired to match specified finish. Damaged parts that cannot be satisfactorily repaired shall be replaced. Install wood benches as detailed.
- 3.03 **CLEANING:** Clean all baked-on enamel surfaces as recommended by manufacturer.

END OF SECTION

## **SECTION 10625**

### **FOLDING PARTITIONS**

#### **PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide folding partitions complete as indicated, specified, and required.

**A. This Section includes the following:**

1. Manually operated, paired panel operable partitions.

**B. Related Sections include the following:**

1. Division 3 Sections for concrete tolerances required.
2. Division 5 Sections for primary structural support, including pre-punching of support members by structural steel supplier per operable partition supplier's template.
3. Division 6 Sections for wood framing and supports, and all blocking at head and jambs as required.
4. Division 9 Sections for wall and ceiling framing at head and jambs.

1.02 QUALITY ASSURANCE

**A. Installer Qualifications:** An experienced installer who is certified in writing by the operable partition manufacturer, as qualified to install the manufacturer's partition systems for work similar in material, design, and extent to that indicated for this Project.

**B. Acoustical Performance:** Test operable partitions in an independent acoustical laboratory in accordance with ASTM E90 test procedure to attain no less than the STC rating specified. Provide a complete and unedited written test report by the testing laboratory upon request.

**C. Preparation of the opening** shall conform to the criteria set forth per ASTM E557 "Standard Practice for Architectural Application and Installation of Operable Partitions."

1.03 SUBMITTALS

**A. Product Data:** Material descriptions, construction details, finishes, installation details, and operating instructions for each type of operable partition, component, and accessory specified.

- B. Shop Drawings:** Show location and extent of operable partitions. Include plans, sections, details, attachments to other construction, and accessories. Indicate dimensions, weights, conditions at openings, and at storage areas, and required installation, storage, and operating clearances. Indicate location and installation requirements for hardware and track, including floor tolerances required and direction of travel. Indicate blocking to be provided by others.
- C. Setting Drawings:** Show imbedded items and cutouts required in other work, including support beam punching template.
- D. Samples:** Color samples demonstrating full range of finishes available by architect. Verification samples will be available in same thickness and material indicated for the work.

#### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Clearly mark packages** and panels with numbering systems used on Shop Drawings. Do not use permanent markings on panels.
- B. Protect panels during** delivery, storage, and handling to comply with manufacturer's direction and as required to prevent damage.

#### 1.05 WARRANTY

- A. Provide written warranty** by manufacturer of operable partitions agreeing to repair or replace any components with manufacturing defects.
- B. Partition Warranty period:** Two (2) years from date of shipment.
- C. Suspension System Warranty:** Five (5) years from date of shipment.

### **PART 2 - PRODUCTS**

#### 2.01 MANUFACTURERS, PRODUCTS, AND OPERATIONS

- A. Manufacturers:** Subject to compliance with requirements, provide products by the following:
  - 1. Modernfold, Inc.
  - 2. Or approved equal
- B. Products:** Subject to compliance with the requirements, provide the following product:
  - 1. Acousti-Seal #932 manually operated paired panel operable partition.

## 2.02 OPERATION

- A. **Acousti-Seal #932:** Series of paired flat panels hinged together in pairs, manually operated, top supported with operable floor seals.
- B. **Final Closure:**
  - 1. Horizontally expanding panel edge with removable crank

## 2.03 PANEL CONSTRUCTION

- A. **Nominal 3-inch thick** panels in manufacturer's standard 48-inch widths. All panel horizontal and vertical-framing members fabricated from minimum 18-gage formed steel with overlapped and welded corners for rigidity. Top channel is reinforced to support suspension system components. Frame is designed so that full vertical edges of panels are of formed steel and provide concealed protection of the edges of the panel skin.
- B. **Panel skin shall be:**
  - 1. 0.50-inch tackable 100% recycled gypsum board, class "A" rated single material or composite layers continuously bonded to panel frame. Acoustical ratings of panels with this construction minimum:
    - a. 50 STC
- C. **Hinges for Panels, Closure Panels, Pass Doors, and Pocket Doors shall be:**
  - 1. Full leaf butt hinges, attached directly to the panel frame with welded hinge anchor plates within panel to further support hinge mounting to frame. Lifetime warranty on hinges. Hinges mounted into panel edge or vertical astragal are not acceptable.
- D. **Panel Trim:** No vertical or horizontal trim required or allowed on edges of panels; minimal groove appearance at all panel joints.
- E. **Panel Weights:**
  - 1. 50 STC - 8-lbs./square foot

