LAMONT PUBLIC UTILITY DISTRICT

BOARDROOM TENANT IMPROVEMENT REMODEL PROJECT

8624 SEGRUE ROAD
LAMONT, CA 93241

JANUARY 2025

DEE JASPAR & ASSOCIATES, INC.
CONSULTING CIVIL ENGINEERS
2730 Unicorn Road, Bldg. A (661) 393-4796
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LAMONT PUBLIC UTILITY DISTRICT

BOARDROOM TENANT IMPROVEMENT REMODEL PROJECT

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SECTION A

NOTICE OF INVITING BIDS

LAMONT PUBLIC UTILITY DISTRICT

BOARDROOM TENANT IMPROVEMENT
REMODEL PROJECT

JANUARY 2025

LAMONT PUBLIC UTILITY DISTRICT

BOARDROOM TENANT IMPROVEMENT REMODEL PROJECT

SECTION A

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LAMONT PUBLIC UTILITY DISTRICT

BOARDROOM TENANT IMPROVEMENT REMODEL PROJECT

SECTION A

NOTICE INVITING SEALED PROPOSALS (BIDS)

NOTICE IS HEREBY GIVEN that the Lamont Public Utility District (DISTRICT) invites and will receive sealed proposals (bids) up to the hour of **3:00 pm,** on **Thursday, February 13th, 2025** for the furnishing to said DISTRICT of all transportation, labor, materials, tools, equipment, services, permits, utilities, and other items necessary to construct said work. At said time, said proposals will be publicly opened and read aloud at the office of the DISTRICT, for the Boardroom Tenant Improvement Remodel Project.

Bids shall conform to and be responsive to the Contract Documents for the work. Copies of the Contract Documents are on file and may be acquired at the office of the DISTRICT.

Description of Work:

The work includes all labor, materials, equipment and the performance of all operations necessary to demolish and remodel the existing District Boardroom and facilities in accordance with the Drawings and Specifications.

Each bid shall be submitted on a form furnished as part of the Contract Documents and must be accompanied by cash, a cashier's check, a certified check, or a BIDDER'S bond executed by an admitted California surety, or substitute pursuant to Section 995.710 of the Code of Civil Procedure, in an amount not less than ten percent (10%) of the amount of the bid, made payable to the order of or for the benefit of the DISTRICT. The security of unsuccessful BIDDER'S will be returned by the DISTRICT no later than sixty (60) days following the date of award. Each bid shall be sealed and delivered to the DISTRICT at the location designated in this notice for the opening of proposals at or before the time provided in this notice. The check or bond or substitute shall be given as security that the BIDDER will enter into a contract with the DISTRICT and furnish the required payment and performance bonds, or substitutes in lieu thereof, and certificates of insurance and endorsements if awarded the work, and will be declared forfeited if the BIDDER refuses to timely enter into said Contract or furnish the required bonds or substitutes, or certificates of insurance and endorsements if his bid is accepted.

The DISTRICT has obtained from the Director of the California Department of Industrial Relations a determination of the general prevailing rate of per diem wages and the general prevailing rate for legal holiday and overtime work in the locality in which said work is to be performed for each craft, classification, or type of worker needed. Not less than the determined rates shall be paid to all workers employed in the performance of the Contract. Such rates of wages can be found on the Department of Industrial Relations website located at http://www.dir.ca.gov/dlsr.

Pursuant to Public Contract Code Section 22300, equivalent securities may be substituted for monies withheld to ensure performance of the Contract. The DISTRICT reserves the right to solely determine the adequacy of the securities being proposed by the BIDDER and the value of those securities. The DISTRICT shall also be entitled to charge an administrative fee, as determined by DISTRICT in its sole discretion, for substituting equivalent securities for retention amounts. The DISTRICT'S decisions with respect to the administration of the provisions of Section 22300 shall be final and shall include, but not be limited to, determinations of what securities are equivalent, the value of the securities, the negotiability of the securities, the costs of administration and the determination of whether or not the administration should be accomplished by an independent agency or by the DISTRICT. The DISTRICT shall be entitled, at any time, to request the deposit of additional securities of a value

designated by DISTRICT, in DISTRICT'S sole discretion, to satisfy this requirement. If the DISTRICT does not receive satisfactory securities within twelve (12) consecutive days of the date of the written request, DISTRICT shall be entitled to withhold amounts due BIDDER until securities of satisfactory value to DISTRICT have been received.

The CONTRACTOR'S license classification(s) required for this project is as follows:

General Contractor's License – Class "B"

These classifications are provided for information purposes only. The DISTRICT does not warrant that all classifications required for the project are listed.

It is the DISTRICT'S intent that "Plans", as used in Public Contract Code Section 3300, is defined as the construction contract documents, which include both the Drawings and the Specifications.

The DISTRICT reserves the right to reject any and all bids, and to waive any and all irregularities in any bid.

Sealed proposals shall include: Bid Form (Pages B-10 through B-14); Non-Collusion Affidavit (Page B-15); Bid Bond (Pages B-16 through B-17); Listing of Similar Projects in the Last Ten Years (Pages B-18 through B-20); and copies of any addenda issued.

***Each Bidder must attend a mandatory prebidder's job walk. The Bidders may choose one of two job walks to attend. The first job walk is scheduled for 10:00 am on Wednesday, January 22, 2025 and the second job walk is scheduled for 10:00 am on Wednesday, January 29, 2025. The designated meeting area is at the northwest corner of Segrue Road and Williams Street in Lamont, California. If necessary, contact Curtis Skaggs with Dee Jaspar & Associates, Inc. at (661) 393-4796 for directions.**

(END OF SECTION)

SECTION B

BID DOCUMENTS

LAMONT PUBLIC UTILITY DISTRICT

BOARDROOM TENANT IMPROVEMENT REMODEL PROJECT

JANUARY 2025

LAMONT PUBLIC UTILITY DISTRICT

BOARDROOM TENANT IMPROVEMENT REMODEL PROJECT

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LAMONT PUBLIC UTILITY DISTRICT

BOARDROOM TENANT IMPROVEMENT REMODEL PROJECT

SECTION B

BID DOCUMENTS

1.0 BIDDING INFORMATION

1.1 DEFINITIONS

Whenever the following terms occur in the contract documents, their meaning is as follows:

DISTRICT	Lamont Public Utility District 8624 Segrue Road Lamont, CA 93241
GOVERNING BODY	Board of Directors
PROJECT MANAGER	Curtis Skaggs
ENGINEER	Dee Jaspar & Associates, Inc. 2730 Unicorn Road, Building A Bakersfield, CA 93308
ARCHITECT	Inland Architect 1401 19th Street, Suite 130 Bakersfield, CA 93301
CONSTRUCTION ADMINISTRATION	Dee Jaspar & Associates, Inc. 2730 Unicorn Road, Building A Bakersfield, CA 93308

1.2 TERMS

Command type sentences used in the contract documents refer to and are directed to the CONTRACTOR.

1.3 AUTHORITY FOR THE WORK

The drawings, specifications, and other contract documents for the work were approved and adopted by the Governing Body of the DISTRICT.

1.4 MARKING AND ADDRESSING BID ENVELOPE

Seal the bid in an envelope addressed to the Owner and marked:

1.5 INVESTIGATIONS AND REPORTS

The following reports which have been prepared for the DISTRICT are available for review at the office of the ENGINEER:

None

1.6 AWARD OF CONTRACT OR REJECTION OF BIDS

Within a period of ninety (90) calendar days after the opening of bids, the Owner will accept or reject the bids.

1.7 TIME FOR COMPLETION AND FORFEITURE DUE TO DELAY

Project work will be substantially completed within ONE HUNDRED EIGHTY (180) CONSECUTIVE CALENDAR DAYS, from and after the Notice to Proceed.

Pursuant to Government Code 53069.85, forfeiture for each day completion is delayed beyond the time allowed will be at the rate of $500 PER DAY.

1.8 TIME TO FURNISH BONDS, INSURANCE AND CONTRACT

The Bidder hereby agrees to execute the Agreement, furnish the required bonds, insurance, and Contract within FIFTEEN (15) CALENDAR DAYS from and after the date of Award of the Contract, or within such additional time as allowed by DISTRICT. Furthermore, the Contractor shall submit certification forms as noted under Section A “Notice Inviting Sealed Proposals (Bids)”.

(END OF SECTION)

2.0 CORRELATION AND INTENT OF DOCUMENTS

2.1 INTENT OF CONTRACT DOCUMENTS

The intent of the Contract Documents is to prescribe the details for the construction and completion of the work which the Contractor undertakes to perform in accordance with the terms of the Contract Documents and to require a complete and finished piece of work. Where the Plans and Specifications describe portions of the work in general terms, but not in complete detail, it is understood that only the best general practice is to prevail and that only materials and workmanship of the first quality are to be used. Unless otherwise specified, the Contractor shall furnish all labor, materials, tools, equipment and incidentals, and do all the work involved in executing the Contract in a satisfactory and competent manner.

The conditions set forth in the Contract Documents are complementary, and what is called for in any one (1) shall be as binding as if called for in all.

(END OF SECTION)

3.0 BID REQUIREMENTS AND CONDITIONS

3.1 SECURING DOCUMENTS

See Contract Documents Section titled, “Notice Inviting Sealed Proposals (“Bids”) for Information.

3.2 BID INSTRUCTIONS

Bids, to receive consideration, shall be made in accordance with these instructions:

Bids shall be made only upon the forms provided in the Contract Documents, with all items properly filled out. Non-erasable permanent ink shall be used; numbers shall be stated both in writing and in figures; signatures of all persons signing shall be in long-hand; and completed forms shall be without interlineations, alterations or erasures.

All Bids submitted shall include in the lump sum and/or unit prices bid, all sales or other taxes of city, county, state or federal government of every nature in effect at the time of bidding. If the product of a unit price and an estimated quantity does not equal the extended amount quoted, the unit price shall govern, and the correct product of the unit price and the estimated quantity shall be deemed to be the amount bid. If the sum of two or more items in a bidding schedule does not equal the total amounts quoted, the individual item amounts shall govern and the correct total shall be deemed to be the amount bid.

Bids by corporations must be signed in the corporate name by a corporate officer, and the corporate seal shall be fixed by the signature. The state of incorporation shall be below the corporate name. Bids by partnerships must be signed in the partnership name and signed by a partner with title shown.

Bids shall not contain any recapitulation of the work to be done. Alternate proposals will not be considered unless specifically required by the DISTRICT. No oral, telephonic or telegraphic proposals or modifications will be considered. Bid forms shall have no blank spaces. A bid price shall be indicated for each bid item, or the word “None” entered.

Bids must be accompanied by a certified check, cashier’s check or Bidder’s bond, executed on the prescribed form and made payable to the DISTRICT in an amount not less than ten percent (10%) of the total amount bid. Such check or bid bond shall be given as a guarantee that the Bidder will enter into a contract if awarded the work. In case of refusal or failure to enter into the Contract, the check or bond will be retained by the DISTRICT without any proof of actual loss.

Before submitting a Bid, each Bidder shall carefully examine and read the Plans and Specifications and other parts of the Contract Documents, visit the site of the work, be fully informed as to all existing conditions and limitations, and shall include in the Bid a sum to cover the costs of all items included and necessary to perform fully the entire Contract.

Where the DISTRICT, or the ENGINEER have made investigations of surface and subsurface conditions in areas where work is to be performed under the Contract, such investigations were made only for the purpose of study and design. Where such investigations have been made, Bidders or Contractor may, upon written request, inspect the records of the ENGINEER and the DISTRICT as to such investigations subject to and upon the conditions hereinafter set forth. Such inspection of records may be made at the office of the DISTRICT.

The records of such investigations, if any, are not a part of the Contract and are made available for inspection solely for the convenience of the Bidders and Contractor. It is expressly understood and agreed by Bidder and Contractor that neither the DISTRICT nor the ENGINEER assume any responsibility whatsoever with respect to the sufficiency or accuracy of any investigations thus made, the records thereof, or of the interpretation set forth therein or made by the ENGINEER in their use thereof and there is no representation, warranty or guarantee, either express or implied, that the conditions indicated by such

investigations or records thereof are correct or representative of those existing throughout such areas or any part thereof, or that unanticipated developments may not occur or that materials other than, or in proportions different from, those indicated may not be encountered.

When a log of test borings showing a record of the data obtained by the Consulting Engineers' investigation of the subsurface conditions is included with the drawings, it is expressly understood and agreed by Bidders and Contractor that said log of test borings does not constitute a part of the Contract, it represents only the opinion of the ENGINEER as to the character of the materials encountered in the test borings, and is included with the plans only for the convenience of Bidders and its use is subject to all of the conditions and limitations set forth in this section. Water levels that may be shown on a log of test borings are valid only for the stated date of observation. The water level may change from season to season and from year to year.

It is the Bidder's responsibility to see that the Bid is received in proper form, time, and place. If any Bid is received after the scheduled closing time for receipt of Bids, it shall be returned to the Bidder unopened.

3.3 APPROXIMATE ESTIMATE

The quantities, if any, given in the Bid are approximate only, being given as a basis for the comparison of Bids, and the DISTRICT does not expressly or by implication, agree that the actual amount of work will correspond therewith, but reserves the right to increase, decrease or omit the amount of any class or portion of the work, as may be deemed necessary or advisable by the ENGINEER.

3.4 INTERPRETATION OF PLANS AND DOCUMENTS

Any explanation desired by the Bidders regarding the meaning or interpretation of any of the Contract Documents must be requested in writing, with sufficient allowance of time for receipt of reply before the time set for opening of Bids. Any such explanations or interpretations will be made in the form of Addenda to the documents and will be furnished to all Bidders who shall submit all Addenda with their Bids. Neither the ENGINEER nor any representative of the DISTRICT is authorized to give oral explanations or interpretations of Contract Documents, and a submission of a Bid constitutes agreement by the Bidder that he/she has placed no reliance on any such oral explanation or interpretation. However, the ENGINEER may, upon inquiry by Bidder, orally direct the Bidder's attention to specific provisions of the Contract Documents that cover the subject of the inquiry.

3.5 ADDENDA

Any written Addenda issued before or during the time of bidding shall become a part of the Plans, Specifications and/or other Contract Documents. Failure to sign the Bid form indicating receipt of Addenda may result in the Bid being determined to be nonresponsive.

3.6 OPENING BIDS

Bids will be publicly opened and read as set forth in the Invitation for Bids. In case only one Bid is received, such Bid may be properly opened and read publicly in the usual manner, and accepted at the option of the DISTRICT. Bidders or their representatives and other interested persons may be present at the opening and reading of Bids. Once opened, Bid documents shall be subject to the provisions of the California Public Records Act.

3.7 REJECTION OF BIDS

The DISTRICT reserves the right to waive any informality in any Bid and to reject any and all Bids.

3.8 WITHDRAWAL OF BIDS

Any Bid may be withdrawn any time prior to the time fixed for opening of Bids only by a written request filed with the DISTRICT for the withdrawal of the Bid. The request shall be executed by the Bidder or his/her duly authorized representative. The withdrawal of the Bid does not prejudice the right of the Bidder to file a new Bid prior to time of opening. No Bids may be withdrawn after opening of Bids, except pursuant to Public Contract Code Section 5101 et seq.

3.9 DISQUALIFICATION OF BIDDERS

More than one Bid Proposal from an individual, a firm or partnership, a corporation or an association under the same or different names will not be considered. Reasonable grounds for believing that any Bidder is interested in more than one Bid Proposal for the work contemplated will cause the rejection of all Bid Proposals in which such Bidder is interested. If there is reason for believing that collusion exists among the Bidders, any and all Bids may be rejected.

3.10 COMPETENCY OF BIDDERS

In accordance with the provisions of Chapter 9, Division 3 of the California Business and Professions Code and Section 3300 of the California Public Contract Code, Bidders must possess a State of California Contractor's License for Classification B which must be valid at the time of Bid, award, and completion of the Contract. All other subcontractors shall have the appropriate California Contractor's License for the work they are performing.

3.11 MATERIAL WARRANTY

Before any Contract is awarded, the Bidder may be required to furnish a complete statement of the origin, composition and manufacture of any or all materials to be used in the construction of the work, together with samples. The samples may be subjected to the tests provided for in the Plans and Specifications to determine their quality and fitness for the work.

3.12 SUBCONTRACTORS

Each Subcontractor, as defined in Public Contract Code Section 4113, which will perform work, labor or fabricate a portion of the work or improvement in excess of one-half of one percent (½%) of the CONTRACTOR's total Bid price must be listed in the place provided, with name, address and indication of what class and portion of the work and percentage of Contract price will be done by each Subcontractor. All parts of Section 4100 through Section 4107, inclusive, of the Public Contract Code must be adhered to, including substitution and work not listed. Penalties for failure to comply with the foregoing sections of the Public Contract Code are set forth in sections 4110 and 4111 of the Public Contract Code. The DISTRICT specifically reserves the right to determine that any listed Subcontractor is not responsible and, if it so determines, to require substitution at no additional cost to the DISTRICT.

3.13 MODIFICATION OF BIDS

A Bidder may modify his/her Bid by written communication provided such communication is received by the DISTRICT prior to the closing time for receipt of Bids. The written communication should not reveal the Bid price but should state the addition or subtraction or other modification so that the final prices or terms will not be known by the DISTRICT until the sealed Bid is opened.

3.14 DISCREPANCIES

In the case of discrepancy between unit prices and totals, unit prices will prevail. In case of discrepancy between words and figures, words will prevail.

3.15 SERVICING AND MAINTENANCE

Each Bidder must, if requested, furnish evidence that there is an efficient service organization which regularly carries a stock of repair parts for the proposed equipment to be furnished and installed in the work and that the organization is conveniently located for prompt service.

3.16 INTENTIONALLY OMITTED

3.17 INTENTIONALLY OMITTED

3.18 WORK PERFORMED OUTSIDE OF COUNTY

Unless specified otherwise in the Special Conditions, the Bidder shall include in the Bid, all expenses associated with work related to testing, sampling and inspection for any fabrication of materials, parts and equipment required in the scope of this Contract which occurs outside the County of Kern. Quality control for said work shall be performed by a certified laboratory or inspection firm which shall be pre-approved by the ENGINEER. Any onsite shop inspection required by the DISTRICT shall be performed by the ENGINEER or his/her representative at the expense of the CONTRACTOR.

3.19 CONTRACTOR EXPERIENCE

The Bidder shall have been engaged in the business of the work specified herein for a period of at least ten (10) years. The Bidder shall submit a list with contact names and phone numbers of three (3) or more agencies, districts, or companies for whom the Bidder has constructed similar projects. The list shall show the agencies' names and addresses, and an individual who may be contacted for reference for a project of similar scope. The individuals offered as references will be contacted. Failure to submit this list or unsatisfactory responses from the references shall, in the ENGINEER's sole judgment, be grounds for a non-responsive Bid.

3.20 BID PROTESTS

Bid Protests must be filed within 48 hours of the bid opening. If the 48 hour period ends on a weekend, or state holiday, the protest must be filed by the end of the next DISTRICT business day. Late filed Bid Protests will not be considered and will be returned without further action. The failure to submit a Bid Protest shall be deemed a failure to exhaust administrative remedies. Likewise, the failure to raise an issue in a Bid Protest shall be deemed a failure to exhaust administrative remedies on that issue. If a Bid Protest is filed, the DISTRICT will investigate the protest within a reasonable time period. The DISTRICT's response to a Bid Protest is final and there will be no further action taken by the DISTRICT.

(END OF SECTION)

4.0 AWARD AND EXECUTION OF CONTRACT

4.1 AWARD OF CONTRACT

The DISTRICT reserves the right to reject any and all Bid Proposals. If a contract is awarded, it will be to the lowest responsive and responsible Bidder whose proposal complies with all the requirements prescribed and will be made within ninety (90) calendar days after the public opening of Bids. All Bids will be compared on the basis of the ENGINEER's estimate of the quantities of work to be done.

The DISTRICT reserves the right to accept or reject any and all Bids for a period of ninety (90) days after the date of opening, and to waive any informality or irregularity in any Bid. No Bid can be withdrawn during that period, except pursuant to Public Contract Code Section 5100 et seq.

4.2 RETURN OF BID GUARANTEES

All Bid Bonds will be held until the Contract has been finally executed, after which they will be returned to the respective Bidders. The Bid Security will be forfeited to the DISTRICT as liquidated damages without proof of loss if the Bid Proposal is accepted, a Contract based on that Bid Proposal awarded, and that Bidder fails to enter into the Contract in the form prescribed and submit the Performance and Payment Bonds, Insurance Certificates, and policies or endorsements required by the Contract Documents within fourteen (14) days after such award is made by the DISTRICT.

4.3 CONTRACT BONDS

The successful Bidder must furnish two (2) good and sufficient bonds on forms included in these documents: the Faithful Performance Bond shall be executed in the amount of one hundred percent (100%) of the Contract price and shall guarantee faithful performance of the Contract by the CONTRACTOR; the Payment Bond shall be executed in the amount of 100 percent (100%) of the Contract price and shall guarantee payment of labor, materials and all bills and obligations arising from the performance of the Contract. These bonds shall remain in full force and effect for a period of one (1) year from the date of Notice of Completion.

The Attorney-in-Fact (resident agent) who executes the Performance Bond and Payment Bond on behalf of the surety company must attach a copy of his/her Power of Attorney as evidence of his/her authority. A notary shall acknowledge the Power of Attorney as of the date of the execution of the Surety Bond which it covers. The Contractor shall be responsible for demonstrating to the satisfaction of the DISTRICT that the surety is an admitted California Surety.

Any and all alterations, extensions of time, extra and additional work, and other changes authorized by these Plans and Specifications may be made without securing consent of the surety or sureties on the Contract Bonds and each bond shall so specify.

Whenever any surety or sureties on any such bonds required by law for the protection of the claims of laborers and material persons become insufficient, or the DISTRICT has cause to believe that such surety or sureties have become insufficient, a demand in writing may be made of the CONTRACTOR for such further bond or bonds or additional surety, not exceeding that originally required, as is considered necessary, considering the extent of the work remaining to be done. Thereafter, no payment shall be made upon such Contract to the CONTRACTOR until such further bonds or additional surety has been furnished.

4.4 EXECUTION OF CONTRACT

The Contract shall be signed by the successful Bidder and returned, together with the Faithful Performance and Payment Bonds and insurance forms, in accordance with the time requirements set forth in the Contract Documents Section titled "Bid Documents".

No Bid Proposal shall be considered binding upon the DISTRICT until the execution of the Contract by the DISTRICT.

4.5 FAILURE TO EXECUTE CONTRACT

Failure to execute the Contract in accordance with the time requirements set forth in Contract Documents Section “Special Provisions” after the Bidder has received notice of Contract Award shall be just cause for the annulment of the award at the sole election of the DISTRICT. If the successful Bidder refuses or fails to execute the Contract and deliver the required bonds and certificates of insurance in proper form within the fifteen (15) days, the DISTRICT may award the Contract to another Bidder. If the successful Bidder returns the required bonds and certificates of insurance in proper form after the fifteen (15) days, and the DISTRICT elects to award the Contract to the successful Bidder, the DISTRICT will deduct from the Contract completion period, the number of calendar days in excess of fifteen (15) that the successful Bidder took to submit the bonds and certificates of insurance in proper form. If a Bidder to whom an award is made fails or refuses for any reason to execute the Contract or fails to furnish any or all of the required insurance or Contract Bonds in proper form, within the time stated, it is agreed and stipulated between DISTRICT and the Bidder to whom any award is made that damage has been and will be sustained by the DISTRICT. It is further agreed by the DISTRICT and any and all Bidders that it will be impractical and extremely difficult to fully ascertain and determine the actual damage that the DISTRICT will sustain by such delay. Therefore, the DISTRICT and all parties who submit a Bid under the Notice of Invitation to Bid shall be deemed to have jointly studied and attempted to estimate the damages suffered by the DISTRICT by such delay under these circumstances and agree that the amount of the Bidder’s bond or check is agreed to as the liquidated damages payable by such Bidder(s). This Bidder’s bond or check will be collected and held by the DISTRICT as the sole property of the DISTRICT for full compensation for the damages suffered by the DISTRICT as a result of the Bidder’s failure to execute the Contract and furnish the bonds and insurance as required.

4.6 NOTICE TO PROCEED

The DISTRICT intends to issue a Notice to Proceed within ten (10) days of receipt of the executed Contract, proof of full compliance with all insurance requirements, Faithful Performance Bond, and the Payment Bond from the CONTRACTOR.

(END OF SECTION)

BID FORM

Name of Bidder: _____

Business Address: _____

_____ Phone No. _____

TO THE GOVERNING BODY OF THE

LAMONT PUBLIC UTILITY DISTRICT

Pursuant to and in compliance with your Notice Inviting Sealed Proposals (Bids) and the other documents relating thereto, the undersigned bidder, being fully familiar with the terms of the Contract Documents, local conditions affecting the performance of the Contract, the character, quality, quantities, and scope of the work, and the cost of the work at the place where the work is to be done, hereby proposes and agrees to perform within the time stipulated in the Contract, including all of its component parts and everything required to be performed, and to furnish any and all of the labor, material, tools, equipment, transportation, services, permits, utilities, and all other items necessary to perform the Contract and complete in a workmanlike manner, all of the work required in connection with the construction of said work all in strict conformity with the plans and specifications and other Contract documents, including Addenda set forth for the prices hereinafter set forth as follows:

ADDENDA NO.	DATE ISSUED
_____	_____
_____	_____
_____	_____
_____	_____

The undersigned as bidder, declares that the only persons or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion with any person, firm, or corporation; and he proposes and agrees, if the proposal is accepted, that he will execute a contract with the DISTRICT in the form set forth in the Contract Documents and that he will accept in full payment thereof the following prices, to wit:

PROPOSAL TO
LAMONT PUBLIC UTILITY DISTRICT
FOR THE

BOARDROOM TENANT IMPROVEMENT REMODEL PROJECT

SCHEDULE OF WORK ITEMS – BASE BID

Item No.	Estimated Quantity	Unit of Measure	Item	Unit Price (in figures)	Expansion Price (in figures)
1	1	LS	Mobilization, Demobilization, and Clean-Up	$	$
2	1	LS	Demolition of Existing Walls, Doors, Cabinets, Shelving, Platforms, Lighting, Electrical, Plumbing, HVAC, Structural, and Fixtures	$	$
3	1	LS	Structural Modifications including Beam, Post, Foundation, and Appurtenances	$	$
4	1	LS	Plumbing Waste and Vent Modifications	$	$
5	1	LS	Plumbing Water and Gas Modifications	$	$
6	1	LS	Mechanical Modifications	$	$
7	1	LS	Electrical Power and Control Modifications	$	$
8	1	LS	Lighting and Control Modifications	$	$
9	1	LS	Rough Carpentry	$	$
10	1	LS	Insulation	$	$
11	1	LS	Ceiling Modifications	$	$
12	1	LS	Doors, Frames, & Hardware	$	$
13	1	LS	Gypsum Board	$	$
14	1	LS	Toilet Fixtures and Accessories including Water Heater, Service Sink, and Breakroom Sink	$	$
15	1	LS	Wood Casework and Finish Carpentry	$	$
16	1	LS	Painting	$	$
17	1	LS	Flooring	$	$
18	1	LS	Miscellaneous including, but not limited to, Furniture Installation, Signage, and Fire Extinguishers	$	$

Total Project Base Bid Price:	$
Total Project Base Bid Price (in words):	

Note:

The Contract will be awarded based on the amount of the base bid.

Elimination and or addition of items to the scope of work shall be at the District's sole discretion.

Acknowledgement of Addenda:

Addenda Numbers _____ are hereby acknowledged as included in this Bid.

_____ _____
Signature Date

It is understood that the foregoing quantities are approximate only and are solely for the purposes of facilitating the comparison of bids, and that the CONTRACTOR'S compensation will be computed upon the basis of the actual quantities in the completed work, whether they be more or less than those shown. The DISTRICT may reject any or all bids. The prices listed above in the CONTRACTOR'S proposal shall include all applicable taxes for the State of California.

As required by Section 4100-4107 of the Public Contract Code, the CONTRACTOR bidding shall hereinafter list the subcontractor(s) who will be the subcontractor(s) on the job for each particular trade or subdivision of the work and will state the firm name and principal location of the mill, shop, or office of each:

DIVISION OF WORK OR TRADE	NAME OF SUBCONTRACTOR	LOCATION OF MILL, SHOP, OR OFFICE

ACCOMPANYING THIS PROPOSAL IS_____ (insert the words "bidder's bond," "cashier's check," "certified check," or appropriate description of substitute security, as the case may be) in an amount equal to at least 10% of the total amount of the bid, payable to the

LAMONT PUBLIC UTILITY DISTRICT

The undersigned deposits the above-named security as a proposal guarantee and agrees that it shall be forfeited to the DISTRICT in case this proposal is accepted by the DISTRICT and the undersigned fails to execute a contract with the DISTRICT as specified in the Contract Documents or fails to furnish the required payment and performance bonds, or substitute, and insurance certificates and endorsements. Should the DISTRICT be required to engage the services of an attorney in connection with the enforcement of this bid, bidder promises to pay DISTRICT's reasonable attorneys' fees, incurred with or without suit.

The names of all persons interested in the foregoing proposals as principals are as follows: (NOTICE - If bidder or other interested person is a corporation, state legal name of corporation and the president, secretary, treasurer, and manager thereof; if a general partnership, state true name of firm, and the names of all individual partners composing firm; if a limited partnership, the names of all general partners and limited partners; if bidder or other interested person is an individual, state first and last names in full; if the bidder is a joint venture, state the complete name of each venturer).

_____

_____

_____

_____

Bidder hereby confirms that it has all licenses and permits required by federal, state, and local statutes, regulations, and ordinances. The following are the CONTRACTOR'S applicable license numbers (add pages if needed):

CONTRACTOR's License No.	Expiration Date
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Pursuant to the requirements of California Business and Professions Code Section 7028.15(e), a bid submitted to the DISTRICT by a CONTRACTOR who is not licensed pursuant to Chapter 9 of Division 3 of the Business and Professions Code shall be considered nonresponsive and shall be rejected as provided for by law.

Signature of Bidder: _____

Printed Name: _____

Title: _____

Company: _____

Dated: _____, 2025.

NOTE: If bidder is a corporation, the legal name of the corporation shall be set forth above, together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation and the corporate seal; if bidder is a partnership, the true name of the firm shall be set forth above, together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership; if the bidder is an individual, his signature shall be placed above; if the bidder is a joint venture, the name of the joint venture shall be set forth above with the signature of an authorized representative of each venturer.

(END OF SECTION)

NON-COLLUSION AFFIDAVIT

_____, being first duly sworn, deposes and says that he/she is _____ of _____ the party making the foregoing bid, that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the Contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository or to any member or agent thereof to effectuate a collusive or sham bid.

_____
Bidder

CALIFORNIA ALL PURPOSE ACKNOWLEDGMENT

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)

COUNTY OF _____)

On _____, before me, _____,
Notary Public, personally appeared _____

_____
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature:_____(Seal)

(END OF SECTION)

BID BOND

We, _____as Principal, and _____as an admitted California Surety, jointly and severally, bind ourselves, our heirs, representatives, successors and assigns, as set forth herein, to the

LAMONT PUBLIC UTILITY DISTRICT

(herein called DISTRICT) for payment of the penal sum of _____ _____Dollars ($_____), lawful money of the United States. Principal has submitted the accompanying bid for the Boardroom Tenant Improvement Remodel Project.

If the Principal is awarded the Contract and enters into a written contract, in the form prescribed by the DISTRICT, at the price designated by his bid, and files two bonds with the DISTRICT, or substitute security in lieu thereof, one to guarantee payment for labor and materials and the other to guarantee faithful performance, in the time and manner specified by the DISTRICT, and carries all insurance in type and amount which conforms to the Contract Documents and furnishes required certificates and endorsements thereof, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Forfeiture of this bond, or any deposit made in lieu thereof, shall not preclude the DISTRICT from seeking all other remedies provided by law to cover losses sustained as a result of the Principal's failure to do any of the foregoing.

Executed on_____, 2025

_____
PRINCIPAL

(Seal if Corporation)

By: _____

Title: _____

(Attach Acknowledgment of Authorized Representative of Principal)
Any claims under this bond may be addressed to:

_____ (name and address of Surety)

_____

_____

_____ (name and address of Surety Agent for process of Service in California, if different from above)

_____

_____ (telephone number of Surety's agent in California)

(Attach Acknowledgment)

SURETY
By:

_____
(Attorney-in-Fact)

NOTICE:

No substitution or revision to this bond form will be accepted. Sureties must be an admitted California Surety authorized to do business in and have an agent for service of process in California. Certified copy of Power of Attorney must be attached.

(END OF SECTION)

LISTING OF SIMILAR PROJECTS COMPLETED IN THE LAST TEN YEARS

1. **Project Name:** _____

   Brief Description: _____

   _____

   _____

   _____

   _____

   _____

   _____

   Owner: _____

   Date Completed: _____

   Reference with Contact Information: _____

2. **Project Name:** _____

   Brief Description: _____

   _____

   _____

   _____

   _____

   _____

   _____

   Owner: _____

   Date Completed: _____

   Reference with Contact Information: _____

3. **Project Name:** _____

Brief Description: _____

_____

_____

_____

_____

_____

_____

Owner: _____

Date Completed: _____

Reference with Contact Information: _____

4. **Project Name:** _____

Brief Description: _____

_____

_____

_____

_____

_____

_____

Owner: _____

Date Completed: _____

Reference with Contact Information: _____

5. **Project Name:** _____

Brief Description: _____

_____

_____

_____

_____

_____

_____

Owner: _____

Date Completed: _____

Reference with Contact Information: _____

6. **Project Name:** _____

Brief Description: _____

_____

_____

_____

_____

_____

_____

Owner: _____

Date Completed: _____

Reference with Contact Information: _____

(END OF SECTION)

SECTION C

CONTRACT

LAMONT PUBLIC UTILITY DISTRICT

BOARDROOM TENANT IMPROVEMENT
REMODEL PROJECT

JANUARY 2025

LAMONT PUBLIC UTILITY DISTRICT

BOARDROOM TENANT IMPROVEMENT
REMODEL PROJECT

SECTION C

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CONTRACT

THIS AGREEMENT, made and entered into by and between the LAMONT PUBLIC UTILITY DISTRICT, a Municipal Corporation under the laws of the State of California; hereinafter referred to as "DISTRICT"

and _____,

a corporation under the laws of the state of _____;

a partnership composed of _____;

a joint venture composed of _____;

an individual doing business as _____;

hereinafter referred to as "CONTRACTOR."

DISTRICT and CONTRACTOR agree as follows:

(1) SCOPE OF WORK: CONTRACTOR will furnish all materials and will perform all of the work for the Boardroom Tenant Improvement Remodel Project in accordance with the Plans and Specifications and other contract documents for the price reflected in the attached Bid Form and correspondence.

(2) TIME FOR COMPLETION: The work shall be completed within the times set forth in the Bid Documents of this Contract. Time is of the essence and forfeiture due to delay will be assessed as provided for in the General Provisions.

(3) CONTRACT SUM: DISTRICT will pay CONTRACTOR for the work shown in the Bid Form, also being the sum of _____.

(4) PAYMENTS: Monthly progress payments and the final payment will be made in accordance with the General Provisions as modified by the Special Provisions. The filing of the notice of completion by DISTRICT shall be preceded by acceptance of the work made only by an action of the Governing Body of DISTRICT in session.

(5) COMPLIANCE WITH PUBLIC CONTRACTS LAW: DISTRICT is a public DISTRICT in the State of California and is subject to the provisions of law relating to public contracts. It is agreed that all provisions of law applicable to public contracts are a part of this Contract to the same extent as though set forth herein and will be complied with by CONTRACTOR.

(6) CONTRACT DOCUMENTS: The complete contract includes all the Contract Documents set forth herein, to wit: Notice Inviting Sealed Proposals (Bids), Bid Documents, Bid Form, Proposal, Non-Collusion Affidavit, Bid Bond, Contract, Performance Bond, Payment Bond, CONTRACTOR'S Certificate Regarding Workers' Compensation Insurance, Certificate of Insurance (Workers' Compensation and Employers' Liability), Insurance Endorsement (Workers' Compensation and Employers' Liability), Certificate of Insurance (Liability), Insurance Endorsement (Liability), Certificate of Insurance (Builder's All Risk), Insurance Endorsement (Builder's All Risk), General Conditions, Technical Specifications, Drawings, Plans, and also addenda thereto and supplemental agreements, including Change Orders.

This Contract is executed by the DISTRICT pursuant to an action of its Governing Body in session on _____, 2025, authorizing the same, and CONTRACTOR has caused this Contract to be duly executed.

Dated: _____, 2025

By: _____
(Authorized Representative of DISTRICT)

Title:_____

Dated: _____, 2025

_____
(CONTRACTOR)

By: _____
(Authorized Representative of CONTRACTOR)

Title: _____

(Seal if Corporation)

(Attach Acknowledgment for Authorized Representative of CONTRACTOR)

CERTIFICATE OF CONTRACTOR

I, _____, certify that I am a/the _____[designate sole proprietor, partner in partnership, or specify corporate office, e.g., secretary] in the entity named as CONTRACTOR in the foregoing contract.

I hereby expressly certify that the name of the entity to which I am associated is _____; that this entity is in good standing and has complied with all applicable laws and regulations, and that I have been expressly authorized by the proper parties in this entity to execute this Contract on behalf of the above-named entity.

_____

CALIFORNIA ALL PURPOSE ACKNOWLEDGMENT

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)

COUNTY OF _____)

On _____, before me, _____,
Notary Public, personally appeared _____

_____

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature:_____ (Seal)

(END OF SECTION)

PERFORMANCE BOND

We, _____ as Principal, and _____ as an admitted California Surety, jointly and severally, bind ourselves, our heirs, representatives, successors and assigns, as set forth herein, to the

LAMONT PUBLIC UTILITY DISTRICT

(herein called DISTRICT) for payment of the penal sum of _____ _____Dollars ($_____), lawful money of the United States. DISTRICT has awarded Principal a contract for the Boardroom Tenant Improvement Remodel Project.

THE CONDITION OF THIS OBLIGATION IS SUCH that if the Principal shall in all things abide by and well and truly keep and perform the covenants, and agreements in the said contract, and any alteration thereof made as therein provided, on his part to be kept and performed at the time and in the manner therein specified, and shall faithfully fulfill the one-year guarantee of all materials and workmanship, and shall indemnify and save harmless the DISTRICT, the ENGINEER, the DISTRICT'S PROJECT MANAGER, and their consultants, and each of their directors, officers, employees and agents, as therein stipulated, this obligation shall become null and void, otherwise, it shall be and remain in full force and effect.

Surety agrees that no change, extension of time, alteration, or addition to the terms of the Contract, or the work to be performed there under, or the Plans and Specifications shall in any way affect its obligation on this bond, and it does hereby waive notice thereof.

Executed in four original counterparts on _____, 2025

_____
PRINCIPAL

(Seal if Corporation)

By: _____

Title: _____

(Attach Acknowledgment of Authorized Representative of Principal)
Any claims under this bond may be addressed to:

_____ (name and address of Surety)

_____

_____

_____ (name and address of Surety Agent for process of Service in California, if different from above)

_____

_____ (telephone number of Surety's agent in California)

(Attach Acknowledgment)

_____
SURETY

By: _____
(Attorney-in-Fact)

NOTICE:

No substitution or revision to this bond form will be accepted. Sureties must be an admitted California Surety authorized to do business in and have an agent for service of process in California. Certified copy of Power of Attorney must be attached.

(END OF SECTION)

PAYMENT BOND

We, _____as principal, and _____ as an admitted California Surety, jointly and severally, bind ourselves, our heirs, representatives, successors and assigns, as set forth herein, to the

LAMONT PUBLIC UTILITY DISTRICT

(herein called DISTRICT) for payment of the penal sum of_____ Dollars ($_____), lawful money of the United States. DISTRICT has awarded Principal a contract for the Boardroom Tenant Improvement Remodel Project.

If Principal or any of his subcontractors fails to pay any of the persons named in Section 3181 of the California Civil Code, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract or during the one-year guarantee period, or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the CONTRACTOR and his subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to such work and labor, then Surety will pay the same in an amount not exceeding the sum specified above, and also will pay, in case suit is brought upon this bond, such reasonable attorney's fees as shall be fixed by the court.

This bond shall inure to the benefit of any of the persons named in Section 3181 of the California Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Surety agrees that no change, extension of time, alteration, or addition to the terms of the Contract, or the work to be performed there under, or the Plans and Specifications shall in any way affect its obligation on this bond, and it does hereby waive notice thereof.

Executed in four original counterparts on _____, 2025 _____
PRINCIPAL

(Seal if Corporation) By: _____

Title: _____

(Attach Acknowledgment of Authorized Representative of Principal)

Any claims under this bond may be addressed to:

_____(name and address of Surety)

_____

_____

_____

_____(name and address of Surety's agent for service of process in California, if different from above)

_____

_____

_____

_____(telephone number of Surety's agent in California)

(Attach Acknowledgment)

_____
SURETY

By: _____
(Attorney-in-Fact)

NOTICE:

No substitution or revision to this bond form will be accepted. Sureties must be and admitted California Surety authorized to do business in and have an agent for service of process in California. Certified copy of Power of Attorney must be attached.

(END OF SECTION)

CONTRACTOR'S CERTIFICATE REGARDING WORKERS' COMPENSATION INSURANCE

Labor Code Section 3700 provides (in part):

> Every employer except the State shall secure the payment of compensation in one or more of the following ways:
>
> (a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this State.
>
> (b) By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees.

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract.

Dated: _____, 2025

_____
(CONTRACTOR)

By: _____

_____
(Official Title)

(SEAL)

(Labor Code Section 1861 provides that the above certificate must be signed and filed by the CONTRACTOR with the DISTRICT prior to performing any work under this Contract.)

(END OF SECTION)

WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY CERTIFICATE OF INSURANCE

THIS IS TO CERTIFY that the following policy has been issued by the below-stated company in conformance with the requirements of the General Conditions and is in force at this time, and is in a form approved by the Insurance Commissioner.

The Company will give at least ten (10) days' written notice to the DISTRICT prior to cancellation of said policy for nonpayment of premium and thirty (30) days' written notice to the DISTRICT prior to cancellation of said policy for any other reason.