## 2.04 PANEL FINISH

- A. **Panel finish shall** be factory applied, Class "A" rated material. Finish shall be:
  - 1. Reinforced vinyl with woven backing weighing not less than 21 ounces per lineal yard.
- B. **Panel Trim:** Exposed panel trim shall be as selected by Architect or as indicated on drawings.

## 2.05 SOUND SEALS

- A. **Vertical Interlocking Sound Seals between panels:** Roll-formed steel astragals, with reversible tongue and groove configuration in each panel edge for universal panel operation. Rigid plastic astragals or astragals in only one panel edge are not acceptable.
- B. **Horizontal Top Seals:** Continuous contact extruded vinyl bulb shape with pairs of non-contacting vinyl fingers to prevent distortion without the need for mechanically operated parts.
- C. **Horizontal bottom floor seals shall be:**
  - 1. Modernfold IA2 Bottom seal. Automatic operable seals providing nominal 2-inch operating clearance with an operating range of +0.50-inch to -1.50-inch which automatically drop as panels are positioned, without the need for tools or cranks.

## 2.06 SUSPENSION SYSTEM

- A. **#17 Suspension System**
  - 1. Suspension Tracks: Minimum 11-gauge, 0.12-inch roll-formed steel track, suitable for either direct mounting to a wood header or supported by adjustable steel hanger brackets, supporting the load-bearing surface of the track, connected to structural support by pairs of 0.38-inch diameter threaded rods. Aluminum track is not acceptable.
    - a. Exposed track soffit: Steel, integral to track, and pre-painted off-white.
  - 2. Carriers: One all-steel trolley with steel tired ball bearing wheels per panel (except hinged panels). Non-steel tires are not acceptable.

## **PART 3 - EXECUTION**

### 3.01 INSTALLATION

- A. **General:** Comply with ASTM E557, operable partition manufacturer's written installation instructions, Drawings and approved Shop Drawings.
- B. **Install operable partitions** and accessories after other finishing operations, including painting have been completed.
- C. **Match operable partitions** by installing panels from marked packages in numbered sequence indicated on Shop Drawings.
- D. **Broken, cracked, chipped**, deformed or unmatched panels are not acceptable.

### 3.02 CLEANING AND PROTECTION

- A. **Clean partition surfaces** upon completing installation of operable partitions to remove dust, dirt, adhesives, and other foreign materials according to manufacturer's written instructions.
- B. **Provide final protection** and maintain conditions in a manner acceptable to the manufacturer and installer that insure operable partitions are without damage or deterioration at time of Substantial Completion.

### 3.03 ADJUSTING

- A. **Adjust operable partitions** to operate smoothly, easily, and quietly, free from binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Lubricate hardware and other moving parts.

### 3.04 EXAMINATION

- A. **Examine flooring, structural** support, and opening, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of operable partitions. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.05 DEMONSTRATION

- A. **Demonstrate proper** operation and maintenance procedures to Owner's representative. Provide Operation and Maintenance Manual to Owner's representative.

END OF SECTION

## **SECTION 10800**

### **TOILET ACCESSORIES**

#### **PART 1 - GENERAL**

- 1.01 DESCRIPTION: Division 1 applies to this Section. Provide accessories for toilet rooms complete as indicated, specified, and required.
- 1.02 SUBMITTALS:
- A. **Product Data:** Submit the manufacturer's technical Product Data and installation directions.
  - B. **Samples:** Submit such Samples as Architect may request, which will be returned to Contractor. Approved Samples may be installed in the Work.