POLICY NUMBER	EXPIRATION DATE	LIMITS OF LIABILITY
		Worker's Compensation: Statutory Limits Under the Laws of the State of California Employers' Liability: $_____Each Accident $_____Disease - Policy Limit $_____Disease - Each Employee

_____	_____
Named Insured (CONTRACTOR)	Insurance Company
_____	_____
Street Name and Number	Street Name and Number
_____	_____
City and State	City and State

By: _____
(Company Representative)

Insurance Company Agent for Service of Process in California:

_____
Name

_____
Company

_____
Street Name and Number

_____
City and State

_____
Telephone Number

This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend, or alter the coverage afforded by the policy listed herein.

This is to certify that the policy has been issued to the named insured for the policy period indicated, notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policy described herein is subject to all the terms, exclusions, and conditions of such policy.

(END OF SECTION)

WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY INSURANCE ENDORSEMENT

This endorsement forms a part of Policy No. _____.

ENDORSEMENT

It is agreed that with respect to such insurance as is afforded by the policy, the Company waives any right of subrogation it may acquire against the State of California, the DISTRICT, the ENGINEER, the DISTRICT'S PROJECT MANAGER, and their consultants, and each of their directors, officers, and employees by reason of any payment made on account of injury, including death resulting there from, sustained by any employee of the insured, arising out of the performance of the above-referenced contract.

The additional premium for this endorsement shall be _____%* of the California Workers' Compensation premium otherwise due on such remuneration.

This endorsement does not increase the Company's total limits of liability.

_____	_____
Named Insured (CONTRACTOR)	Insurance Company
_____	_____
Street Name and Number	Street Name and Number
_____	_____
City and State	City and State
	By: _____
	(Company Representative)

*CONTRACTOR'S insurance company to fill in this percentage.

(END OF SECTION)

LIABILITY INSURANCE CERTIFICATE OF INSURANCE

THIS IS TO CERTIFY that the following policies have been issued by the below-stated company in conformance with the requirements of the General Conditions and are in force at this time:

Type of Insurance	Policy Number	Effective Date	Expiration Date	Limits	
General Liability				General Aggregate	$
				Products—Comp/Ops Agg.	$
				Personal & Adv. Injury	$
				Each Occurrence	$
				Fire Damage (Any one fire)	$
				Med. Expense (Any one person)	$
Automobile Liability				Combined Single Limit	$
				Bodily Injury (Per person)	$
				Bodily Injury (Per Accident)	$
				Property Damage	$
Excess Liability				Each Occurrence	$
				Aggregate	$

This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend, or alter the coverage afforded by the policies listed herein.

This is to certify that the policy has been issued to the named insured for the policy period indicated, notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions, and conditions of such policies.

The Company will give at least thirty (30) days written notice to the DISTRICT prior to cancellation of said policy for any reason.

Named Insured (CONTRACTOR)	Insurance Company
Street Name and Number	Street Name and Number
City and State	City and State

By: _____
(Company Representative)

Insurance Company Agent for Service of Process in California:

_____
Name

_____
Company

_____
Street Number

_____
City and State

_____
Telephone Number

NOTICE:

Insurers must be authorized to do business and have an agent for service of process in California and have at least a A- VII rating in accordance with the most current Best's Rating Guide.

(END OF SECTION)

LIABILITY INSURANCE ENDORSEMENT

This endorsement forms a part of Policy No. _____.

ENDORSEMENT

The State of California, the DISTRICT, the ENGINEER, the DISTRICT'S PROJECT MANAGER, and their consultants, and each of their directors, officers, and employees are included as additional insureds under said policy but only while acting in their capacity as such and only as respects operations of the named insured. The insurance afforded to these additional insureds is primary insurance. If the additional insureds have other insurance which might be applicable to any loss, the amount of this insurance shall not be reduced or prorated by the existence of such other insurance.

This endorsement does not increase the Company's total limits of liability.

_____	_____
Named Insured (CONTRACTOR)	Insurance Company
_____	_____
Street Name and Number	Street Name and Number
_____	_____
City and State	City and State
	By:_____
	(Company Representative)

(END OF SECTION)

BUILDERS' RISK "ALL RISK" CERTIFICATE OF INSURANCE

THIS IS TO CERTIFY that the following policy has been issued by the below-stated company in conformance with the requirements of the General Conditions and is in force at this time:

POLICY NUMBER	EXPIRATION DATE	LIMITS OF LIABILITY
_____	_____	$ _____
_____	_____	Deductible: $ _____

This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend, or alter the coverage afforded by the policy listed herein.

This is to certify that the policy has been issued to the named insured for the policy period indicated, notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policy described herein is subject to all the terms, exclusions, and conditions of such policy.

The Company will give at least thirty (30) days written notice to the DISTRICT prior to cancellation of said policy for any reason.

_____	_____
Named Insured (CONTRACTOR)	Insurance Company
_____	_____
Street Name and Number	Street Name and Number
_____	_____
City and State	City and State

By_____
(Company Representative)

Insurance Company Agent for Service
of Process in California:

_____
Name

_____
Company

_____
Street Name and Number

_____
City and State

_____
Telephone Number

NOTICE:
Insurers must be authorized to do business and have an agent for service of process in California and have at least a A- VII rating in accordance with the most current Best's Rating Guide.

(END OF SECTION)

BUILDERS' RISK "ALL RISK" INSURANCE ENDORSEMENT

This endorsement forms a part of Policy No. _____.

ENDORSEMENT

The State of California, the DISTRICT, the ENGINEER, the DISTRICT'S PROJECT MANAGER, and their consultants, and each of their directors, officers, and employees are included as additional insureds, as their interest may appear, under said policy but only while acting in their capacity as such with respect to the above-referenced contract.

The insurance afforded to these additional insureds is primary insurance. If the additional insureds have other insurance which might be applicable to any loss, the amount of this insurance shall not be reduced or prorated by the existence of such other insurance.

This endorsement does not increase the Company's total limits of liability.

Named Insured (CONTRACTOR)	Insurance Company
Street Name and Number	Street Name and Number
City and State	City and State
	By_____
	(Company Representative)

(END OF SECTION)

SECTION G

GENERAL CONDITIONS

LAMONT PUBLIC UTILITY DISTRICT

BOARDROOM TENANT IMPROVEMENT
REMODEL PROJECT

JANUARY 2025

LAMONT PUBLIC UTILITY DISTRICT

BOARDROOM TENANT IMPROVEMENT REMODEL PROJECT

SECTION G

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1.0 COORDINATION OF WORK AND PERMITS

1.1 DESCRIPTION

This Section generally describes the project and includes work sequence and schedule, CONTRACTOR'S use of premises, maintenance and operation of existing facilities, construction survey staking, and permits.

1.2 GENERAL NATURE OF WORK

The CONTRACTOR shall provide all labor, materials, equipment and perform all operations necessary to furnish, construct, and complete the Lamont PUD Boardroom Tenant Improvements as specified in these Specifications and Drawings.

1.3 LOCATION OF PROJECT SITE

The project is located on the northwest corner of Segrue Road and Williams Street at 8624 Segrue Road in the City of Lamont, County of Kern, State of California. The building is the old District Office building situated on the corner of APN 188-151-21.

1.4 WORK SEQUENCE AND SCHEDULE

CONTRACTOR shall begin work within fifteen (15) calendar days of the issue date of the Notice to Proceed (NTP), and shall complete the work included in the Contract within the amount of time specified in Section 1.7 of the Bid Documents, “Time for Completion and Forfeiture Due to Delay.”

1.5 MAINTENANCE OR OPERATION OF EXISTING FACILITIES

All existing gas, electric, telephone, sewer, and water facilities not owned and operated by the DISTRICT that are within the project site shall remain in continuous operation.

1.6 CONSTRUCTION SURVEY STAKING

Unless otherwise specified, the DISTRICT will provide one set of construction stakes for the project. In the event the CONTRACTOR loses survey control, the CONTRACTOR shall pay for all replacement of survey control at no additional cost to the DISTRICT.

1.7 UTILITY LOCATING

1. Utility companies with services in the area were contacted and utility locations were identified and indicated on the Plans. Some potholing was performed along the alignment to better identify locations, but not at all locations.

2. The CONTRACTOR shall physically locate all utilities prior to starting construction. The work shall be done in a timely manner such that adjustments in pipeline grades or alignment can be accomplished with minimal revisions to the pipeline design. The utility locating (potholing) shall be performed prior to final review of pipe fabrication shop drawings.

3. Any delays during construction caused by utilities identified on the Plans but not shown in correct locations shall be the CONTRACTOR'S responsibility. The DISTRICT will respond to pipeline conflict questions within twenty-four (24) hours.

(END OF SECTION)

2.0 DEFINITIONS AND TERMS

2.1 DEFINITIONS

Whenever the following terms occur in the Contract Documents, the meaning shall be interpreted as follows:

ACCEPTANCE, FINAL ACCEPTANCE - The formal action by the DISTRICT Board of Directors accepting the work as being complete.

ACCEPTED BID - The bid (proposal) accepted by the DISTRICT.

ADDENDA - A document issued by the DISTRICT during the bidding period which modifies, supersedes, or supplements the original Contract Documents.

ALLOWANCE - “Allowance” shall mean an amount of money set aside under the Contract for a special purpose identified in the Contract Documents.

ASBESTOS - Any material that contains more than one percent (1%) asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

BIDDER - Any individual, partnership, corporation, joint venture, or other combination thereof submitting a proposal for the work contemplated, acting directly or through an authorized representative.

CHANGE OR DEVIATION -The use of an alternative item of material or equipment that may not necessarily conform to the letter of the Contract requirements.

CHANGE ORDER - A document signed by the CONTRACTOR and the DISTRICT and authorized by the DISTRICT regarding an addition, deletion, or revision in the work, or an adjustment in the Contract price or the Contract time, issued on or after the effective date of the Contract.

CLAIM - A separate demand by the CONTRACTOR for (a) a time extension, (b) payment of money or damages arising from work done by or on behalf of the CONTRACTOR pursuant to the Contract and payment of which is not otherwise expressly provide for or the CONTRACTOR is not otherwise entitled to, or (c) an amount the payment of which is disputed by the DISTRICT.

CLARIFICATION - A document issued by the DISTRICT to the CONTRACTOR that interprets the requirement(s) and/or design intent of the Contract Documents, may not represent an addition, deletion, or revision in the Work or an adjustment in the Contract price or the Contract times.

CONSULTANTS - Any individual, partnership, corporation, joint venture, or other combination thereof, performing work or services, directly or indirectly, for the DISTRICT.

CONSULTING ENGINEER - The term “Consulting ENGINEER” means the Consulting ENGINEER or his/her authorized representative.

CONTRACT - The written agreement executed between the DISTRICT and the CONTRACTOR covering the performance of the work.

CONTRACT TIME - The number of calendar days allowed for the completion of the work included in the Contract.

CONTRACTOR - The individual, partnership, corporation, joint venture, or other combination thereof who has entered into the Contract with the DISTRICT for the performance of the work. The term “CONTRACTOR” means the CONTRACTOR or his/her authorized representative.

DAYS - Unless otherwise specified, days shall mean calendar days.

DEFECTIVE WORK - Work that is unsatisfactory, faulty, or deficient; or that does not conform to the Contract Documents; or that does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents.

DISTRICT – Lamont Public Utility District or its authorized representative.

DISTRICT INSPECTOR - The person or firm authorized by the DISTRICT to conduct construction review or observation.

ENGINEER - The person, agent, consultant, or employee designated by the DISTRICT as ENGINEER authorized by the DISTRICT, as set forth in the Contract Documents, to represent the DISTRICT, for the purposes of administering this Contract. Assistants, if designated by the ENGINEER to act on behalf of the ENGINEER, may do so provided they are authorized by the ENGINEER.

FIELD DIRECTIVE - Written documentation of the actions of the DISTRICT or ENGINEER in directing the CONTRACTOR. Field Directives may be in the form of supplemental Drawings or instructions which may be issued as necessary to clarify or define the intent of the Contact Drawings or Specifications. There may be a change in Contract Sum or Contract Time involved with the work shown in a Field Directive. Also referred to as a Directive.

FIELD ORDER - A written order given to the CONTRACTOR authorizing work that is a change to the scope of the Work carried out on a time and materials basis.

FINAL COMPLETION - The date when the Work is one-hundred percent (100%) complete, including completion and acceptance of all punch list corrections, as certified by the DISTRICT.

FURNISH - The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

HAZARDOUS WASTE - The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6906) as amended from time to time.

HOLIDAYS - Legal Holidays shall include the following holidays designated by the DISTRICT: New Year’s Day, Martin Luther King Day, President’s Day, Memorial Day, Independence Day, Labor Day, Veteran’s Day, Thanksgiving Day, the day after Thanksgiving and Christmas Day.

INSTALL - The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

MAY - “May,” wherever or in whatever manner used, refers to permissive actions.

MILESTONE - A principal event specified in the Contract Documents relating to an intermediate completion date of a separately identifiable part of the Work or a period of time within which the separately identifiable part of the Work should be performed prior to Substantial Completion of all the Work.

NOTICE OF AWARD - The written notice by the DISTRICT to the apparent successful Bidder stating that upon compliance by the apparent successful Bidder with the conditions precedent enumerated therein within the time specified, the DISTRICT will enter into an Agreement.

NOTICE OF COMPLETION - A form signed by the ENGINEER recommending to the DISTRICT that the Work is 100% complete, including completion and acceptance of all punch list corrections and fixing the date of Final Completion. After acceptance of the Work by the DISTRICT's governing Board, the form is signed by the DISTRICT and filed with the County Recorder.

OR EQUAL - Whenever material or equipment is indicated in these Specifications by stating names of proprietary items or of particular suppliers, the naming of the item is intended to establish the type, function, and quality required. The CONTRACTOR may select any of these named items for use on the Project. When the name is followed by the words "or-equal," it indicates that a substitution may be submitted for approval. An "or-equal" item serves the same function; has the same dimensions, appearance, quality, terms of warranty, durability, reliability, cost in service and maintenance; and complies with the same codes and standards as the named item. Further, its substitution will have no effect on Project details, cost, and program.

PLANS, DRAWINGS - The plans (Drawings), or reproductions thereof, which show the location, character, dimensions, and details of the work to be done.

PROJECT - The total construction of which the Work to be provided under the Contract Documents, may be the whole, or a part thereof as indicated elsewhere in the Contract.

PROVIDE - The words "provide" or "perform," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of CONTRACTOR, "provide" is implied.

PUNCH LIST - List of incomplete items of work and of items of work which are not in conformance with the Contract. The list will be prepared by the ENGINEER in writing when the CONTRACTOR notifies the ENGINEER in writing that the work has been completed in accordance with the Contract Documents and is ready for the DISTRICT'S acceptance.

REQUEST FOR INFORMATION (RFI) - A written request prepared by the CONTRACTOR requesting additional information necessary to clarify or amplify an item in the Contract Documents that the CONTRACTOR believes is not clearly shown or called for in the Drawings or Specifications or other portions of the Contract Documents, or to address problems which have arisen under field conditions. An RFI is not to be used for request for materials/equipment substitutions or value engineering/cost reduction incentive proposals.

REQUEST FOR QUOTATION (RFQ) - A request for a proposed cost made to the CONTRACTOR by the DISTRICT to add, delete or change the Work. RFQ's shall not be deemed to be directions to proceed with any addition, deletion or change to the Work.

SALVAGE - All items specified to be salvaged shall be carefully removed so as not to damage the item, and neatly stockpiled at the construction site by the CONTRACTOR. The exact location to stockpile items shall be determined by the ENGINEER. The ENGINEER shall then make a determination as to which items are to be retained by the DISTRICT. All other items shall be properly disposed of at no additional cost to the DISTRICT.

SHOP DRAWINGS (SUBMITTALS) - Shop Drawings (submittals) are Drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data which are prepared by the CONTRACTOR or any subcontractor, manufacturer, supplier, or distributor and which illustrate some portion of the work.

SPECIFICATIONS - The directions, provisions, and requirements contained in the General Provisions and Technical Provisions as supplemented by the Special Provisions.

STANDARD DRAWINGS, STANDARD PLANS - That portion of the plans identified or referenced as such.

STOP NOTICE - A legal remedy for subcontractors and suppliers who contribute to public works, but who are not paid for their work which secures payment from construction funds possessed by the DISTRICT. For public property, the Stop Notice remedy is designed to substitute for mechanic's lien rights.

SUBCONTRACTOR - An individual, partnership, corporation, joint venture, or other combination thereof who has a contract with the CONTRACTOR to perform any of the work. Subcontractor also means an individual, partnership, corporation, joint venture, or other combination thereof who has a contract with another subcontractor to perform any of the work.

SUBSTANTIAL COMPLETION - See Section 19.9 of the General Conditions, "Contract Closeout" for definition of substantial completion.

SUBSTITUTION - The use of an "or equal" item of material or equipment that meets the Contract requirements, but is not a listed manufacturer or equipment.

TECHNICAL SPECIFICATIONS - The Contract Documents identified or referenced as such.

UTILITY - Public or private fixed works for the transportation of fluids, gasses, power, signals, or communications.

WORK - Any and all obligations, duties, and responsibilities necessary to complete the construction assigned to, or undertaken by, the CONTRACTOR pursuant to the Contract Documents including all labor necessary to produce such construction and all materials, equipment, and supplies incorporated or to be incorporated in the construction. Also, the completed construction or parts thereof required to be provided under the Contract Documents.

WORKING DAYS - A working day is defined as any day, except Saturdays, Sundays and DISTRICT Legal Holidays. Any work scheduled by the CONTRACTOR on non-working days (Saturdays, Sundays, and DISTRICT Legal Holidays) shall be verified with the DISTRICT at least seventy-two (72) hours in advance. The DISTRICT shall be compensated for inspection work, at an hourly rate, for any work on non-working days and for overtime.

Terms: Wherever the terms "required," "permitted," "ordered," "designated," "directed," "prescribed," or terms of like import are used, it shall be understood that the requirements, permission, order, designation, direction or prescription of the ENGINEER is intended. Similarly, the terms "acceptable," "satisfactory," "or equal," or terms of like import shall mean acceptable to or satisfactory to the ENGINEER, unless otherwise expressly stated. The word "provide" shall be understood to mean furnish and install.

(END OF SECTION)

3.0 MEASUREMENT AND PAYMENT

3.1 WORK LISTED IN THE SCHEDULE OF WORK ITEMS

1. Work under this contract will be paid on a unit price or lump-sum basis as outlined on the Bid Form for the quantity of work installed.

2. The unit prices and lump-sum prices include full compensation for furnishing the labor, materials, tools, and equipment and doing all the work involved to complete the work included in the contract documents.

3. The application for payment will be for a specific item based on the percentage completed or quantity installed. The percentage complete will be based on the value of the partially completed work relative to the value of the item when entirely completed and ready for service.

3.2 WORK NOT LISTED IN THE SCHEDULE OF WORK ITEMS

1. The General Conditions and items in the Special Provisions, general requirements, and specifications which are not listed in the schedule of work items of the bid form are, in general, applicable to more than one listed work item, and no separate work item is provided therefore. Include the cost of work not listed but necessary to complete the project designated in the contract documents in the various listed work items of the bid form.

2. The bids for the work are intended to establish a total cost for the work in its entirety. Should the CONTRACTOR feel that the cost for the work has not been established by specific items in the bid form, include the cost for that work in some related bid item so that the proposal for the project reflects the total cost for completing the work in its entirety.

3.3 MOBILIZATION

See the Section 8.0, “Mobilization and Demobilization”, of the General Conditions.

3.4 SHEETING, SHORING, AND BRACING

Payment for sheeting, shoring, and bracing for the protection of life and limb, in conformance with the applicable safety orders, shall be included in the applicable bid items.

(END OF SECTION)

4.0 SUBMITTALS

4.1 GENERAL

1. Three copies of the initial submittal log shall be submitted to the ENGINEER within fifteen (15) working days after receipt of the Notice to Proceed.

2. Three copies of the updated submittal log shall be submitted with each monthly schedule update.

3. The ENGINEER's approval of submittal shall not relieve the CONTRACTOR of the entire responsibility for the correctness of the work covered by the submittal. The CONTRACTOR shall assume all responsibility for misalignments, improper fitting and deficient work due to errors in the submittals.

4.2 DEFINITIONS

1. Or-Equal – Whenever material or equipment is indicated in these Specifications by stating names of proprietary items of particular suppliers, the naming of the item is intended to establish the type, function, and quality required. The CONTRACTOR may select any of these named items for use on the project. When the name is followed by the words "or-equal," it indicates that a substitution may be submitted for approval. An "or-equal" item serves the same function; has the same dimensions, appearance, quality, terms of warranty, durability, reliability, cost in service and maintenance; and complies with the same codes and standards as the named item. Further, its substitution will have no effect on project details, cost, and program.

2. Substitution – The use of an "or-equal" item of material or equipment that meets contract requirements.

3. Change or Deviation – The use of an alternative item of material or equipment that does not meet the contract requirements. In the section, the same procedure shall be followed to obtain approval as for substitutions. On the letter of transmittal, substitutions, changes, and deviations shall be noted as variations by the CONTRACTOR.

4.3 SUBMITTAL PROCEDURES

1. Accompany each submittal with a separate letter of transmittal containing the following information:

    a. CONTRACTOR'S name and the name of Subcontractor or supplier who prepared the submittal.

    b. The project name and identifying contract number.

    c. Submittal number.

    d. Description of the submittal and reference to the Contract requirement or technical specification section and paragraph number being addressed.

2. Submit the number and type of copies for each submittal and follow the procedures described below or in other paragraphs in this Section. Submit four (4) copies of submittals not covered in Section 15.6 of the General Conditions.

    a. Designation of Superintendent: Submit three (3) copies for information. Include name, address, home telephone number and a brief resume.

b. List of Subcontractors and Major Suppliers: Submit three (3) copies for information. Include address, telephone number and name of responsible party.

c. Schedule of Values: Submit three (3) copies for information. No copy will be returned.

d. Manufacturers' Affidavits. Submit three (3) copies for items specified in the Technical Specifications.

e. Environmental Protection Plan. Submit three (3) copies for information.

4.4 SCHEDULE OF SUBMITTALS

1. Submit three (3) copies for information. No copy will be returned.

4.5 SUBMITTAL LOG

1. Prepare and maintain an accurate submittal log for the duration of the project. The log shall contain a listing of submittals and shall include the following information for each listed item:

a. Specification section reference.

b. Projected submission date.

c. Actual submission date.

d. Projected need date for approval of the submittal.

e. Actual return date from the ENGINEER.

f. Notation of the ENGINEER’s response.

g. Notation if re-submittal or record copy is required.

4.6 NUMBER OF COPIES REQUIRED

1. Each Submittal: The CONTRACTOR shall furnish four (4) hard copies and one (1) electronic copy of each submittal unless specified otherwise.

2. Drawings: Three full sized, thirty-six inches (36") by twenty-four inches (24"), direct prints and 1 clear legible, reproducible transparency of each original drawing shall be submitted for approval before manufacture or fabrication of the respective articles.

3. Catalogue sheets, brochures, and other printed sheets: Four (4) copies and one (1) original shall be submitted.

4. Other Data: When the Specifications require the submission of certifications, mill test reports, or purchase orders, a minimum of three (3) copies shall be submitted to the ENGINEER, unless otherwise specified.

4.7 DELIVERY ADDRESS

1. Unless otherwise specified, submittals shall be marked for the attention of Curtis Skaggs – Engineer, and shall be delivered to Dee Jaspar & Associates’ office located at 2730 Unicorn Road, Building A, Bakersfield, CA, 93308.

4.8 RECORD COPIES

1. Within ten (10) working days after approval a photo-sensitized or wash-Mylar material having a matte finish on both sides and with clear and legible lettering and delineation shall be submitted to the ENGINEER for review and acceptance. The shop, assembly, or layout drawings shall be copied directly from the correct original tracings.

2. Within 10 working days after approval an electronic copy of all drawings shall be sent to the ENGINEER for review and acceptance. All shop drawings shall be in electronic AutoCAD or compatible file format.

3. When catalogue sheets, brochures, or other printed sheets have been approved in view of drawings, electronic copies or reproducible transparencies of the printed sheets will not be required.

4. Record copies of the approved drawings shall be clean, legible without the use of magnification, and capable of producing copies that are comparable in quality to the original. Drawings which do not meet these criteria will not be accepted by the DISTRICT. Any record drawing not accepted by the DISTRICT shall be revised and resubmitted until it is acceptable to the DISTRICT.

4.9 PLAN OF OPERATIONS

1. Submit three (3) copies.

2. Before beginning on site work, submit a plan showing CONTRACTOR'S intended use of the site assigned to it. Show location of enclosing fence, access points and gates. Show location for CONTRACTOR'S and Subcontractor’s field offices and parking. Show location of CONTRACTOR'S and Subcontractor’s work areas and storage areas.

4.10 CONSTRUCTION SCHEDULE

1. Provide a completed critical path method (CPM) construction schedules to the ENGINEER for review and acceptance as required in Section 5.0 of the General Conditions, “Construction Schedule Bar Charts.”

4.11 SHOP DRAWING, PRODUCT DATA AND SAMPLES SUBMITTED FOR PRODUCT REVIEW

1. This paragraph covers submittal of Shop Drawings, Product Data and Samples required for the ENGINEER's review. All submittals are required for the ENGINEERs Review unless specifically requested for Information Only.

2. Number and type of submittals:

   a. Shop Drawings: Submit four copies more than the number required by the CONTRACTOR. Copies in excess of four will be marked, stamped and returned to the CONTRACTOR. The CONTRACTOR shall make and distribute the required number of additional copies to its superintendent, Subcontractors and suppliers.

   b. Product Data: Submit four (4) clear copies. One copy will be marked, stamped and returned. The CONTRACTOR shall make and distribute the required number of additional copies to its superintendent, Subcontractors and suppliers.

   c. Samples: Submit three (3) labeled samples or three (3) sets of samples of Manufacturer’s full range of colors and finishes. Comply with requirements in

Technical Specification Sections. One sample will be returned to CONTRACTOR.

3. The CONTRACTOR shall make all Product Review submittals early enough to allow adequate time for the ENGINEER's review and for manufacture and delivery to the construction site without causing delay to the Work. Submittals shall be made early enough to allow for unforeseen delays such as:

   a. Failure to obtain Favorable Review because of inadequate or incomplete submittal or because the item submitted does not meet the requirements of the Contract Documents.

   b. Delays in manufacture.

   c. Delays in delivery.

4. Content of Submittals:

   a. Each submittal shall include all of the items and material required for a complete assembly, system or Specification Section. Each item in every submittal shall be labeled with the Specification Section and paragraph number under which the item is specified.

   b. Submittals shall contain all of the physical, technical and performance data required by the Specifications or necessary to demonstrate conclusively that the items comply with the requirements of the Contract Documents.

   c. Include information on characteristics of electrical or utility service required and verification that requirements have been coordinated with services provided by the work and by other interconnected elements of the work.

   d. Provide verification that the physical characteristics of items submitted, including size, configuration, clearances, mounting points, utility connection points and service access points, are suitable for the space provided and are compatible with other interrelated items that are existing or have or will be submitted.

   e. Label each Product Data Submittal, Shop Drawing and Sample with the information required in paragraph K of this Section of the Technical Provisions. Highlight or mark every page of every copy of all Product Data submittals to show the specific items being submitted and all options included or choices offered.

   f. Additional requirements for Product Review submittals are contained in the Technical Provisions Section.

   g. Designation of work as "NIC" or "by others," shown on Shop Drawings, shall mean that the work will be the responsibility of the CONTRACTOR rather than the Subcontractor or supplier who has prepared the Shop Drawings.

5. Compatibility of Equipment and Material:

   a. Verify that items contained in the same or in different submittals meet the requirements of the Technical Provisions.

6. Requirements for CONTRACTOR Designed Items and for First Specified (Named) Items.

a. Verify that items meet the requirements of the Technical Provisions.

7. Submittals that contain deviations from the requirements of the Contract Documents shall be accompanied by a separate letter explaining the deviations. The CONTRACTOR'S letter shall:

   a. Cite the specific Contract requirement including the Specification Section and paragraph number for which approval of a deviation is sought.

   b. Describe the proposed alternate material, item or construction and explain its advantages and/or disadvantages to the Owner.

   c. State the reduction in Contract Price if any that is offered to the Owner.

8. ENGINEER's Review Procedure and Meaning:

   a. The ENGINEER will stamp and mark each Product Review submittal prior to returning it to the CONTRACTOR. The ENGINEER shall have twenty-one (21) calendar days from the date of receipt to review a submittal. The stamp will indicate whether the review was favorable and what action is required of the CONTRACTOR. Review categories" No Exceptions Taken" and "Make Corrections Noted" both indicate Favorable Review.

   b. The ENGINEER's Favorable Review is contingent on the CONTRACTOR'S warranties required by General Conditions.

   c. Favorable Review is also contingent on:

      (1) The compatibility of items included in a submittal with other related or interdependent items included in previous or future submittals.

      (2) Future submittal of items related to or required to be part of this submittal that was not included with this submittal.

      (3) Favorable Review of a submittal does not constitute approval or deletion of items required as part of the submittal but not included with the submittal. Favorable Review of items included in the submittal does not constitute deletion of specified features, options or accessories that were not included in the submittal.

   d. The action required by the CONTRACTOR for each category of review is as follows:

      (1) NO EXCEPTIONS TAKEN. NO RESUBMITTAL REQUIRED.

      (2) MAKE CORRECTIONS NOTED.

      (3) NO RESUBMITTAL REQUIRED. The CONTRACTOR shall make corrections noted prior to manufacture.

      (4) PARTIAL RESUBMITTALS REQUIRED. The CONTRACTOR shall submit related accessory or optional items as noted which are required but were not included with the submittal and/or shall resubmit unsatisfactory portions or attributes of items as noted. The CONTRACTOR may proceed to manufacture those portions of the submittal that will be unaffected by required resubmittals.

(5) AMEND AND RESUBMIT. The CONTRACTOR shall amend and resubmit the submittal as noted or required to comply with the Contract Documents.

(6) REJECTED - RESUBMIT. The item submitted does not comply with the Contract Documents in a major way. Resubmit items that comply with the requirements of the Contract Documents.

e. The letter of transmittal accompanying the returned Product Review submittal may contain numbered notes. Marking a corresponding number on a Shop Drawing or Product Data submittal shall have the same effect as applying the entire note to the submittal.

9. Resubmittals that contain changes that were not requested by the ENGINEER on the previous submittal shall be accompanied by a letter explaining the change.

10. Favorable Review Required Prior to Proceeding.

a. Do not proceed with manufacture, fabrication, delivery or installation of items prior to obtaining the ENGINEERs Favorable Review of Product Review submittals.

11. Intent and Limitation on ENGINEER's Review:

a. The CONTRACTOR has primary responsibility for submitting and providing work that complies with the requirements of the Contract Documents. That responsibility cannot be delegated in whole or in part to Subcontractors or suppliers. Neither the ENGINEER's Favorable Review nor the ENGINEER's failure to notice or comment on deficiencies in the CONTRACTOR'S submittal shall relieve the CONTRACTOR from the duty to provide work which complies with the requirements of the Contract Documents.

4.12 SUBSTITUTIONS OR PROPOSED EQUIVALENTS

1. Comply with the submittal requirements for Shop Drawings, Product Data, and Samples submitted for Product Review.

2. Time of Submittal:

a. Submittal of Proposed Equivalents shall be made within thirty-five (35) days of the Notice to Proceed. The ENGINEER may agree to a later submittal date if requested in writing within 35 days of the Notice to Proceed. The request shall identify the item, give the Specification reference, and proposed manufacturer and model number of the item that will be submitted and the proposed submittal date.

b. The ENGINEER's agreement to a later submittal date shall be in writing and shall not be construed as Favorable Review or acceptance of the manufacturer or item proposed.

3. Content of submittals shall be the same as that required for Product Data, Shop Drawings and Samples submitted for Product Review. In addition, the ENGINEER may request that the CONTRACTOR provide information on several recent similar installations of the item to verify its suitability. The information shall include the project name and location, the Owner's name, address, telephone number and name of a knowledgeable person to contact for information on performance of the product.

4. When the CONTRACTOR has listed a specific maker's products on its Bid, no changes will be permitted without submittal of acceptable evidence justifying the change and the ENGINEER's written approval.

5. If a non-equivalent substitute is submitted for review, it shall be accompanied by a proposed reduction in Contract Price which shall include the increased cost of engineering service required to evaluate the proposed substitute (which shall be paid to the Owner whether or not the substitute is accepted) plus the greater of 1) the difference in price between the first specified item and the item submitted and 2) the difference in value to the Owner between the two items.

4.13 PRODUCT INFORMATION SUBMITTALS

1. Submit three copies. No copies will be returned.

2. Product Information submittals are required for the Owner's permanent records and will be used for future maintenance, repair, modification or replacement work. Product Information submittals will be examined only to verify that the required submittals have been made; they will NOT BE REVIEWED for compliance with the Contract Documents.

3. Make Product Information submittals prior to delivering material, products or items for which Product Information submittals are required.

4. The CONTRACTOR has the sole and exclusive responsibility for furnishing products and work that meets the requirements of the Contract Documents.

5. The ENGINEER reserves the right to comment on any submittal and to reject any product or work delivered, installed or otherwise at any time that the ENGINEER becomes aware that it is defective or does not meet the requirements of the Contract Documents.

4.14 OPERATION AND MAINTENANCE MANUALS AND PARTS LIST

1. Submit three complete sets. Bind each copy in one or more “D” ring, 8-1/2x11, 3-ring binders with clear view spine and cover, National 79-692(3), K&M or equal. Prepare Titles for the spine and cover and a Table of Contents listing each piece of equipment. Organize the contents by Specification Section and paragraph number under which the equipment was specified. Provide labeled tab separators for each major item or group of smaller similar items. When standard manufacturer’s literature is used highlight or mark all copies to shop specific items and options provided.

2. Provide operation and maintenance manuals and parts list for all equipment furnished under this contract. Comply with the detailed requirements in Technical Provisions. Include instructions for delivery, storage, assembly, installation, lubrication, adjusting, start-up, operation and maintenance.

   a. For all equipment include:

      (1) Startup instructions.

      (2) Normal operation instructions.

      (3) Trouble shooting instructions.

      (4) Lubrication instructions.

      (5) Maintenance and reinstallation instructions.

(6) Parts identification.

(7) List of spare parts recommended to have on hand.

(8) Operator safety instructions.

b. For all Electrical Equipment, provide the following additional information:

(1) Equipment ratings.

(2) Calibration curves and rating tables if appropriate.

c. For Complex Equipment provide in addition:

(1) Alternate specified operating modes.

(2) Emergency shutdown instructions.

(3) Normal shutdown instructions

(4) Long-term shutdown instructions

d. Operation and maintenance manuals for systems composed of separate pieces of equipment shall include a system explanation of items 1, a, b, and c, and 3a through c, as well as the instructions for each separate piece of equipment.

2. Submit with Final Submittals.

4.15 AS-BUILT DRAWINGS

1. Provide a complete set of construction as-built drawings to the ENGINEER for review and acceptance.

4.16 MANUFACTURER'S CERTIFICATES

1. Submit three (3) copies.

2. When specified in Technical Provisions, submit manufacturers' certificate to ENGINEER for review. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate. Certificates may be recent or previous test results on material or Product, but must be acceptable to the ENGINEER.

(END SECTION)

ATTACHMENT D

LETTER OF TRANSMITTAL
FOR SUBMITTAL NO.
CONTRACTOR:
ADDRESS:
PHONE:
FAX:

TO: Dee Jaspar & Associates, Inc.
2730 Unicorn Road, Building A
Bakersfield, CA 93308

DATE: _____

CONTRACT NO: _____

SPEC.NO: _____

PROJECT: _____

WE ARE SUBMITTING THE ENCLOSED:

SHOP DRAWING **EQUIPMENT DATA** **MATERIAL DATA**

SAMPLES **CERTIFICATION OF COMPLIANCE** **OTHER**

FOR YOUR: **APPROVAL** **INFORMATION**

PLEASE RETURN _____ COPIES FOR OUR RECORDS

ITEM NO.	DESCRIPTION OF ITEM	NO. OF COPIES	CONTRACT REFERENCE SPEC. SECTION OR DRAWING SHEET NO.	VARIATION

REMARKS: All deviations from the construction contract shall be explained in detail.

I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the Contract Drawings and Specifications except as otherwise stated.

_____
NAME/SIGNATURE OF CONTRACTOR

DISPOSITION:

☐ **APPROVED** ..... **REVIEWED-NO CORRECTIONS NOTED**
☐ **APPROVED AS REVISED** ..... **REVIEWED-CORRECTIONS NOTED-NO RESUBMITTAL REQUIRED**
☐ **RETURNED FOR REVISON** ..... **REVIEWED-RESUBMITTAL REQUIRED**

SEE ATTACHED SHEET FOR COMMENTS

_____ DATE _____
SIGNATURE AND TITLE OF APPROVING AUTHORITY

5.0 CONSTRUCTION SCHEDULE (BAR CHARTS)

5.1 SUBMITTALS

1. Project schedule submittals shall consist of FOUR (4) paper copies, eight and one-half inches (8 ½") by eleven inches (11") or eleven inches (11") by seventeen inches (17") inches and an electronic copy on CD format.

2. Baseline Project Schedule:

   a. The CONTRACTOR shall submit the baseline project schedule within TEN (10) working days after receipt of the Notice to Proceed.

   b. The ENGINEER will meet with the CONTRACTOR to review and discuss the proposed schedule within ten (10) working days of the meeting. At this meeting, the ENGINEER will inform the CONTRACTOR if the schedule is acceptable or if it must be revised and resubmitted.

   c. In the event that correction of the baseline project schedule is required, the CONTRACTOR shall resubmit four (4) copies of the schedule with the corrections within 10 working days of the meeting. The ENGINEER will meet with the CONTRACTOR to review and discuss the schedule within ten (10) working days after receipt of the resubmittal. At this meeting, the ENGINEER will inform the CONTRACTOR if the Schedule is acceptable or if it must be revised and resubmitted.

3. Updates of the Project Schedule:

   a. The updated project schedule shall be submitted by the 20th of each month.

4. Narrative Progress Report:

   a. The CONTRACTOR shall submit four (4) copies of the monthly narrative progress report by the 20th of each month.

5. Failure to submit each package by the required date may result in a reduction in progress payment by DISTRICT for the corresponding month.

6. Look-Ahead Schedule: Look Ahead Schedule shall be submitted weekly. When a project meeting is scheduled, the Look Ahead Schedule shall be submitted at least twenty-four (24) hours prior to the meeting. The number of copies submitted and the payout and format of the look-ahead schedule shall be acceptable to the ENGINEER.

7. Cash-Flow Forecast:

   a. The CONTRACTOR shall submit the initial cash-flow forecast within ten (10) working days after receipt of the Notice to Proceed.

   b. The CONTRACTOR shall submit a revised cash-flow forecast when the monthly pay estimate varies from the current cash-flow projection by more than fifty percent (50%), or the cumulative payment to date varies from the forecast by more than twenty percent (20%).

   c. The CONTRACTOR shall provide 4 copies of all cash-flow forecast submittals on 8½-inch by 11-inch paper and an electronic copy on 3.5-inch disk in a file format specified by the DISTRICT.

5.2 PROJECT SCHEDULE

1. The CONTRACTOR shall provide a critical path method (CPM) computer generated construction schedule using Suretrak, Microsoft Project, or equal software that has the capability of producing a Gantt chart.

2. The CPM schedule shall show in detail the CONTRACTOR'S plan of operations of the project. The degree of detail shall be to the satisfaction of the ENGINEER and shall include:

    a. The project's critical path and significant project milestones.

    b. The means, methods, and sequences for performing work.

    c. Mobilization of plant and equipment.

    d. Submission and approval of critical submittals.

    e. Propose shutdowns and durations of existing facilities.

    f. Fabrication and delivery of critical equipment and materials.

    g. Approvals and permits required by regulatory agencies or other third parties.

    h. Access to and availability of work areas.

    i. Identification of interfaces and dependencies with preceding, concurrent, and follow-on CONTRACTORS.

    j. Specified project phasing, milestones, and completion dates.

    k. Testing.

    l. The activities of the ENGINEER that may affect progress or affect required dates for completion of all or part of the work, including delivery of DISTRICT-furnished equipment.

3. Revisions to the Baseline Project Schedule:

    a. The CONTRACTOR shall immediately advise the ENGINEER of proposed or required changes in the schedule logic, changes in the critical path or delays to the progress of the work.

    b. The CONTRACTOR shall furnish a revised schedule within ten (10) days of the event giving rise to such claim. A narrative description of the change, the necessity for the change, the impact of the change to the specified project milestones, and the cost to DISTRICT if the revised schedule is accepted, shall be enclosed.

    c. Within thirty days after the CONTRACTOR submits to the DISTRICT a written request for an extension of time, the ENGINEER shall return a written recommendation for the extension of time justified.

    d. The CONTRACTOR shall furnish a final revised schedule within ten (10) days of the award by the ENGINEER of an adjustment in the time of completion of the work.

4. Monthly Project Schedule Updates:

a. The CONTRACTOR shall update the current project schedule monthly to show:

(i) Actual activity-start dates.

(ii) Actual activity-completion dates.

(iii) Estimated duration, in working days, to complete each activity that is started but not completed.

(iv) Actual total progress achieved to date on each activity in percent.

(v) Non-working days granted by the ENGINEER.

5.3 NARRATIVE PROGRESS REPORT

1. As part of the monthly updating process, the CONTRACTOR shall prepare a narrative progress report. The report shall describe the physical progress during the report period, the CONTRACTOR'S plan for continuing the work during the forthcoming report period, and actions planned to correct work that is behind schedule. The report shall also provide a discussion of potential delays and problems and their impact on performance and the overall project completion date.

2. If the project falls behind schedule by more than twenty (20) workings days, the report shall contain proposed alternatives for schedule recovery.

5.4 CASH-FLOW FORECAST

1. The CONTRACTOR shall use any reasonable system to develop a cash-flow analysis that depicts the estimated cash expenditures in the aggregate, by month, over the life of the project. The CONTRACTOR shall provide data in both tabular and graphic display form.

(END OF SECTION)

6.0 INSPECTION OF THE WORK

6.1 SUBMITTALS

1. Orders: The CONTRACTOR shall submit, as soon as issued, three (3) copies of orders placed outside the CONTRACTOR'S plant for articles or materials to be incorporated in the work.