#### **PART 2 - PRODUCTS**

- 2.01 MATERIALS: Accessories as scheduled on Drawings, brushed stainless steel products of Bobrick or Bradley. Refer to Section 01600 regarding substitutions.
- 2.02 TOILET ROOM MIRRORS: Provide Bobrick Series as scheduled on drawings, install where indicated on drawings. Mirror quality 1/4" thick polished plate, ground edges, double-silvered, copper backed, and organic coating, bearing 15-year guarantee against silver spoilage. Provide stainless steel channels as scheduled on drawings and secure with adhesive supplied by mirror manufacturer.

#### **PART 3 - EXECUTION**

- 3.01 INSTALLATION: Install accessories square, plumb, and level. Securely anchor by mechanical means only using stainless steel fasteners. Obtain required rough-in and installation templates. Exact locations shall be as indicated or directed by the Architect.

END OF SECTION

**SECTION 11450**

**PREFABRICATED KITCHEN UNITS**

**PART 1 - GENERAL**

1.01 SECTION INCLUDES

- A. Unit Kitchens, including** cabinets, countertops, sinks, faucets, appliances and accessories.

1.02 REFERENCES

**A. American Society for Testing Materials (ASTM):**

1. ASTM A 1008/A 1008 M (2011) Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low Alloy and High-Strength Low Alloy with improved Formability, Solution Hardened and Bake Hardened.
2. ASTM D1037-91, Test Methods for Evaluating the properties of wood-based fiber and particleboard panel materials.

- B. U.S. General Services Administration**, Federal Supply Service, QQ-A250/8 – Federal Specification for Aluminum Alloys.

- C. National Electrical Manufacturers Association (NEMA)**, LD3-1995 – Standard for High Pressure Decorative Laminate.

**D. American National Standards Institute (ANSI):**

1. ANSI A112.18.1M – Standard for Plumbing Fixture Fittings
2. ANSI A208.1, M-3 – Standard for Particleboard, Industrial Grade Classification
3. ANSI/KCMA A161.1-2000 – Performance & Construction Standard for Kitchen and Vanity Cabinets

- E. Canadian Standard Associated (CSA)**, CSA B125 – Standard for Plumbing Supply Fittings.

**F. NSF International:**

1. NSF International, Standard 2 – Food Equipment
2. NSF International, Standard 61, Section 9 – Standard for Drinking Water System Components.

- G. Underwriters Laboratories, Inc. (UL)** – Safety Standards for electric appliances.

- H. U.S. Environmental Protection Agency (EPA)/U.S. Department of Energy (DOE), Energy Star – Qualification Standards for Energy Efficiency.**
- I. Kitchen Cabinet Manufacturers Association (KCMA), KCMA A161.1-2000 – Certification – Performance and Construction Standard for Kitchen and Vanity Cabinets.**
- J. U.S. Department of Housing and Urban Development (HUD), Directive 4910.1, Section 611-1.1 – Minimum Property Standards for Housing, Kitchen and Vanity Cabinets.**
- K. GREENGUARD Environmental Institute (GEI), GREENGUARD® Select Certification for Indoor Air Quality, Certification Number 90015.**

#### 1.03 SYSTEM DESCRIPTION

- A. A modular component system** used to create compact or full size kitchens. Appliances and countertops may also be provided to allow for single source purchasing, installation and warranty.

#### 1.04 SUBMITTALS

- A. Comply with requirements** of Section 01300 – Submittal Procedures.
- B. Shop Drawing Submittals:** Submit manufacturers shop drawings showing layout, profiles and product components.
- C. Quality Assurance Submittals:** Submit manufacturer’s installation instructions.
- D. Closeout Submittals:** Submit manufacturers operation and maintenance data and warranty. Include the methods detrimental to finishes and performance.

#### 1.05 REGULATORY REQUIREMENTS

- A. Requirements for Accessibility:**
  - 1. California Title 24
  - 2. ANSI A117.1 specifications

#### 1.06 DELIVERY, STORAGE & HANDLING

- A. Comply with manufacturer’s** ordering instruction and lead time requirements to avoid construction delays.
- B. Deliver, store and handle** products under provisions of Section 01600 and in accordance with manufacturer’s instructions.