2. When requested by the ENGINEER, the CONTRACTOR shall furnish the ENGINEER such additional information as may reasonably be required regarding the character of the materials and the progress of their procurement, including copies of invoices, bills of lading, and shipping lists on all articles and materials for use on the work.

3. Test Report and Certifications:

    a. Where certifications or mill-test reports are required, the CONTRACTOR shall submit three (3) complete, certified copies.

    b. Certifications shall show chemical composition, mechanical properties, or other characteristics of the materials to be used in the work.

    c. Material specified by a referenced standard shall be certifiable by the mill or manufacturer under that standard.

    d. The testing, analysis, and certification shall be the responsibility of the CONTRACTOR.

4. Notices of Fabrication: The CONTRACTOR shall submit a separate notice of fabrication for each fabricated article and material.

    a. For articles and materials fabricated outside Southern California, the CONTRACTOR shall submit the notice fourteen (14) days before starting fabrication.

    b. For articles and materials fabricated within Southern California, the CONTRACTOR shall submit the notice five (5) days before starting fabrication.

6.2 RESPONSIBILITIES

1. The CONTRACTOR shall be responsible for full compliance with every requirement of the contract documents and shall ensure that the work is in full accordance with these requirements. At all times, the CONTRACTOR'S work will be subject to rigid inspection by the ENGINEER. Whether discovered by the CONTRACTOR or the ENGINEER, nonconforming work shall be corrected or replaced by the CONTRACTOR.

2. For convenience, materials or equipment to be incorporated in the work may be designated in the Specifications by a trade name or the name of a manufacturer and the manufacturer's catalog item number information. Materials, articles, or equipment, even if supplied by a manufacturer designated in the Specifications, shall be accepted only if the items meet all other specification requirements.

3. The CONTRACTOR shall furnish all tools, equipment, materials, supplies, and manufactured articles necessary or required for the performance and completion of the work included in the Contract, except for materials and equipment specified to be furnished by the DISTRICT. The materials, articles, and equipment provided for permanent installation in the work shall be new and shall be in accordance with these

Specifications.

4. The CONTRACTOR shall perform quality control on suppliers, manufacturers, products, services, site conditions, and workmanship to ensure that work conforms to the contract documents. The CONTRACTOR shall be prepared to document its quality control activity.

5. The CONTRACTOR shall require and ensure conformance with specified standards as a minimum quality for the work. When more stringent tolerances, codes, or specified requirements are required by a particular manufacturer or a particular item of work, the higher standards or more precise workmanship shall be provided.

6. The ENGINEER's inspections and tests are for the sole benefit of the DISTRICT and shall not:

   a. Relieve the CONTRACTOR of responsibility for providing adequate quality control measures.

   b. Relieve the CONTRACTOR of responsibility for damage to or loss of the material before acceptance.

   c. Constitute or imply acceptance.

   d. Affect the continuing rights of DISTRICT after acceptance of the completed work.

7. The CONTRACTOR shall be responsible for adjustments, corrections, or repairs found necessary after the delivery or installation of materials and articles.

8. Unidentified materials shall not be used in the work, including work at fabrication plants.

6.3 SEQUENCING AND SCHEDULING OF INSPECTIONS AND TESTS

1. The CONTRACTOR shall fully advise the ENGINEER regarding progress of the work in its various parts.

2. The CONTRACTOR shall furnish and prepare the required samples and test specimens ready for testing in time for the necessary tests and analysis.

3. Where the Specifications require work to be tested or approved, it shall be tested only in the presence of the ENGINEER.

4. The ENGINEER shall be given timely notice of the CONTRACTOR'S readiness for inspection and test. The length of advance notice shall be appropriate for the complexity of the inspection or test, the availability of the ENGINEER's staff, and the location of the inspection or test, but in no case shall less than twenty-four (24) hours advance notice be given.

6.4 TESTING

1. Materials and articles that are to be included in the works shall be subject to testing for conformance with the Specifications and Drawings.

2. When not otherwise specified, sampling and testing shall be in accordance with the methods prescribed in the current standards of ASTM applicable to the class and nature of the articles or materials considered. However, the ENGINEER will have the right to use any generally accepted method of testing that will ensure that the quality of materials,

articles, or work is in full accord with the Specifications and Drawings.

3. The ENGINEER will have the right to select, test, and analyze, at the expense of the DISTRICT, additional test specimens of the materials to be used. Results of these tests and analyses will be considered with the results of other tests or analyses, whether performed by the ENGINEER or the CONTRACTOR, to determine compliance with the applicable specifications for the materials.

6.5 INSPECTION BY THE ENGINEER

1. Materials and articles that are to be included in the work~~s~~ shall be subject to rigid inspection by the ENGINEER for conformance with the Specifications and Drawings. The CONTRACTOR shall plan for the inspections to be continuous, repetitive, and detailed.

2. Orders for materials, articles, and equipment shall note that the articles, materials, and equipment are subject to inspection and acceptance by the DISTRICT, both during manufacture or fabrication and after delivery to the site.

3. When practicable and convenient for the ENGINEER, inspection will be made during the manufacture of the articles and equipment.

4. The location, alignment, grade, plumb, and other physical characteristics of formwork for concrete, items to be embedded in concrete and permanent improvements shall be subject to rigid survey verification.

5. Materials or articles shall not be incorporated in the work until they have been inspected by the ENGINEER.

6. After testing, work shall be covered or backfilled only with the approval of the ENGINEER.

6.6 FACILITIES FOR INSPECTION AND TESTING

1. The CONTRACTOR shall furnish the facilities, utilities, and assistance necessary for the safe and convenient performance of inspections and tests required by the Specifications or by the ENGINEER.

2. The CONTRACTOR shall provide adequate lighting, access, and ventilation for a safe working environment for inspections and tests.

3. The CONTRACTOR shall cooperate with the ENGINEER’s staff in the performance of their respective duties and shall provide qualified personnel to assist with the performance of tests and inspections by them.

4. When the Specifications require tests or inspections to be performed by the CONTRACTOR, the CONTRACTOR shall provide qualified personnel to perform them.

6.7 REJECTION OF WORK

1. The ENGINEER will have the right, at all times and in all places, to reject articles or materials to be furnished for the project that fail to meet the requirements of these Specifications. This shall be regardless of whether the defects in these articles or materials are detected at the point of manufacture or after completion of the work at the site.

2. The ENGINEER will be the sole judge as to the acceptable quality of materials, articles,

and work. However, where the ENGINEER, through an oversight or otherwise, accepts material, articles, or work that is defective or that is contrary to the Specifications, the material, article, or work, no matter in what stage or condition of manufacture, delivery, or erection, may be rejected by the ENGINEER.

3. Promptly after notification of rejection by the ENGINEER, the CONTRACTOR shall remove rejected portions or items of materials, articles, or work to a satisfactory distance from the vicinity of accepted items and shall replace them.

6.8 FINAL INSPECTIONS AND ACCEPTANCE

1. Finals inspections for acceptance of materials, articles, equipment, and work will be made at the completion of all contract work.

2. A minimum of ten (10) working days prior to the estimated completions of the work, the CONTRACTOR shall notify the ENGINEER in writing of the pending completion of the entire work or an agreed portion thereof. The CONTRACTOR shall include with the notice a complete list of work items remaining to be completed.

3. On or about the CONTRACTOR'S estimated completion date, the ENGINEER will make a thorough inspection of the entire work. Defects or deficiencies noted during this inspection will be reported to the CONTRACTOR in writing.

4. If the ENGINEER determines the work to be complete, it will be accepted. If defects or deficiencies are noted during this inspection, they will be reported in writing to the CONTRACTOR. When the CONTRACTOR notifies the ENGINEER of the correction of these items, another final inspection will be scheduled.

(END OF SECTION)

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7.0 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

7.1 SUBMITTALS

1. Drawings: The CONTRACTOR shall submit drawings showing the methods of temporary support and protection, along with calculations for the types of support structures of pipelines, utilities, and structures to remain in place or whose initial or subsequent alignment will be temporarily changed during construction.

2. Leases: If the CONTRACTOR elects to store materials or equipment at warehouses or yards on lands not owned by DISTRICT, a copy of all leases shall be submitted.

7.2 CONTRACTOR'S WORK AND STORAGE YARD AREA

1. The CONTRACTOR shall locate offices, employee parking, storehouses, and storage areas for materials and equipment in the work and storage area.

2. The CONTRACTOR shall be responsible for the care of materials and equipment stored in the work and storage yard areas and warehouses, and for the proper maintenance of fencing and structures.

3. If the CONTRACTORS elect to store materials or equipment at warehouses or land not owned by the DISTRICT, the lease or leases for such premises shall provide that the lesser notify the DISTRICT immediately upon the CONTRACTOR'S default in the payment of rent on one or more of the leases.

    a. DISTRICT shall have the right to make payment of rent on behalf of the CONTRACTOR, shall be entitled to withhold from payments due the CONTRACTOR the amount paid, and shall, in addition, be entitled to withhold a sum sufficient to reimburse the DISTRICT for expenses incurred in making the rent payments.

    b. A copy of all leases for yards or storehouses shall be submitted to the ENGINEER at the time of execution of the Contract or when the lease is executed whichever occurs last.

7.3 FIRE PROTECTION AND PREVENTION

1. All materials to be incorporated into the work shall be adequately protected against damage by fire. Hose connections and hose, water casks, chemical equipment, and other equipment required by local jurisdictions shall be provided for fighting fires.

2. The exhaust pipes of internal combustion engines used in the work shall be equipped with approved spark arresters.

7.4 DUST CONTROL

1. The CONTRACTOR shall provide effective measures to prevent operations from producing dust in amounts damaging to personnel, property, plants, or animals, and to prevent causing a nuisance to persons living or occupying buildings in the vicinity.

2. Areas used by the CONTRACTOR for construction roads or other purposes in connection with the work shall be given an approved dust inhibiting surface treatment to avoid production of dust. This surface condition shall be continuously maintained during the entire construction period. The CONTRACTOR'S construction facilities shall be operated in a manner ensuring minimum dust production.

3. Trucks transporting soil, or cement, or debris shall be covered or moistened with water to suppress the dispersion of dust.

4. CONTRACTOR'S construction operations shall be in compliance with his Dust Control Permit at all times during the project.

7.5 LIGHT ABATEMENT

1. The CONTRACTOR shall exercise special care to direct floodlights to shine downward at an angle less than horizontal. These floodlights shall also be shielded to avoid a nuisance to the surrounding areas. No lighting shall include a residence in its direct beam. The CONTRACTOR shall correct lighting nuisance whenever it occurs.

7.6 AIR POLLUTION CONTROL

1. The CONTRACTOR shall not discharge smoke, dust, or other air contaminants into the atmosphere in a quantity that exceeds the legal limit.

2. The CONTRACTOR shall maintain equipment in proper mechanical adjustment to minimize the volume of exhaust emissions.

7.7 NOISE CONTROL

1. The CONTRACTOR shall conduct operations to abate noise and to minimize noise where complete abatement is not possible.

2. To limit noise, construction vehicle equipment shall be kept in proper working order for the duration of the construction activities.

7.8 CLEANING UP

1. During all phases of construction, including suspensions of the work, and until final acceptance the CONTRACTOR shall keep the site clean and free from rubbish and debris.

2. Upon completion of the work and before the final estimate is submitted, the CONTRACTOR shall satisfactorily dispose of or remove from the vicinity of the work all plants, buildings, rubbish, unused materials, concrete forms, and other equipment and materials used during construction.

3. If the CONTRACTOR fails to maintain the premises in a neat and clean condition or fails to remove and dispose of rubbish or materials at the completion of the project, the area may be cleaned and materials, equipment, and rubbish may be removed and disposed of by the DISTRICT at the CONTRACTOR'S expense.

4. The CONTRACTOR will not be permitted to use DISTRICT'S trash bins for disposal of trash or rubbish.

7.9 PROTECTION OF NEW AND EXISTING IMPROVEMENTS

1. The general locations of existing utility installations shown on the Drawings are those that are known to exist, but this listing shall not be construed as a complete listing.

2. Where existing piping, utilities, and structures are to remain in place, these facilities shall be temporarily supported and protected until the work has been completed and compacted backfill has been placed to fully support them. Facilities adjacent to the work

shall be protected in place when excavating in their vicinity. The support system shall prevent movement, dislocation, and deflection of the piping, utilities, and structures at all times. Supports and protection shall be designed by a Civil Engineer currently registered in the State of California and shall be acceptable to the DISTRICT of the improvement.

3. The CONTRACTOR shall cover and protect open holes at all times.

7.10 RESTORATION OF IMPROVEMENTS

1. Upon completion of the work, the CONTRACTOR shall reconstruct existing roads to a condition equivalent to that which existed before the start of work.

7.11 SECURITY

1. The CONTRACTOR shall prevent unauthorized personnel or vehicular entry into the project site.

2. The CONTRACTOR shall be responsible for providing security within the work site as the CONTRACTOR deems necessary for the protection of its own equipment, materials, or work from vandalism or theft. DISTRICT will not be responsible for theft or damage to the CONTRACTOR'S equipment, materials, or work.

(END OF SECTION)

8.0 MOBILIZATION AND DEMOBILIZATION

8.1 MOBILIZATION

Mobilization shall include moving onto the site; payment for bonds, ordering major equipment; furnishing construction equipment; and furnishing and erecting drilling equipment, temporary buildings, and other construction facilities for the performance and completion of the work and further specified in the Technical Specifications.

8.2 PAYMENT FOR MOBILIZATION

1. As soon as practicable after receipt of the Notice to Proceed, the CONTRACTOR shall submit a breakdown showing the relative value of each major component of mobilization and demobilization, including furnishing bonds, where the total of all these values is equal to the amount of Item No. 1 in the section titled “Schedule of Work Items” in the Bid Documents. This breakdown, when approved by the ENGINEER, shall be the basis for determination of percentage completion and progress payments for mobilization.

2. Progress payments for mobilization will be made on a percentage of completion basis of the price name in the “Bid Form” under Item No. 1.

3. The maximum amount allowed for Mobilization and Demobilization shall not exceed seven and one-half percent (7 ½ %) of the total bid.

(END OF SECTION)

9.0 TEMPORARY UTILITIES AND SERVICES

9.1 REFERENCES

1. General

   a. The publications listed below form a part of this specification to the extent referenced.

   b. Where a date is given for reference standards, the edition of that date shall be used. Where no date is given for reference standards, the latest edition available on the date of Notice Inviting Bids shall be used.

2. National Fire Protection Association (NFPA)

   a. National Electrical code (NEC).

9.2 SUBMITTALS

1. Plans: A plot plan drawing of temporary utility layouts shall be submitted to the ENGINEER's field office. A single line diagram of the temporary construction power system shall be included.

2. Permits: The CONTRACTOR shall obtain and pay for all permits for temporary utilities and shall submit one copy of each permit to the ENGINEER's field office.

9.3 WATER

1. DISTRICT will furnish reasonable quantities for use in construction free of charge to the CONTRACTOR at locations designated by the ENGINEER and under the following terms and conditions:

   a. The CONTRACTOR shall conserve water supplies and shall install approved meters to provide DISTRICT with records of the volume of water used. Undue waste of water will be reason for DISTRICT to close these sources to further use by the CONTRACTOR.

   b. The method of pumping and the capacity and condition of pumps used by the CONTRACTOR shall be subject to the ENGINEER's approval.

   c. The water sources to be designated by the ENGINEER will provide treated and untreated water. However, in permitting the use of water, no representation is made that water will always be available from that source. During system shutdowns or other similar occasions, water may not be available for the CONTRACTOR'S use. At these times, the CONTRACTOR shall provide water from its own sources.

2. The CONTRACTOR shall be solely responsible for the adequate functioning of its water supply system and shall be solely liable for claims or damage resulting from its use.

3. The CONTRACTOR shall provide and operate pumping plants, pipelines, valves, hydrants, storage tanks, and other equipment necessary to store and convey an adequate supply of water from the source to each work area. The design of the storage and conveyance system shall include consideration of the CONTRACTOR'S plan for fire protection. A reduced-pressure-principle backflow preventer or air gap shall be installed by the CONTRACTOR at each connection point of the CONTRACTOR'S water supply

system to the source. The backflow preventer shall be tested by a certified backflow preventer assembly tester, and a copy of the report shall be provided to the ENGINEER. The CONTRACTOR shall provide secondary containment for canal-side pumps to ensure that no oil or other contaminants enter the water supply.

4. Treated and untreated water supply outlets shall be labeled in accordance with applicable laws and regulations.

9.4 ELECTRICITY

1. Electrical Power: The CONTRACTOR shall provide the power required for its operations. The CONTRACTOR shall provide and maintain, in good order, power equipment and installations to perform the work required.

   a. Construction Lighting: When work is permitted to be conducted at night or under conditions of deficient light, the work area shall be suitably lighted to afford adequate illumination for performance and inspection of the work. Lighting for construction activities shall be directed away from residential areas, public highways, and roads.

2. Construction Electrical Wiring and Equipment: Construction electrical wiring and equipment shall be in accordance with CCR Title 8 and NEC.

9.5 TELEPHONE

1. The CONTRACTOR shall provide and maintain the telephone equipment and service required for its operations. At all times during the progress of the work, not less than one telephone shall be maintained in good order at each work site.

2. Calls originated by DISTRICT employees that involve toll or message unit charges shall be billed to DISTRICT by the CONTRACTOR on an invoice substantiated by a copy of the telephone company billing.

9.6 SANITATION

1. The CONTRACTOR shall provide and maintain sanitary conveniences for the use of all persons employed on the work. They shall be in sufficient number and at such places as ordered or approved by the ENGINEER and shall be in accordance with CCR Title 8.

   a. Fixed or portable chemical toilets shall be provided wherever needed for the use of employees.

   b. Washing facilities shall be provided wherever needed for the use of employees.

2. Sanitary fixtures, receptacles, toilet rooms, washrooms, and lavatories shall be kept clean and shall be frequently disinfected. The cleaning and disinfection of sanitary conveniences shall not be less than twice a week.

9.7 OTHER UTILITIES

1. The CONTRACTOR shall provide and maintain all other utilities required for its operations under the Contract.

9.8 REMOVAL OF TEMPORARY UTILITES

1. Each temporary utility shall be removed, as soon as the need for it has ended.

2. The CONTRACTOR shall remove the CONTRACTOR'S field office promptly upon written direction from the ENGINEER. Utility services shall be disconnected and capped. The area shall be restored, clean and free of any evidence of scarred landscape or damage to the surrounding vegetation.

(END OF SECTION)

10.0 ACCESS, PARKING, AND TRAFFIC

10.1 REFERENCES

1. General

   a. The publications listed below form a part of this specification to the extent referenced.

   b. Where a date is given for reference standards, the edition of the date shall be used. Where no date is given for reference standards, the latest edition available on the date of the Notice Inviting Bids shall be used.

2. Caltrans Manual of Traffic Controls for Construction and Maintenance Work Zones.

10.2 SUBMITTALS

1. The CONTRACTOR shall submit a copy of the haul route permit, if applicable.

10.3 ACCESS TO WORK SITE

1. The CONTRACTOR shall coordinate with the ENGINEER to determine appropriate routing of vehicles and personnel to and from the project.

2. In case of need to enter the site after normal working hours, access shall be arranged in advance with the ENGINEER.

3. The CONTRACTOR shall confine its activities and operations within the work area shown on the Drawings except as otherwise permitted by the ENGINEER.

10.4 TRAFFIC CONTROL

1. The CONTRACTOR shall be responsible for the safe movement of vehicular traffic to and from the worksite, including traffic control measures required to ensure safe passage of vehicles and equipment.

2. Traffic control shall be in accordance with CCR Title 8.

   a. At least one (1) flagman shall be provided at each intersection during periods when the CONTRACTOR'S vehicular activity may conflict with other traffic along roads.

   b. The flagman shall ensure that the right-of-way is granted to loaded vehicles and shall provide for safety of all users of the road.

3. Traffic control and signage shall be in accordance with Manual of Traffic Control for Construction and Maintenance Work Zones.

4. Contractor shall obtain an encroachment permit from the County of Kern or the City of Lamont, as applicable, and shall prepare and obtain approval of the Plan from the appropriate authorities (see Section 11.0, "Traffic Regulation").

10.5 HAUL ROUTES

1. If a permit is required by local authorities for off-site hauling of materials, the CONTRACTOR shall prepare the truck-routing plan, obtain the permit, and submit a copy

of the permit to the ENGINEER before construction begins.

2. The plan shall include provisions for cleaning soil and rock from the truck route.

3. Consideration shall be given to weight restrictions on all roads.

4. The CONTRACTOR shall obtain approval of the local authority for construction signage along the haul route to notify the public of the potential for delay.

5. The CONTRACTOR shall inform the ENGINEER and local authorities when hauling operations are to begin and end.

10.6 ACCESS ROADS

1. Throughout the entire Contract period, the CONTRACTOR shall share access roads, both those constructed by the CONTRACTOR or otherwise provided for CONTRACTOR'S use, with the DISTRICT and other CONTRACTORS whose work is adjacent to the CONTRACTOR'S work.

a. Coordination with other CONTRACTORS shall be the responsibility of the CONTRACTOR. In case of conflicts or disputes, the Engineer's decision will be final.

b. The CONTRACTOR shall be responsible for the maintenance and upkeep of access roads constructed by the CONTRACTOR.

c. The CONTRACTOR shall provide dust control on project site access roads used in CONTRACTOR operations and on those roads subject to dust because of conditions created by the work.

(1) Roads shall be sprayed by water truck at least daily or more frequently during actual haul operations.

d. If any paved access roads become damaged during the work, the CONTRACTOR shall promptly repair them with equivalent surfacing.

10.7 PARKING

1. On-site parking areas for CONTRACTOR personnel shall be limited to the areas approved by the DISTRICT.

a. Parking areas required in excess of those areas shown shall be developed by the CONTRACTOR, off-site, at the CONTRACTOR'S expense.

b. The CONTRACTOR shall provide transportation for personnel from parking areas to the work areas.

c. The CONTRACTOR'S personnel, suppliers, and delivery vehicles shall not park anywhere other than areas approved by the DISTRICT within the project site fencing.

d. At the CONTRACTOR'S option, the CONTRACTOR'S personnel may park in the area designated for CONTRACTOR storage.

(END OF SECTION)

11.0 TRAFFIC REGULATION

11.1 DESCRIPTION

This Section describes procedures for traffic regulation during construction in public streets and highways, if applicable as determined by the DISTRICT.

11.2 STANDARD SPECIFICATIONS

Wherever reference is made to the State Specifications and Plans, such reference shall mean the State of California, Business and Transportation District, Department of Transportation Standard Specifications and Plans, 1992 edition for English units.

11.3 SUBMITTALS

The CONTRACTOR shall provide a complete plan for traffic control during the project to the DISTRICT prior to the execution of work, if applicable.

11.4 MEASUREMENT AND PAYMENT

Payment for conforming to all of the traffic control requirements of these Specifications shall be considered to be included in the contract unit or lump-sum price paid for the various items of work wherein maintenance of traffic and detours is required and no additional allowance will be made therefore.

11.5 GENERAL

1. Provide safe and continuous passage for pedestrian and vehicular traffic at all times.

2. Control traffic at those locations indicated and in conformance with the approved traffic control plans and specifications.

3. Furnish, construct, maintain, and remove detours, road closures, traffic signal equipment, lights, signs, barricades, fences, K-rail, flares, solar-powered flashing arrow signs, miscellaneous traffic devices, flagmen, drainage facilities, paving, and such other items and services as are necessary to adequately safeguard the public from hazard and inconvenience. All such work shall comply with the ordinances, directives, and regulations of authorities with jurisdiction over the public roads in which the construction takes place and over which detoured traffic is routed by the CONTRACTOR. After devices have been installed, the CONTRACTOR shall, at his own expense, maintain and keep them in good repair and working order until no longer required. The CONTRACTOR shall also pay the cost of replacing such devices that are lost or damaged, to such an extent as to require replacement, regardless of the cause of such loss or damage.

4. Prior to the start of construction operations, notify the police, and fire department in whose jurisdiction the project lies, giving the expected starting date, completion date, and the names and telephone numbers of two responsible persons who may be contacted at any hour in the event of a condition requiring immediate emergency service to remove, install, relocate, and maintain warning devices. In the event these persons do not promptly respond or the authority deems it necessary to call out other forces to accomplish emergency service, the CONTRACTOR will be held responsible for the cost of such emergency service.

5. Provide a minimum of 48 hours' notice to the DISTRICT for any work which may affect signal loops, equipment, or devices. In the event that any underground utilities, traffic devices, pipes, or conduits are damaged and require emergency repair by the respective

utility owner, all costs incurred by the utility owner in making such repairs, plus 5% percent for administration costs, shall be paid by the CONTRACTOR.

6. Post the construction information signs at least three (3) weeks prior to construction.

11.6 TRAFFIC CONTROL DEVICES AND SIGNS

1. Traffic control devices and temporary striping shall conform to the State Standard Plans and Specifications. Construction signs shall conform to the latest edition of the State of California Sign Specification Sheets.

2. The placement of construction signing, striping, barricades, and other traffic control devices used for handling traffic and public convenience shall conform to the latest edition of the State of California, Department of Transportation, "Manual of Traffic Controls for Construction and Maintenance Work Zones".

3. Signs shall be illuminated or reflectorized when they are used during hours of darkness. Cones and portable delineators used for night lane closures shall have reflective sleeves. Barricades used in the diversion of traffic shall be equipped with flashers if in place during hours of darkness.

4. During the duration of a detour, cover all existing signs not in accordance with the traffic control plan. Existing signs which are in force shall be relocated to provide visibility from all relocated traffic lanes.

(END OF SECTION)

12.0 DELIVERY, STORAGE, AND HANDLING

12.1 SUBMITTALS

1. Product Data: Two copies of the manufacturer's printed recommendations for storage, handling, and protection of materials, articles, and equipment to be incorporated in the work shall be submitted a minimum of thirty (30) days prior to the receipt of the material, article, or equipment at the site.

2. Test Reports and Certifications: Items requiring certification or mill test reports shall not be delivered or unloaded until 3 copies of the certification or mill test report have been delivered to the ENGINEER's field office.

12.2 GENERAL

1. Materials, articles, and equipment shall be delivered, stored, and handled in accordance with these Specifications and the printed recommendations of the manufacturer; using means and methods that will prevent damage, deteriorations, and loss, including theft.

12.3 DELIVERY

1. Delivery shall be scheduled to minimize long-term storage at the site and to prevent overcrowding of construction spaces. Special emphasis shall be placed on ensuring minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, or other losses.

2. Items shall be delivered to the site in the manufacturer's original sealed container or packaging system, complete with legible and intact labels and instructions for handling, protecting, storing, and unpacking. The label shall include the manufacturer's name, product name, manufacturing batch number (if appropriate), expiration date, ANSI hazard classification and ANSI handling precautions, if applicable.

12.4 STORAGE

1. Items subject to damage by the elements shall be stored in a warehouse or within a weatherproof enclosure or wrap that has adequate ventilation to prevent condensation. Flammable materials shall be stored in a separate area. Temperature and humidity shall be maintained within the range required by the manufacturer's printed recommendations.

2. Materials and equipment that are to be included in the CONTRACTOR'S estimate for partial payment shall be stored in a manner that will facilitate inspection and inventory. Items requiring periodic maintenance or inspection shall be stored in a manner that will facilitate these operations.

3. If the ENGINEER determines that satisfactory storage of an item is not being provided by the CONTRACTOR, the ENGINEER may direct the CONTRACTOR to provide additional protection. If the CONTRACTOR fails to provide the additional protection, protection may be provided by DISTRICT. The cost for providing the protection may be charged to the CONTRACTOR or deducted from payment due the CONTRACTOR.

4. Installed items shall have protection provided equivalent to that specified above, with additional regard for possible damage or loss due to continuing construction operations.

12.5 HANDLING

1. CONTRACTOR shall supply appropriate equipment and personnel to handle materials,

articles and equipment in a safe manner and in a manner that will not cause damage to the product, to the environment, to work in progress, or to work in place.

(END OF SECTION)

13.0 CLEANING DURING CONSTRUCTION & FINAL CLEANING

13.1 GENERAL

1. This Section includes cleaning during construction and final cleaning on completion of the work.

2. At all times maintain areas covered by the Contract and adjacent properties and public access roads free from accumulations of waste, debris, and rubbish caused by construction operations.

3. Conduct cleaning and disposal operations to comply with local ordinances and antipollution laws. Do not burn or bury rubbish or waste materials on project site. Do not dispose of volatile wastes, such as mineral spirits, oil, or paint thinner, in storm or sanitary drains. Do not dispose of wastes into streams or waterways.

4. Use only cleaning materials recommended by manufacturer of surface to be cleaned.

13.2 CLEANING DURING CONSTRUCTION

1. During execution of work, clean site, adjacent properties, and public access roads and dispose of waste materials, debris, and rubbish to assure that buildings, grounds, and public properties are maintained free from accumulations of waste materials and rubbish.

2. Wet down dry materials and rubbish to lay dust and prevent blowing dust.

3. Provide containers for collection and disposal of waste materials, debris, and rubbish.

4. Cover or wet excavated material leaving and arriving at the site to prevent blowing dust. Clean the public access roads to the site of any material falling from the haul trucks.

13.3 FINAL CLEANING

1. At the completion of work and immediately prior to final inspection, clean the entire project site as follows.

2. Clean, sweep, and pick-up all work, equipment, and trash from the area.

3. Grade project site to be smooth, flat and uniform as approved by the ENGINEER.

4. Ensure that all holes, tubes, and casings are adequately capped and covered to prevent access to openings as approved by the ENGINEER.

5. Remove from the site all temporary - structures and all materials, equipment, and appurtenances not required as a part of, or appurtenant to, the completed work.

6. Wash down all paved areas and remove all sediment and debris for the project area.

(END OF SECTION)

14.0 CONTROL OF THE WORK

14.1 AUTHORITY OF ENGINEER

The ENGINEER is defined as the person or firm authorized by the DISTRICT to represent it during the performance of the work by the CONTRACTOR. The ENGINEER shall include persons, designated by the ENGINEER in writing to the CONTRACTOR, expressly authorized to act for the ENGINEER when the ENGINEER is not available to make decisions or take action required of the ENGINEER under the Contract Documents. The ENGINEER has the authority to decide all questions which may arise as to the quality or acceptability of materials furnished and work performed; and as to the manner of performance and rate of progress of the work; all questions which arise as to the interpretation of these Contract Documents; all questions as to the acceptable fulfillment of the Contract on the part of the CONTRACTOR; and all questions as to compensation. The ENGINEER's decision shall be final and not subject to appeal to DISTRICT staff or Board of Directors. The ENGINEER shall further have the authority to implement decisions by direction to the CONTRACTOR which CONTRACTOR shall carry out promptly.

14.2 USE OF MATERIALS FOUND ON THE PROJECT SITE

The DISTRICT does not warrant the suitability of any native material on the Project Site for use in the Project. The CONTRACTOR, with the approval of the ENGINEER, may use in the proposed construction such stone, gravel, sand or other material as may be found on the Project Site and deemed suitable in the opinion of the ENGINEER. The CONTRACTOR shall replace at his/her own expense all of that portion of the material so removed and used with other suitable material. No charge for native materials so used will be made against the CONTRACTOR. The CONTRACTOR shall not excavate or remove any material from any roadway location that is not within the excavation, as indicated by the slope and grade lines shown on the Contract Drawings, without written authorization from the ENGINEER.

14.3 CONFORMITY WITH PLANS AND ALLOWABLE DEVIATIONS

Pipes, structures and finished surfaces in all cases shall conform to the lines, grades, cross-sections and dimensions shown on the Plans. Deviations from the Contract Drawings as may be required by the exigencies of the construction will be in all cases determined by the ENGINEER and authorized in writing only.

14.4 COORDINATION OF GENERAL CONDITIONS, SPECIAL PROVISIONS, PLANS AND DRAWINGS

These General Conditions, Special Provisions, Technical Provisions, Plans, Drawings, Contract Change Orders, and all supplementary documents are essential parts of the Contract, and a requirement occurring in one (1) is as binding as though occurring in all. All parts are intended to be cooperative and to describe and provide for a complete work. In the event of conflict between Sections, the most stringent requirements shall apply.

14.5 INTERPRETATION OF DRAWINGS AND SPECIFICATIONS

Should it appear that the work to be done, or any matter, is not sufficiently detailed or explained in the Contract Documents, the CONTRACTOR shall apply to the ENGINEER for such further explanations as may be necessary and shall conform to them as part of the Contract, so far as may be consistent with the DISTRICT'S original intent. Any reference made in these Specifications or on the Drawings to any specification, standard, method, or publication shall be understood to refer to the latest revision of the reference. In the event of any discrepancy between any drawing and the figures written thereon, the figures shall be taken as correct.

14.6 SUPERINTENDENCE

Before starting work, the CONTRACTOR shall designate in writing an authorized representative who shall have complete authority to represent and act for the CONTRACTOR. An authorized representative of the CONTRACTOR shall be present at the Project Site at all times while work is in progress. Whenever the CONTRACTOR is not present on any part of the work where his/her presence may be desired to give direction, orders may be given by the ENGINEER in writing, and shall be received and obeyed by the superintendent or foreperson in charge of the particular work in reference to which orders are given. The ENGINEER shall have the authority to remove from the Project any employee of CONTRACTOR or any subcontractor, including, without limitation, any superintendent, foreman or other authorized representative, who refuses to obey an order or otherwise delays or disrupts the Project.

The CONTRACTOR shall supervise and direct the work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the work in accordance with the Contract Documents. The CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, but the CONTRACTOR shall not be responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence, or procedure of construction where indicated in and required by the Contract Documents.

The CONTRACTOR shall be responsible to see that the completed work complies with the Contract Documents.

14.7 INSPECTION

One (1) or more inspectors may be assigned to observe the work and to act in matters of construction under this Contract. Such inspectors shall have the power to issue instructions and make decisions within the limitations of the authority of the ENGINEER. Such inspection shall not relieve the CONTRACTOR of the obligations to conduct comprehensive inspections of the work, to furnish materials, to perform acceptable work, and to provide adequate safety precautions in conformance with the intent of the Contract. Neither the inspection by the DISTRICT through the ENGINEER, the DISTRICT Inspector or any DISTRICT employees, nor any order by the DISTRICT for payment of money, nor any payment for, or acceptance of, the whole or any part of the work by the DISTRICT, nor any extension of time, nor any possession taken by the DISTRICT or its employees, shall operate as a waiver of any provision of this Contract, or any power herein reserved to the DISTRICT or any right to damages herein provided, nor shall any waiver of any breach in this Contract be held to be waiver of any other or subsequent breach.

14.8 FINAL INSPECTION

When the Contract work has been completed, the CONTRACTOR shall file notification in writing with the ENGINEER, and the ENGINEER will make a final inspection.

14.9 REMOVAL OF DEFECTIVE OR UNAUTHORIZED WORK

All work which has been rejected shall be remedied or removed and replaced by the CONTRACTOR in an acceptable manner and no compensation will be allowed for such removal or replacement. Any work done beyond the lines and grades shown on the Contract Drawings or established by the ENGINEER, or any extra work done without written authority will be considered as unauthorized and will not be paid for. Work so done may be ordered removed at the CONTRACTOR's expense. Upon failure on the part of the CONTRACTOR to comply promptly with any order of the ENGINEER made under the provisions of this article, the ENGINEER shall have the authority to cause defective work to be remedied or removed and replaced, and unauthorized work to be removed, and to deduct the costs from any monies due or which become due the CONTRACTOR.

14.10 EQUIPMENT

The CONTRACTOR shall provide adequate and suitable equipment to produce the quality and quantity of work required, and, when ordered by the ENGINEER, shall remove unsuitable equipment from the site. All vehicles used to haul materials over existing highways shall be equipped with pneumatic tires.

14.11 RIGHT OF DISTRICT TO TERMINATE CONTRACT

14.11.1 Termination for Convenience - The DISTRICT may terminate this Contract in whole or in part at any time by written notice to the CONTRACTOR, if the DISTRICT determines that termination is in its interest or the public interest. If the Contract is so terminated CONTRACTOR shall be entitled to payment for all work performed acceptably and to payment for all acceptable goods or services ordered by and delivered to CONTRACTOR before receipt of the written notice of termination, and to all reasonable costs of closing out the Contract, provided that CONTRACTOR provides a final itemized invoice for the above amounts within thirty (30) days after receiving the termination notice. CONTRACTOR shall not be entitled to its as-bid profit for the project or any work not performed. Profit on work performed shall be paid at the contract rates for time-and-materials extra work, provided that no profit shall be paid for mobilization, record Drawings, or O&M Manual line items, as applicable.

14.11.2 Termination for Cause - If the work to be done under this Contract shall be abandoned by the CONTRACTOR, or if this Contract shall be assigned by CONTRACTOR otherwise than as herein provided, or if a general assignment of assets be made for the benefit of creditors, or if a receiver should be appointed for the CONTRACTOR or any of CONTRACTOR's property, or if at any time the ENGINEER finds that the performance of the work under this Contract is being unnecessarily delayed or that the CONTRACTOR is violating any of the conditions or covenants of this Contract, or executing the same in bad faith or otherwise not in accordance with the terms of said Contract, or if the work be not substantially completed within the time named for its completion or within the time to which such completion date may be extended, then the DISTRICT may serve written notice upon the CONTRACTOR and his/her Surety of said DISTRICT'S intention to terminate this Contract and, unless within five (5) days after the serving of such notice upon the CONTRACTOR, a satisfactory arrangement is made for the continuance thereof, this Contract shall cease and terminate. In the event of such termination, the DISTRICT will immediately serve notice thereof upon the Surety and the CONTRACTOR, and the Surety shall have the right to take over and complete the work; provided, however, that if the Surety does not commence performance within fifteen (15) days from the date of said notice of termination, the DISTRICT may take over the work and prosecute same to completion, by Contract or otherwise, for the account and at the expense of the CONTRACTOR, and the CONTRACTOR and its Surety shall be liable to the DISTRICT for any and all excess costs sustained by the DISTRICT by reason of such prosecution and completion, including, without limitation, all costs incurred by reason of termination and all damages, including liquidated damages, from late completion. In such event the DISTRICT may take possession of, and utilize in completing the work all such plant materials, equipment, and tools as may be on the work site and necessary therefore.

14.12 CONTRACTOR'S RIGHT TO TERMINATE CONTRACT

If the work shall be stopped in its entirety under an order of any court or other public authority for a period of three (3) months through no act or fault of the CONTRACTOR or of anyone employed by him/her, then the CONTRACTOR may on seven (7) days' written notice to the DISTRICT, stop work or terminate this Contract and recover from the DISTRICT payment for all work executed, any losses sustained on any material, and a ten percent (10%) profit on work performed.

14.13 SUSPENSION OF WORK

The DISTRICT reserves the right to suspend and reinstate execution of the whole or any part of the work contracted without invalidating the provisions of the Contract in any way.

Orders for suspension or reinstatement of work will be issued by the DISTRICT to the CONTRACTOR in writing. The time for completion of the work so suspended shall be extended for a period equal to the time lost by reason of the suspension.

Extra direct costs and expenses not including lost profit and/or overhead costs which, in the opinion of the ENGINEER, are caused by work suspensions so ordered by the DISTRICT will be paid by the DISTRICT to the CONTRACTOR.

14.14 CONSTRUCTION WATER

Water for construction and testing purposes required by the Contract Documents at the Project Sites will be available during normal working hours from the DISTRICT'S system as approved by the DISTRICT at no cost to the CONTRACTOR. Arrangements and verifications as to the sources, locations, and times for water use by the CONTRACTOR shall be made with the DISTRICT prior to any and all water use. The CONTRACTOR shall make all arrangements and supply all pumps, hoses, fittings, or other related items for drawing water at no cost to the DISTRICT. Any costs of water for repair of defective work, re-testing of rejected work, cleanup of CONTRACTOR's equipment or repair of damage to property of third parties, shall be borne by CONTRACTOR.

14.15 EROSION AND SEDIMENT CONTROL

All actions and costs for erosion and sedimentation control shall be the responsibility of the CONTRACTOR.

The CONTRACTOR shall provide all reasonable erosion and sedimentation control measures that may be required by the state, county, and/or local jurisdictions and to protect disturbed ground from erosion and watercourses from sedimentation. Areas of clearing, grading and/or other disturbance shall be confined within the limits shown on the plans, or as marked by the ENGINEER, to prevent undue damage by construction.

Precautions shall be taken by the CONTRACTOR to ensure that vehicles and equipment do not track and/or spill earth and/or materials onto public and/or private streets, roads, or rights-of-way. Any spillage and/or tracking shall be immediately removed should erosion and/or sediment discharge occur, even on a temporary basis, control measures shall immediately be taken by the CONTRACTOR to avoid further problems.

Proper erosion control measures and practices shall be followed during construction. An Erosion and Sediment Control Plan shall be submitted to the DISTRICT for its records not later than ten (10) days before implementing any erosion control measures or practices included in the plan. CONTRACTOR shall be responsible for the filing of all notices required by the State Water Resources Control Board for the compliance with all permits applicable to storm water and erosion control during construction.

14.16 SURFACE RESTORATION

Surface restoration shall be defined as that work necessary to restore the excavated area above backfill and the scarred surrounding work areas to a condition equivalent to or better than existed prior to the construction. This may include pavement replacement, seeding, shrub and plant replacement, and restoration of ditches and drainage areas.

The replacement of grass and/or wild flowers shall be accomplished by seeding. The kind and type of seed is to be determined by the ENGINEER. Replacement of plants and shrubs shall be required

where the easement travels through a developed parcel. In this case the DISTRICT or Developer and CONTRACTOR shall agree before proceeding as to which plants and shrubs shall be saved or replaced.

The restoration of trench surfaces shall include measures to prevent surface erosion of the trench. This shall include seeding, cutoff walls, surface header boards, water bars, interceptor dikes, gravel filter dikes, or rip rap energy dissipaters. These measures shall be used as required to prevent surface erosion.

14.17 POLLUTION CONTROL

Water - Oily or greasy substances, or other materials harmful to fish life, originating from the CONTRACTOR's operation shall not be allowed to enter or be placed where they may later enter any river, creek, canal, stream, or other water way. The CONTRACTOR shall not increase the turbidity of any watercourse flowing past the construction site unless precautions are taken downstream of the work to limit the increase in turbidity to a maximum of 25 Jackson Turbidity Units. CONTRACTOR shall be responsible for preparing a Storm Water Pollution Prevention Plan (SWPPP) and complying with such plan during the construction project.