## 1.07 PROJECT CONDITIONS

- A. **Field Measurements:** Verify actual finished openings and plumbing and electrical locations by field measurement before fabrication. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays. Where field measurements and fabrication cannot be made without delaying the work, establish dimensions and proceed with fabrication without field measurements. Coordinate construction to ensure that actual dimensions correspond to established dimensions.
- B. **All overhead work**, including drop ceilings, HVAC, and lighting shall be complete.
- C. **Floor Systems shall be** installed and painting shall be complete before installation of kitchens and casework is to begin

## 1.08 WARRANTY

- A. **Manufacturer's standard warranty** period shall commence on Date of Delivery.
- B. **Manufacturer's Warranty:**
  - 1. Dwyer Compact Laminate Kitchens (Domestic Shipment) – Dwyer Products Corporation warrants its standard Compact Kitchens free from defects in materials and workmanship for a period of 2 years for laminate cabinetry. This warranty is extended to the Original Purchases of the product, is non-transferrable, and is effective from the date of shipment or from date of final payment, post-delivery. Labor to remove defective products, install replacements, and make on-site repairs is included in this warranty for one year. No warranty is made for normal wear and tear, any alterations to the product, misuse, abuse, exposure to extreme heat or moisture, improper installation, or repairs attempted by non-Dwyer-authorized parties. Repair or replacement will be offered at the discretion of the Dwyer Customer Service Team. Exceptions to the Warranty: Refrigerator compressor components shall be excluded after a period of 5 years, Freestanding icemakers shall be excluded after a period of 2 years. Labor to correct improper installation, replace light bulbs, fuses, wiring, and plumbing is not covered. Property damage or food loss due to appliance failure.

## **PART 2 - PRODUCTS**

### 2.01 MANUFACTURER

- A. **Acceptable Manufacturer:** Dwyer Products, 1345 Norwood, Itasca, Illinois 60143. Phone 800-822-0092, Fax 630-783-1679, website [www.dwyerproducts.com](http://www.dwyerproducts.com).

- B. Specified Kitchen Model:** SAC060NMX & SAC060NMR
- C. Substitutions:** Not permitted.
- D. Requests for substitutions** will be considered in accordance with provisions of Section 01600.

## 2.01 CABINETS

### **A. Cabinet Boxes:**

- 1. High Pressure Laminate (HPL) Cabinets
  - a. Cabinets shall be constructed with 45 lbs. particleboard ¾” thick, laminate faced on both sides, .018 PVC edgebanding on all exposed edges.
  - b. Cabinet backs shall be constructed with ¼” thick white fiberboard, melamine on one side only.
  - c. Cabinet components shall be glued and doweled under pressure for strength and squareness.
  - d. Cabinets shall be frameless construction.
  - e. Hinges shall be 110 degree opening, fully concealed and 6-way adjustable.
  - f. Drawer Glides shall be ¾ extension, 100 lb. rating.
  - g. Toe boards shall be particleboard with laminate surface.
  - h. Cabinet boxes shall conform to ANSI/KCMA A161.1-2000, HUD Standards and shall be KCMA Certified.
  - i. Cabinet boxes shall be GREENGUARD® SELECT Certified for Indoor Air Quality.
  - j. Color: Nevamar – Graphite Blue S3023T

### **B. Cabinet Doors:**

- 1. High Pressure Laminate (HPL) Doors
  - a. Shall be constructed of ¾” [19mm] thick particleboard, 45 pound density, with face, back and all edges covered in PVC .018 edgebanding.
  - b. Cabinet doors shall conform to ANSI/KCMA A161.1-2000, HUD Standards and shall be KCMA Certified.
  - c. Cabinet boxes shall be GREENGUARD® SELECT Certified for Indoor Air Quality.
  - d. Shall not be drilled for handle holes.
  - e. Handles: 128mm centered bail handles in color, Brushed Chrome
  - f. Color: Nevamar – Graphite Blue S3023T