Noise - It shall be the CONTRACTOR's responsibility to keep noise pollution due to construction activities as low as possible. In no case shall noise levels produced by the CONTRACTOR exceed any of these maximums or the Community Standards whichever are more stringent:

14.17.1 No individual piece of equipment shall produce a noise level exceeding 55 dBA at a distance of twenty-five feet (25'). Equipment in excess of this level shall be mitigated with the use of sound barrier walls.

14.17.2 The noise level at any point outside the right-of-way or temporary construction area shall not exceed 55 dBA during non-working hours. No equipment violating these standards shall be allowed to operate. Operations in excess of this level shall be mitigated with the use of sound barrier walls.

Air - The CONTRACTOR shall comply with all state and local pollution control regulations. No burning shall be allowed on the Project. Idling of internal combustion engines shall be held to an absolute minimum. All work shall conform to the San Joaquin Valley Air Pollution Control District (SJVAPCD) and the California Air Resources Board (CARB). CONTRACTOR shall be responsible for preparing a Dust Control Plan and obtaining permits, if necessary, and shall be responsible for all associated costs.

14.18 SITE SECURITY

The CONTRACTOR shall provide in advance of starting construction, a list of all employees and vehicles that need access to the site. The CONTRACTOR shall provide periodic updates to this list. The CONTRACTOR shall provide a list of all scheduled deliveries to the Project Site. This list shall include the items to be delivered, the name of the delivery company and the time the delivery is to be made.

All access gates to the Project Site are to remain closed and locked at all times that traffic is not using the gates. The CONTRACTOR will be assigned a specific access point at the Project Site. The CONTRACTOR may provide security personnel for access control during Project work hours.

It is the CONTRACTOR's sole responsibility to secure all equipment, material, tools and other items used during the execution of the Contract.

14.19 HAZARDOUS WASTES AND UNFORESEEN CONDITIONS

In accordance with Section 7104 of the California Public Contract Code, if the work contemplated hereunder involves digging trenches or other excavations that extend deeper than four (4) feet below the

surface, the CONTRACTOR shall promptly, and before the following conditions are disturbed, notify the DISTRICT, in writing, of any: (I) material that the CONTRACTOR believes may be material that is hazardous waste, as defined in Section 25117 of the California Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law; (ii) subsurface or latent physical conditions at the site differing from those indicated; or (iii) unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.

The DISTRICT will promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the CONTRACTOR's cost of, or time required for, performance of any part of the work shall issue a change order under the procedures described in this Contract. In the event that a dispute arises between the DISTRICT and the CONTRACTOR whether the conditions materially differ, or involve hazardous waste, or cause decrease or increase in the CONTRACTOR's cost of, or time required for, performance of any part of the work, the CONTRACTOR shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all work to be performed under the Contract. The CONTRACTOR shall retain any and all rights provided either by Contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

14.20 EXISTING UTILITIES

The CONTRACTOR shall contact the following parties to ascertain and verify the existence and location of utility lines and facilities and shall coordinate all work in accordance with the information obtained from such inquiries in order to prevent damage to such lines and facilities.

Underground Service Alert (USA) (1-800-642-2444)

Prior to conducting any excavation, the CONTRACTOR shall contact the appropriate regional notification center as required by Government Code Section 4216 et seq. In accordance with Government Code Section 4215, the CONTRACTOR shall be compensated for the costs of locating, repairing damage not due to the failure of the CONTRACTOR to exercise reasonable care, and removing or relocating existing main or trunkline utility facilities not indicated in the Contract Plans and Specifications with reasonable accuracy, and for the equipment on the Project necessarily idled during such work; provided that the CONTRACTOR shall first notify the DISTRICT before commencing work on locating, repairing damage to, removing or relocating such utilities.

Any sewer crossings shall conform to the State Health Department regulations for water/sewer separation and materials. Cost for special pipeline materials to meet Health Department regulations, and repair of services damaged shall be included in the cost of the bid items to which the work is appurtenant. No separate payment will be made.

The ENGINEER or his/her representative has endeavored to determine the existence of utilities at the work site from the records of the DISTRICT's of known utilities in the vicinity of the work. The positions of these utilities, as derived from such records, are shown on the Plans. The service connections to these utilities may not be shown on the Plans.

The CONTRACTOR shall make his/her own investigations, including exploratory excavations, to determine the facilities, such as buildings, meters and junction boxes, on or adjacent to the work site. locations and type of existing service laterals or appurtenances when their presence can be inferred from the presence of other visible

14.21 SUBCONTRACTS

The attention of the CONTRACTOR is directed to the provisions of Public Contract Code Sections 4100-4114, regarding subcontracting and said provisions are by this reference incorporated herein and made a part hereof.

Each Subcontract shall contain a suitable provision for the suspense or termination thereof should the work be suspended or terminated or should the subcontractor neglect or fail to conform to every provision of the Contract Documents insofar as such provisions are relevant. No subcontractor or supplier will be recognized as such, and all persons engaged in work will be considered as employees of the CONTRACTOR, and the CONTRACTOR will be held responsible for their work, which shall be subject to the provisions of the Contract Documents. The CONTRACTOR shall be fully responsible to the DISTRICT for the acts or omissions of his/her subcontractors and the persons either directly or indirectly employed by him/her. Nothing contained in the Contract Documents shall create any contractual rights for a subcontractor against the DISTRICT. If a legal action, including arbitration and litigation, against the DISTRICT is initiated by a subcontractor or Supplier, the CONTRACTOR shall reimburse the DISTRICT for the amount of legal, engineering and all other expenses incurred by the DISTRICT in defending itself in said action.

The DISTRICT and the ENGINEER reserve the right to approve all subcontractors. The DISTRICT and the ENGINEER shall have the right to cause the CONTRACTOR to remove subcontractors and have them replaced with subcontractors approved by the DISTRICT and the ENGINEER.

(END OF SECTION)

15.0 CONTROL OF MATERIALS

15.1 STORAGE OF MATERIALS

Materials shall be stored to ensure the preservation of their quality and fitness for the work. When considered necessary by the ENGINEER, they shall be placed on wooden platforms or other hard, clean surfaces and not on the ground. They shall be placed under cover when so directed. Stored materials shall be located to facilitate prompt inspection. Materials shall not be located or stored where detrimental to traffic and pedestrians. All material paid for as "Materials on Hand" shall be securely stored and shall be covered by the CONTRACTOR's fire and theft insurance.

15.2 DELIVERY OF MATERIALS

The CONTRACTOR shall furnish the ENGINEER with a duplicate delivery ticket for all materials to be used in the work. The delivery tickets shall show the quantity and type of materials to be used in the work.

15.3.1 MATERIALS AND EQUIPMENT

Unless specifically provided otherwise in each case, all materials and equipment furnished for permanent installation in the work shall be new, unused and undamaged when installed or otherwise incorporated in the work.

15.4 MATERIALS SPECIFIED

Whenever any material, process, or article is indicated or specified by grade, patent or proprietary name, or by name of manufacturer, such specification shall be deemed to be used for the purpose of facilitating description of the materials, process, or articles desired and shall be deemed to be followed by the words "or (approved) equal," and the CONTRACTOR may offer any material, process, or article which shall be substantially equal or better in every respect to that so indicated or specified; provided, however, that if the material, process, or article offered by the CONTRACTOR is not, in the opinion of the ENGINEER, equal or better in every respect to that specified, then the CONTRACTOR must furnish the material, process, or article specified or one that in the opinion of ENGINEER is the substantial equal or better in every respect. In the event that the CONTRACTOR furnishes material, process, or article more expensive than that specified, the difference in cost of such material, process, or article so furnished shall be borne by the CONTRACTOR.

All materials, equipment, and supplies provided shall, without additional charge to DISTRICT, fully conform to all applicable state and federal safety laws, rules, regulations, and orders, and it shall be CONTRACTOR's responsibility to provide only such materials, equipment, and supplies notwithstanding any omission in the Contract Documents therefore or that a particular material, equipment, or supply was specified.

In accordance with Section 3400 of the Public Contract Code, the CONTRACTOR shall submit data substantiating requests for substitution of "equal" items within thirty-five (35) days after award of the Contract.

15.5 REMOVAL OF DEFECTIVE OR UNAUTHORIZED MATERIALS

The CONTRACTOR, upon written notice from the DISTRICT, shall remove from the premises all materials condemned or rejected by the DISTRICT, as defective, unsound, or improper, or in any way failing to conform to the requirements of the Contract Documents. The CONTRACTOR shall at his/her sole expense, make good all work destroyed or damaged by such removal, and promptly replace materials damaged or improperly worked by him/her and re-execute his/her own work in accordance with the Contract without expense to the DISTRICT. This includes re-executing or replacing the work of any other contractor that is in any way affected by the removal of such defective work of the CONTRACTOR. The obligations of the CONTRACTOR under this Section shall not extend to defective materials or

equipment supplied by the DISTRICT for incorporation into the work performed under this Contract. If the CONTRACTOR does not respond within ten (10) days after written notice, the DISTRICT may remove and replace such materials at the expense of the CONTRACTOR.

15.6 SUBMITTALS

Submittals will be required for all materials, equipment, fabricated articles and purchased items. No portion of the work requiring a shop drawing submittal shall be commenced until the submittal has been reviewed by the ENGINEER and returned to the CONTRACTOR with a notation indicating that resubmittal is not required. Submittals required by the Specifications shall be in accordance with this section, the Technical Specifications, and Section 4.0 of the General Conditions titled “Submittals”, unless otherwise specified. Submittals not in accordance with the section requiring the submittal will be returned to the CONTRACTOR as unsatisfactory. Prior to transmission to the ENGINEER, the CONTRACTOR shall carefully review each submittal to confirm that it is complete and to verify whether or not the proposed items of work conform to Contract requirements. Each submittal shall be dated, signed, and certified by the CONTRACTOR as being correct and in conformance with the Drawings and the Specifications.

The ENGINEER will not review any items which have not been certified by the CONTRACTOR. All non-certified submittals will be returned to the CONTRACTOR without action taken by the ENGINEER, and any delays caused thereby shall be the responsibility of the CONTRACTOR. Items that are not in accordance with the Contract requirements shall be conspicuously noted as such. The CONTRACTOR shall identify each proposed deviation on the corresponding letter of transmittal and include a written explanation of the necessity for each deviation with the letter of transmittal. Deviations that are not conspicuously marked on both the letter of transmittal and the corresponding drawing or data will be deemed to have been disapproved by the ENGINEER or not reviewed by the ENGINEER.

Only those products that have been approved at the time of opening bids will be acceptable for use in the work; except, products may be approved after the bid opening date when there is sufficient time within the Contract period to permit testing and qualification.

Criteria pertaining to the qualification of products may be obtained from the ENGINEER. No extension of time will be granted for the purpose of testing and qualifying proposed products. If the CONTRACTOR believes that any shop drawing or communication relative thereto calls for changes in the work for which the Contract amount or time for completion should be changed, he/she shall not proceed with the changes in the work so called for and shall promptly notify the ENGINEER in writing of his/her estimate of the changes in the Contract amount and time for completion he/she believes to be appropriate

The CONTRACTOR shall refer to Section 4.0 of the General Conditions, “Submittals” and the Technical Specifications for project specific submittal requirements.

15.7 MANUALS AND RECORD DRAWINGS

Service and Parts Manuals - The CONTRACTOR shall furnish the DISTRICT four (4) copies of all installation, operation, and service manuals, with a parts list for each piece of equipment furnished. The service and parts manuals shall be labeled, indexed, and organized in three (3)-ring binders.

Record Drawings - On the job, the CONTRACTOR shall maintain an up-to-date marked set of the As-Built Contract Drawings, showing the location and details of any changes made during construction. The CONTRACTOR shall give the DISTRICT a clean, marked set of the As-Built Contract Drawings showing construction changes before final payment and acceptance of the work. These shall be received and approved by the ENGINEER prior to final acceptance of electrical work.

15.8 PLACING WORK IN SERVICE

If desired by the DISTRICT, portions of the work may be placed in service when completed, and the CONTRACTOR shall provide proper access to the work for this purpose. Nothing in this article shall be construed as relieving the CONTRACTOR of the full responsibility for completing the work in its entirety, for making good all defective work and materials, for protecting the work from damage, and for being responsible for damage and for the work as set forth in the General Provisions and other Contract Documents, nor shall such action by the DISTRICT be deemed completion and acceptance, and such action shall not relieve the CONTRACTOR, his/her sureties, or insurers of the provisions as outlined in the Contract Document Sections titled “Contractor’s Certificate Regarding Worker’s Compensation Insurance”, “Worker’s Compensation and Employer’s Liability Certificate of Insurance”, “Worker’s Compensation and Employer’s Liability Insurance Endorsement”, “Liability Insurance Certificate of Insurance”, “Liability Insurance Endorsement”, “Builders’ Risk “All Risk” Certificate of Insurance”, and “Builders’ Risk “All Risk” Insurance Endorsement” on CONTRACTOR’S INSURANCE, and the article on INDEMNIFICATION.

(END OF SECTION)

16.0 WARRANTIES AND REPAIRS

The CONTRACTOR hereby agrees to pay to the DISTRICT, or to make at his/her own expense, all repairs, replacements or payments necessitated by defects in materials or workmanship supplied under the terms of this Contract which exist within one (1) year after the date of final acceptance of the work. This agreement shall cover defects which shall be in existence during such one (1) year period but which shall not become apparent until thereafter. The CONTRACTOR shall be fully responsible for all direct and indirect damages and expenses to the DISTRICT proximately caused by such defects in materials or workmanship including defects in materials or workmanship supplied to the CONTRACTOR by any subcontractor or manufacturer of equipment. As to any equipment which bears a guarantee or warranty in writing or by law for a period longer than one (1) year, CONTRACTOR hereby stipulates and agrees that such guarantee shall inure to the benefit of the DISTRICT for such longer period. The effective date for the start of the guarantee or warranty period shall be the date of recordation of the Notice of Completion. The CONTRACTOR also agrees to hold the DISTRICT harmless from liability of any kind arising from damage due to said defects. The CONTRACTOR shall make all repairs and replacements or payments promptly upon receipt of written order for same from the DISTRICT. If the CONTRACTOR fails to make the repairs, replacements or payments promptly, the DISTRICT may do the work, and the CONTRACTOR and his/her Surety shall be liable for the cost thereof.

(END OF SECTION)

17.0 LEGAL RELATIONS AND RESPONSIBILITY

17.1 LAWS TO BE OBSERVED

The CONTRACTOR shall keep fully compliant with all local, county, state and federal laws and ordinances and regulations which in any manner affect those engaged or employed in the work, or the manufacture of materials used in the work, or which in any way affect the conduct of the work, and of all such orders and decrees of those having any jurisdiction or authority over the same.

17.1.1 Hours of Labor - The CONTRACTOR shall forfeit, as penalty to the DISTRICT, twenty-five dollars ($25.00) for each worker employed in the execution of the Contract by the CONTRACTOR or by any subcontractor of any tier under the CONTRACTOR, for each calendar day during which such worker is permitted or required to labor more than eight (8) hours in any one day or forty (40) hours per one (1) calendar week, unless compensated at not less than time and a half per provisions of the Labor Code, Section 1810 to Section 1816 thereof, inclusive.

17.1.2 Exception - If the prevailing wage determination requires a higher rate of pay for overtime work than is required under Labor Code Section 1815, then that higher overtime rate shall be paid as specified in subsection 16200(a)(3)(F) of the Title 8, California Code of Regulations.

17.1.3 Labor Discrimination - A contractor shall not discriminate in the employment of persons upon public works on any basis listed in Subdivision (a) of Section 12940 of the Government Code, as those bases are defined in Sections 12926 and 12926.1 of the Government Code, except as otherwise provided in Section 12940 of the Government Code. Every contractor for public works who violates this Section is subject to all the penalties imposed for a violation of this Chapter.

17.1.4 Prevailing Wage - The minimum rates of wages applicable to the work to be done have been determined in accordance with the provisions of Sections 1770 et seq. of the California Labor Code.

Copies of the current schedules for prevailing wages are on file in the DISTRICT'S office, and the contents of those schedules are included herein as if set forth in full. The CONTRACTOR shall post at each job site in a place readily available to all workers the current prevailing wage rate for each craft, group, and worker working on the job.

The CONTRACTOR shall forfeit, as penalty to the DISTRICT, fifty dollars ($50.00) for each calendar day, or portion thereof, for each worker paid less than the prevailing rates for any work done under the Contract by him/her or by any subcontractor under him/her, in violation of the provisions of the Labor Code and in particular, Sections 1770 to 1780 thereof, inclusive. In addition to this penalty, the difference between such prevailing wage rate and the amount actually paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the CONTRACTOR.

The DISTRICT will not recognize any claim for additional compensation because of the payment by the CONTRACTOR of any wage rate in excess of the prevailing wage rate adopted by the DISTRICT. The possibility of wage increases is one of the elements to be considered by the CONTRACTOR in determining bid prices and will not under any circumstances be considered as the basis of a claim against the DISTRICT.

The District will establish a PWC100 with DIR for the project within 30 days of the contract's award. All contractors and subcontractors shall be registered with DIR per SB96.

17.1.5 Payroll Records - Attention is directed to Section 1776 of the Labor Code of the State of California. Regulations complementing said Section 1776 are located in Sections 16000 and Sections 16400 through 16403 of Title 8, California Code of Regulations. The CONTRACTOR is

required to comply with the provisions of Section 1776 of said Labor Code. The CONTRACTOR shall also be responsible for compliance by his/her subcontractors.

17.1.6 Reporting Requirements and Sanctions - Failure to provide specific information, records, reports, certifications, or any other documents required for compliance with these Specifications shall be considered noncompliance. The minimum documents required include:

List of Subcontractors - Due seven (7) calendar days after date of Preconstruction Conference;

Certified Payroll Reports - An original and three (3) legible copies are due within seven (7) calendar days, upon the request of the ENGINEER;

Fringe Benefit Statement - Due with first payroll report and any time thereafter that fringe benefits change; and

Apprenticeship Certifications - Due with the first payroll report on which the apprentice appears. Other documentation may be required depending on the source of funding for the Project.

17.1.7 Apprentices - In accordance with the provisions of Section 1777.5 of the Labor Code, and in accordance with the regulations of the Department of Industrial Relations, Division of Apprenticeship Standards, the appropriate number of properly indentured apprentices are to be employed in the prosecution of the work. Information relative to number of apprentices, identification, wages, hours of employment, and standards of working conditions shall be obtained from the Department of Industrial Relations, Division of Apprenticeship Standards.

17.1.8 Fair Labor Standards Act - Bidders note the fact that Contractors are required to meet the provisions of the Fair Labor Standards Act of 1938, and as amended (52 Stat. 1060).

17.1.9 Registration of Contractors - In accordance with the provisions of Chapter 9, Division 3 of the Business and Professions Code and Section 3300 of the Public Contract Code, bidders must possess a State of California Contractor's License for the proper classification which must be valid at the time of bid, award, and until completion of the Contract.

CONTRACTORS ARE REQUIRED BY LAW TO BE LICENSED AND REGULATED BY THE CONTRACTORS' STATE LICENSE BOARD. ANY QUESTIONS CONCERNING A CONTRACTOR MAY BE REFERRED TO THE REGISTRAR, CONTRACTORS' STATE LICENSE BOARD, 9835 GOETHE ROAD, SACRAMENTO, CALIFORNIA. MAILING ADDRESS: P.O. BOX 26000, SACRAMENTO, CALIFORNIA 95826.

17.1.10 Permits and Licenses - The CONTRACTOR shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work. The costs for permits and inspections shall be included in the price entered in the Proposal under the line item entitled "Mobilization and Demobilization". When the terms of permits obtained by either the CONTRACTOR or the DISTRICT require inspections by agencies or authorities other than the DISTRICT, the CONTRACTOR shall schedule the inspections and notify the ENGINEER a minimum of twenty-four (24) hours prior to the inspection being performed.

All work performed within road rights-of-way shall be done in accordance with the requirements of the Kern County Department of Public Works encroachment permit or City of Lamont encroachment permit, as applicable. It shall be the responsibility of the CONTRACTOR to determine all requirements of said entities and to comply with all requirements. The

CONTRACTOR shall be responsible for ascertaining the need for and obtaining any additional permits required. If there are conflicts among the requirements of said entities and DISTRICT'S requirements, the most restrictive requirements shall be used.

17.1.11 Codes - The codes and regulations, together with local amendments when applicable adopted by the state and other governmental authorities having jurisdiction, shall establish minimum requirements for this Project. Wherever references are made in the Contract to the respective standards or codes in accordance with work are to be performed or tested, it is to be understood that the revision of the standards in effect on the date of the Bidder's proposal shall apply unless otherwise expressly set forth in the Contract.