## 2.02 COUNTERTOPS

### A. **Solid Surface Countertop:**

1. Shall be solid polymer countertop and shall be cast filled acrylic.
2. Shall be a solid, non-porous surface.
3. Shall have a loose 3" high backsplash.
4. Ends shall have loose end splashes
5. Color: DuPont Corian, Canvas

## 2.03 SINKS

### A. **Under-mount Stainless Steel Small:**

1. Shall be 18-gauge stainless steel.
2. Overall size shall be 16 inches long, 12 inches wide and 5-5/8 inches deep.
3. Shall have a 3-1/2 inch drain opening.
4. Faucet holes are not part of sink bowl and shall be provided with countertop.

- B. Basket strainer and tail piece** shall be included. The 3-1/2 inch stainless steel basket strainer shall be furnished with a 6-1/2 inch diameter tailpiece or a 7-1/2 inch diameter angled tailpiece for ADA kitchens.

## 2.04 FAUCETS

### A. **Dwyer Standard Limited Swing Faucet:**

1. Shall be an ADA-Compliant single loop handle faucet with limited swing spout that controls water flow within the confines of the sink bowl.
2. Shall have a removable ceramic disc cartridge.
3. Shall require 1-3/8 inch diameter faucet holes.
4. Shall have a standard 1.5GPM flow regulator installed.
5. Shall conform to ANSI/SSF61, CA AB1953, ASME A112.18.1/CSA B125.1
6. Color: Chrome.

## 2.05 APPLIANCES

### A. **Refrigerators:**

1. Dwyer 5.1 Cubit Foot (ADA Height) Under-counter Refrigerator/Freezer
  - a. Shall have a total capacity of 5.1 cubic feet, shall be ADA height, and shall be approved for under-counter recessed applications.

- b. Features shall include a dual evaporator for separate cooling of the freezer and fresh food sections, interior light, automatic defrost fresh food section and manual defrost freezer, adjustable shelves, fruit and vegetable crisper, door storage for large bottles, zero degree freezer that keeps frozen foods frozen and adjustable thermostat.
- c. Dimensions: 33 inches high at full leveler height, 32-1/2 inches high at 0 inch leveler height, 23-5/8 inches wide, 23-1/2" deep.
- d. Electrical Requirements: U.L Listed, 115 volts/60 Hz, 3-prong grounded cord plug-in appliance.
- e. Color: Choose from manufacturer's standard (White, Black), optional stainless steel

**B. Microwaves:**

- 1. 30 Inch Over-the-range Microwave and Convection Oven hood
  - a. Shall have a 1.7 cubic feet capacity.
  - b. Features shall include a 1000 watt output, fast bake (combination convection/microwave cooking) convection cooking, sensor cooking controls. Cooktop lighting and control dial.
  - c. Dimensions: 29-7/8 inches wide, 16-7/8inches high, 15-7/8 inches deep.
  - d. Electrical Requirements: Input 120V amperage, 120/60Hz, 1580 Watts.
  - e. Color: Choose from manufacturer's standard (White, Black), optional (black with stainless steel door)
  
- 2. 18 Inch Countertop Microwave
  - a. Shall have a 0.7 cubic feet capacity.
  - b. Features shall include one-touch cooking controls, auto and time defrost, turntable, instant on controls, control lockout, kitchen timer, and cooking complete reminder.
  - c. Dimensions: 12-3/16 inches high, 17-13/16 inches wide and 11-9/16 inches deep.
  - d. Electrical Requirements: 120 V, 10.5 amperage, 1150 watts, grounded power receptacle.
  - e. Color: Choose from manufacturer's standard (White, Black).

2.06 ACCESSORIES

**A. Cabinet Doors for ADA Adaptable Sink Base:**

1. Shall create ability to convert the open space for wheelchair access into additional storage space.
2. Attachment of doors and conversion of plumbing close-off panel to floor shall not require plumbing modifications or disassembly.

**PART 3 - EXECUTION**

3.01 EXAMINATION

- A. Examine areas to receive product.** Do not begin installation until areas are in satisfactory condition. Ensure horizontal blocking, if necessary, and floor are complete.

3.02 INSTALLATION

- A. Install product in accordance** with manufacturer's installation instructions at locations indicated on drawings.

3.03 FIELD QUALITY CONTROL

- A. Test appliances for proper** operation prior to Owner's acceptance. Repair or replace defective products.

3.04 CLEANING

- A. Clean installed products in** accordance with manufacturer's instructions prior to Owner's acceptance.

END OF SECTION

**SECTION 15000**

**MECHANICAL**

**PART 1 - GENERAL**

1.01 DESCRIPTION: Division 1 applies to this Section. Provide all mechanical, plumbing and HVAC systems complete as indicated on drawings, specified, and required.

**A. Work In This Section:** Principal items include:

1. Complete mechanical systems.
2. Complete plumbing systems
3. HVAC systems

**B. Related Work Not In This Section:**

1. Electrical connections.
2. Civil connections.

1.02 SUBMITTALS: Refer to Section 01300 for procedures. Submit complete Shop Drawings Section 01300, "Submittals".

**PART 2 - PRODUCTS**

2.01 MATERIALS: Provide materials and equipment required for completion of work as shown or required on the drawings.

2.02 ACCESSORIES: Provide all hardware, accessories, and miscellaneous items for a complete operational systems.

**PART 3 - EXECUTION**

3.01 INSTALLATION: All mechanical systems work shall be properly installed in strict compliance with drawings and all Code requirements.

END OF SECTION

**SECTION 16000**

**ELECTRICAL**

**PART 1 - GENERAL**

- 1.01 **DESCRIPTION:** Division 1 applies to this Section. Provide required electrical systems complete as indicated on drawings, specified, and required by Code.
- A. Work In This Section:** Principal items include:
1. Complete electrical systems.
  2. Complete lighting systems.
- B. Related Work Not In This Section:**
1. Mechanical connections.
- 1.02 **SUBMITTALS:** Refer to Section 01300 for procedures. Submit complete Shop Drawings Section 01300, "Submittals".
- 1.03 **QUALITY ASSURANCE:** Conform to the following as applicable:
- A. Certification Labels:** Provide equipment which complies with standards and bears certification labels as follows:
1. **Energy Ratings:** Provide energy guide labels with energy cost analysis (annual operating costs) and energy information as required by Federal Trade Commission.
  2. **UL Standards:** Provide equipment with UL labels.
- B. Uniformity:** Provide products of same manufacturer for each type of equipment required. The greatest extent possible, provide equipment by manufacturers that are scheduled on drawings for entire project.
- 1.04 **PRODUCT DATA:** Submit manufacturer's specifications and installation instructions for each type of equipment, including data indicating compliance and requirements. Submit operating and maintenance instructions for each item of equipment. Provide product cuts for Architect/Owners approval prior to purchasing any equipment.
- 1.05 **PRODUCT WARRANTIES:** Submit manufacturer's standard written warranty for each item of equipment.
- 1.06 **FINISH/COLOR:** Provide finish and color as selected by Architect/Owner or shown or scheduled, unless otherwise indicated.

- 1.07 DATA SHEETS: Submit manufacturer's published data sheet indicating rough opening sizes, basic space requirements, and all requirements to Architect/Owner.
- 1.08 PRODUCT DELIVERY, STORAGE, AND HANDLING: Deliver all equipment to the site in unopened factory sealed containers bearing printed name of manufacturer, keep container dry and undamaged.

## **PART 2 - PRODUCTS**

- 2.01 MATERIALS: Provide materials and equipment required for completion of work as indicated on drawings and required by Code and approved by the Architect.
- 2.02 ACCESSORIES: Provide all hardware, accessories, and miscellaneous items for complete operational systems.

## **PART 3 - EXECUTION**

- 3.01 INSTALLATION: All electrical systems work shall be properly installed in strict compliance with drawings and all Code requirements and approval by the Architect.

END OF SECTION