17.1.12 Standard Specifications - Where the state standard specifications or the words "Standard Specifications" are referred to, the reference shall be to the Standard Specifications, State of California, State Department of Transportation, ("Caltrans") July 1999, except where in the case where work is subject to Caltrans' approval, in which case the latest addition shall be used. As a minimum, this Project shall comply with the following:

A. California Building Standards Administrative Code, 2001 edition
B. California Building Code, 2001 edition
C. California Electrical Code, 2001 edition
D. California Mechanical Code, 2001 edition
E. California Plumbing Code, 2001 edition
F. California Fire Code, 2001 edition
G. California Code of Regulations: Title 8, Industrial Relations, CAL-OSHA
H. California Code of Regulations: Title 19, Public Safety

17.1.13 Fire Hazard - Flammable, volatile solvents in coating system components constitute a major hazard with regard to fire and explosions wherever flame or spark exposure is possible. All flames, smoking, and unapproved welding, etc., are strictly prohibited in work or storage areas. Fire abatement devices shall be readily available and in operating condition. Necessary precautions shall be taken to keep fire hazard to a minimum; all oily rags, waste, and other combustibles not in covered containers shall be removed from the area daily. All coatings, solvents, thinners and related products shall be stored in conformance with applicable state, county and/or local fire codes pertaining to flammable materials.

17.1.14.1 Public Contracts Code Section 7103.5 - In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the CONTRACTOR or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the CONTRACTOR, without further acknowledgment by the parties.

17.2 EQUAL OPPORTUNITY

During the performance of this Contract, the CONTRACTOR agrees as follows:

17.2.1 The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The CONTRACTOR will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. 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. The CONTRACTOR agrees

to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this Equal Opportunity clause.

17.2.2 The CONTRACTOR will, in all solicitations or advertisements for employees placed by or on behalf of the CONTRACTOR, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

17.2.3 The CONTRACTOR will send to each labor union or representative of workers, with which he/she has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the CONTRACTOR's commitments under this Section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

17.2.4 The CONTRACTOR will comply with all provisions of federal and state law, and of the rules, regulations, and relevant orders of the Secretary of Labor, Director of the California Department of Fair Employment and Housing and/or the California Labor Commissioner.

17.2.5 The CONTRACTOR will furnish all information and reports required by federal or state law, and by the rules, regulations, and orders of the Secretary of Labor, Director of the California Department of Fair Employment and Housing, California Labor Commissioner, or pursuant thereto, and will permit access to his/her books, records, and accounts by the administering district and the Secretary of Labor, Director of the California Department of Fair Employment and Housing or California Labor Commissioner for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

In the event of the CONTRACTOR's noncompliance with the Equal Opportunity clause of this Contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended, in whole or in part, and the CONTRACTOR may be declared ineligible for further DISTRICT contracts, and such other sanctions may be imposed and remedies invoked by rule, regulation, or order of the Secretary of Labor, Director of the California Department of Fair Employment and Housing or California Labor Commissioner.

The CONTRACTOR will include this Equal Opportunity clause in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor, Director of the California Department of Fair Employment and Housing or California Labor Commissioner, so that such provisions will be binding upon each subcontractor or vendor, the CONTRACTOR will take such action with respect to any subcontract or purchase order as the administering district may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided however, that in the event a CONTRACTOR becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering district, the CONTRACTOR may request the administering district to enter into such litigation to protect the interests of the administering district.

The DISTRICT further agrees that it will be bound by the above Equal Opportunity clause with respect to its own employment practices when it participates in assisted construction work.

The DISTRICT agrees that it will assist and cooperate actively with the administering district and the Secretary of Labor, Director of the California Department of Fair Employment and Housing in obtaining the compliance of CONTRACTOR and subcontractors with the Equal Opportunity clause and the rules, regulations and relevant orders of the Secretary of Labor, Director of the California Department of Fair Employment and Housing, that it will furnish the administering district and the Secretary of Labor, Director of the California Department of Fair Employment and Housing such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering district in the discharge of the DISTRICT'S primary responsibility for securing compliance.

17.3 PATENTS

The CONTRACTOR shall assume all costs arising from the use of patented materials, equipment, devices or processes used on or incorporated in the work, and agrees to indemnify and save harmless the DISTRICT, the Directors, the General Manager, the ENGINEER, their employees and duly authorized representatives from all suits at law, or actions of every nature for, or on account of the use of any patented materials, equipment, devices or processes.

17.4 SANITARY PROVISIONS

The CONTRACTOR shall provide sanitary facilities at all work locations.

17.5 PRESERVATION OF PROPERTY

Due care shall be exercised to avoid injury to street improvements or facilities, utilities' facilities, adjacent property per Civil Code 832, and roadside trees and shrubbery that are not to be removed. If ordered by the ENGINEER, the CONTRACTOR shall provide and install suitable safeguards, approved by the ENGINEER, to protect such objects from injury or damage. If such objects are injured or damaged by reason of the CONTRACTOR's operations, they shall be replaced or restored, at the CONTRACTOR's expense, to a condition as good as when the CONTRACTOR began work.

Full compensation for furnishing all labor, materials, tools and equipment and doing all work involved in protecting property as above specified, shall be considered as included in the prices paid for the various Contract items of work, and no additional compensation will be made.

17.6 RESPONSIBILITY FOR DAMAGE

The Directors, the General Manager, the Project Manager, the ENGINEER, volunteers, consultants, and employees of the DISTRICT shall not be answerable or accountable in any manner for any loss or damage that may happen to the work or any part thereof, or for any material or equipment used in performing the work, or for injury or damage to any person or persons, either workers or the public, or for damage to an adjoining property from any cause whatsoever during the progress of the work or at any time before final acceptance.

The CONTRACTOR hereby agrees to defend, indemnify and to hold the DISTRICT, and all representatives, employees, volunteers, consultants, and ENGINEERs of the DISTRICT harmless and free of any and all liability, claims, judgments or damages of whatsoever kind or character, including attorney's fees and costs of all types incurred in defending any of the parties from said claims or liability, which may directly or indirectly arise from acts or omissions of the CONTRACTOR, the CONTRACTOR's independent CONTRACTORs, and employees, representatives, and invitees of each of them, regardless of whether or not there shall be insurance policies covering and applicable to such damages, claims or liabilities.

17.7 DISPOSAL OF MATERIALS

Unless otherwise specified in the Special Provisions, the CONTRACTOR shall make arrangements for disposing of materials. Excess excavated material not required for backfill shall be disposed of legally by the CONTRACTOR.

When any materials, including excess or unsuitable excavated earth or other roadway materials, are to be disposed of outside the right-of-way, the CONTRACTOR shall first obtain a written permit from the property OWNER on whose property the disposal is to be made and shall file said permit or certified copy, together with a written release from the property OWNER, absolving the DISTRICT from any and all responsibility in connection with the disposal of material on said property. Before any material is

disposed of on said property, the CONTRACTOR shall obtain permission from the ENGINEER to dispose of the material at the location designated in said permit.

Unless otherwise provided in the Special Provisions, full compensation for all costs involved in disposing of materials, including all costs of overhaul, shall be considered as included in the prices paid for the various contract items of work and no additional allowance will be made.

17.8 CONTRACTOR'S RESPONSIBILITY FOR WORK

Until the formal acceptance of the work by the DISTRICT, the CONTRACTOR shall have the charge and care and shall bear the risk of injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or non-execution of the work.

The CONTRACTOR shall rebuild, repair, restore and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense, except such injuries or damages occasioned by the acts of the federal government or acts of war.

In case of suspension of work from any cause whatsoever, the CONTRACTOR shall be responsible for the work as previously specified and shall also be responsible for all materials delivered to the worksite. Where necessary to protect the work from damage, the CONTRACTOR shall, at his/her own expense, provide suitable drainage of the worksite and erect such temporary structures as are necessary to protect the work from damage during any period of suspension of work.

The CONTRACTOR shall provide twenty-four (24) hour emergency service for all maintenance and operations of the work specified and shall supply the DISTRICT with the name and phone number of the responsible person. Emergency service shall be within thirty (30) minutes from the time of notification. If the CONTRACTOR fails to provide this service the DISTRICT shall perform such emergency service and the cost thereof shall be deducted from the next Progress Pay Estimate due the CONTRACTOR.

17.9 ACCEPTANCE OF CONTRACT

When the ENGINEER has made the final inspection and determines that the Contract has been completed in general conformance with these Plans and Specifications, the ENGINEER shall submit to the Board of Directors the recommendation that the DISTRICT formally accept the Contract.

17.10 PROPERTY RIGHTS FOR MATERIALS

Nothing in the Contract shall be construed as vesting to the CONTRACTOR any right to property or materials used after they have been attached or affixed to the work or the soil, or after payment has been made for ninety percent (90%) of the value of materials delivered by the CONTRACTOR to the Project Site, or other location approved in writing by the ENGINEER.

17.11 PERSONAL LIABILITY

In carrying out any of the provisions hereof, or in exercising any authority granted by the Contract, there will be no personal liability upon any Directors or employees of the DISTRICT, the ENGINEER, their employees or volunteers.

(END OF SECTION)

18.0 CONTRACTOR'S INSURANCE

18.1 GENERAL

The CONTRACTOR shall not commence or continue to perform any work unless he, at his own expense, has in full force and effect all required insurance. The CONTRACTOR shall not permit any subcontractor to perform work on this project unless all of the required insurance has been complied with by such subcontractor.

The types of insurance the CONTRACTOR shall obtain and maintain are Worker's Compensation and Employer's Liability Insurance, General and Automobile Liability Insurance, Builder's Risk "All Risk" and at the time of award of the Contract, Earthquake and Flood Insurance, all as set forth herein.

Worker's Compensation and Employers' Liability Insurance and Liability Insurance shall be maintained in effect for the full guarantee period.

Insurers must be authorized to do business and have an agent for service of process in California and must have at least an "A- VII" rating in accordance with the most current Best's Rating Guide.

Upon the DISTRICT'S request, the CONTRACTOR shall furnish to the DISTRICT one (1) copy of each policy certified by an authorized representative of the insurer. CONTRACTOR shall provide the DISTRICT with an updated certificate of insurance for any change to its insurance coverage to include changes in insurers, policy limits, etc. Failure to provide updated certificates can cause a temporary stop in the Project being ordered by the DISTRICT, until such time as the DISTRICT has accepted a revised/new certificate of insurance.

CONTRACTOR shall give written notice to the ENGINEER by certified mail at least thirty (30) calendar days prior to termination, cancellation, or reduction of coverage of any policy required by this Section.

The CONTRACTOR waives any right of recovery against the DISTRICT, its ENGINEER, Directors, or employees, for any loss or damage to the CONTRACTOR's construction equipment or tools, including equipment and tools rented or leased by the CONTRACTOR.

The requirements as to the types, limits, and the DISTRICT'S approval of insurance coverage to be maintained by the CONTRACTOR are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the CONTRACTOR under the Contract.

In addition to any other remedy the DISTRICT may have, if the CONTRACTOR or any of the subcontractors fail to maintain the insurance coverage as required in this Section, the DISTRICT may obtain such insurance coverage as is not being maintained, in the form and amount substantially the same as required herein, and the DISTRICT may deduct the cost of such insurance from any amounts due or which may become due the CONTRACTOR under this Contract.

Any deductibles or self-insured retentions other than those expressly allowed by this Section or subsections must be declared to and approved by the DISTRICT. At the option of the ENGINEER, either the insurer shall reduce or eliminate such deductible or self-insured retentions as respects to the DISTRICT, its ENGINEER, Directors, and employees; or the CONTRACTOR shall procure a bond guaranteeing payment of losses and related investigation, claim administration and defense expense.

18.2 INSURANCE SUBMITTALS

As evidence of specified insurance coverage, the CONTRACTOR shall provide certificates of insurance and endorsements.

The CONTRACTOR shall provide and maintain insurance and indemnification as described in this section. Neither the CONTRACTOR nor any subcontractors shall commence any work until all required insurance has been obtained, at their own expense, and such insurance has been approved by the ENGINEER.

Any insurance bearing on adequacy of performance shall be maintained after completion of the Project for the full guarantee period.

18.3 CONTRACTOR'S LIABILITY ENDORSEMENT

18.3.1 INTENTIONALLY OMITTED

18.3.2 INTENTIONALLY OMITTED

18.3.3 Workers' Compensation and Employer's Liability Insurance - The CONTRACTOR shall procure and maintain insurance to protect the CONTRACTOR from all claims under Worker's Compensation Act and Employer's Liability. The CONTRACTOR shall maintain limits no less than the following:

A. Workers' Compensation – Statutory
B. Employer's Liability:
C. Each Accident – One Million Dollars ($1,000,000)
D. Disease-Policy Limit -- One Million Dollars ($1,000,000)
E. Disease-Employee Limit - One Million Dollars ($1,000,000)

18.3.4 Commercial General Liability Insurance - The insurance shall include, but shall not be limited to, protection against claims arising from death, bodily or personal injury, or damage to property resulting from actions, failures to act, operations or equipment of the CONTRACTOR or his/her employees, consultants, or subcontractors. Coverage shall be at least as broad as ISO "occurrence" form, number CG 0001 (Edition 10/93) covering general liability.

The limits of liability shall be not less than one million dollars ($1,000,000) each occurrence and two million dollars ($2,000,000) general aggregate. Coverage may be provided either in a primary policy, or in a combination of primary and umbrella or excess policies. The insurance may have a deductible or self-insured retention not to exceed fifty thousand dollars ($50,000).

The Commercial General Liability insurance coverage shall also include the following:

Coverage, without limitation, for property damage arising out of explosion, collapse or underground damage, commonly referred to by insurers as the explosion, collapse and underground property damage hazards.

Provision or endorsement stating that the General Aggregate Limit shall apply separately to the Project covered by this Contract.

Provision or endorsement naming the DISTRICT, its ENGINEER, Directors, employees, and volunteers as additional insureds in regards to liability arising out of the performance of any work under the Contract and providing that such insurance is primary insurance as respects the interest of the DISTRICT and that any other insurance maintained by the DISTRICT is excess and not contributing insurance with the insurance required hereunder. A copy of the additional insured endorsement is required by the DISTRICT prior to commencement of work.

18.3.5 Automobile Liability Insurance - The insurance shall include, but shall not be limited to, protection against claims arising from death, bodily injury, or damage to property resulting from ownership, operation, maintenance or use of automobiles by the CONTRACTOR or his/her employees, consultants, or subcontractors. Coverage shall be at least as broad as ISO form number CA 0001 (Edition 12/93) covering automobile liability, symbol 1 “any auto.”

The limits of liability shall be not less than two million dollars ($2,000,000) each accident. Coverage may be provided either in a primary policy, or in a combination of primary and umbrella or excess policies.

The Automobile Liability insurance coverage shall be primary insurance as respects the interest of the DISTRICT and that any other insurance maintained by the DISTRICT is excess and not contributing insurance with the insurance required hereunder.

18.3.6 Builder’s Risk Insurance - CONTRACTOR shall purchase and maintain in force builder’s risk insurance on the full value of the Contract. Such insurance shall be written on a completed value form and in an amount equal to the initial Contract sum subject to subsequent modifications of the Contract sum. The insurance shall apply on a replacement cost basis. The policy may have a deductible or self-insured retention not to exceed one hundred thousand dollars ($100,000), except for the peril of earthquake, which may have a deductible not to exceed five percent (5%) of the Contract amount.

The builder’s risk coverage shall extend to full replacement costs without any deduction for depreciation.

The builder’s risk insurance shall name as insured the DISTRICT, CONTRACTOR and all subcontractors and sub-subcontractors in the work. The insurance policy shall contain a provision that the insurance will not be cancelled or allowed to expire until at least thirty (30) days’ prior written notice has been given to the DISTRICT. The insurance policy shall also contain a provision stating that it is primary insurance, as respects the interests of the DISTRICT, and that any insurance maintained by the DISTRICT shall be excess of and shall not contribute with it.

The builder’s risk insurance shall cover the entire work included in the Project including expenses made necessary by an insured loss. Insured property shall include portions of the work located away from the site but intended for use in the Project and shall also cover portions of the work in transit. The policy shall include as insured property all materials stored onsite but not yet incorporated into the Project, and shall also include scaffolding, falsework, and temporary buildings located at the site. The policy shall cover the cost of removing debris, including demolition as may be made legally necessary by the operation of any law, ordinance, or regulation by endorsement if necessary, the builder’s risk insurance shall cover actual costs incurred by the DISTRICT in providing inspection services for repairs to the work due to covered losses not to exceed a five-hundred thousand dollar ($500,000) sublimit, CONTRACTOR shall be liable for all DISTRICT inspection/reinspection costs.

The builder’s risk insurance shall be written to cover all risks of physical loss except those specifically excluded in the policy and shall insure at least against the perils of fire and extended coverage, theft, vandalism, malicious mischief, rain, hail, wind and collapse.

Any deductible applicable to the builder’s risk insurance shall be the responsibility of the CONTRACTOR in the event of a loss.

The builder’s risk insurance shall be maintained in effect, unless otherwise provided for in the Contract Documents, until the Project is accepted as completed by the DISTRICT Board of Directors. The policy shall not contain any exclusion of coverage for any period during which Project systems are being tested or during which the Project is being partially occupied by the DISTRICT.

In the event of a covered loss, proceeds of builder's risk insurance shall be applied first to reimburse actual costs of demolition, debris removal, reconstruction, and repair or replacement incurred in the discharge of the CONTRACTOR's obligations of repair or replacement under the Contract Documents. The DISTRICT shall have no liability for such costs. Insurance proceeds shall be deposited in a separate account in a local bank satisfactory to the DISTRICT and shall be withdrawn only with the DISTRICT'S written approval to reimburse such actual costs as the builder's risk carrier has agreed to reimburse. The DISTRICT shall have no liability for failure of builder's risk carrier to pay for particular cost of repairs. This article shall not qualify or modify the CONTRACTOR's responsibility for the work under Section 17.8.

Before the commencement of work, CONTRACTOR shall provide the DISTRICT with a Certificate of Insurance for the builder's risk policy including all deductibles and sublimits. The policy shall be supplied to the DISTRICT for review upon request.

If the DISTRICT is damaged by the failure of CONTRACTOR to maintain the required insurance, the CONTRACTOR shall bear all reasonable costs properly attributable to that failure.

In the event of termination of the CONTRACTOR for default under Section 14.11.2, the CONTRACTOR shall forfeit all rights to builder's risk insurance proceeds and the DISTRICT may expend such proceeds to complete the Project as if they were unpaid Contract monies.

18.4 WAIVER OF SUBROGATION

CONTRACTOR waives all rights against the DISTRICT and any of their officers, the ENGINEER, directors, agents, and employees, for recovery for damages caused by fire and other perils to the extent covered by builder's risk insurance, or any other property insurance applicable to the work or the Project.

18.5 CONTRACTOR'S LIABILITY NOT LIMITED BY INSURANCE

To the fullest extent permitted by law, the CONTRACTOR shall indemnify and hold harmless the DISTRICT, the ENGINEER, and their consultants, and each of their directors, volunteers, officers, and employees from and against all claims, damages, losses, expenses, and other costs, including costs of defense and attorneys' fees, arising out of or resulting from or in connection with the performance of the work, both on and off the job site, provided that any of the foregoing is 1) attributable to personal injury, bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself), including the loss of use resulting there from; and, 2) caused in whole or in part by an act or omission of the CONTRACTOR, any subcontractor, any supplier, anyone directly or indirectly employed by any of them or anyone for whose acts or omissions any of them may be liable, regardless of whether or not caused in part by any act or omission (active, passive, or comparative negligence included, excepting the active negligence, sole negligence or willful misconduct of the DISTRICT), of a party indemnified hereunder. The CONTRACTOR's obligation to indemnify shall not be restricted to insurance proceeds, if any received by the DISTRICT, its directors, officers, volunteers, or employees.

The obligations of the CONTRACTOR under the first and fourth paragraphs of this Section 18.5 shall not extend to the liability of the ENGINEER, and their consultants, and each of their directors, officers, employees, and volunteers arising out of or resulting from or in connection with the preparation or approval of maps, Drawings, opinions, reports, surveys, designs or Specifications, providing that the foregoing was the sole and exclusive cause of the loss, damage or injury.

The CONTRACTOR shall also indemnify and hold harmless the DISTRICT, the ENGINEER, and their consultants, and each of their directors, officers, volunteers and employees from and against all losses, expenses, damages (including damages to the work itself), attorneys' fees, and other costs, including all costs of defense, which any of them may incur with respect to the failure, neglect, or refusal of CONTRACTOR to faithfully perform the work and all of the CONTRACTOR's obligations under the

Contract. Such costs, expenses, and damages shall include all costs, including attorneys' fees, incurred by the indemnified parties in any lawsuit to which they are a party.

The CONTRACTOR shall assume the defense of, and indemnify and save harmless, the DISTRICT, the ENGINEER, and their consultants, and each of their Directors, employees, and volunteers from all claims, costs, losses, damages and expenses, including attorneys' fees of any kind arising from the performance of this Contract, including claims for personal injury or death, claims for damage to property, and claims for loss of business. The CONTRACTOR agrees to require that in any agreement and/or subcontract entered into with any one for the performance of work under this Contract, that all work will be done pursuant to the DISTRICT'S Improvement Standards, Technical Specifications and Drawings, and that the CONTRACTOR will indemnify and save harmless the DISTRICT, the ENGINEER, and their consultants, and each of their Directors, employees, and volunteers from all claims of any kind arising from any and all Contractors' and subcontractors' performance of this Contract, including claims for personal injury and death, claims for damages to property and claims for loss of business.

18.6 COMPLIANCE WITH STATE REQUIREMENTS FOR USE OF SUBCONTRACTORS

The CONTRACTOR's attention is directed to Section 6109 of the Public Contract Code, which prohibits a contractor or a subcontractor who is ineligible to bid or work on, or be awarded, a public works project pursuant to Section 1777.1 or 1777.7 of the Labor Code to bid on, be awarded or perform work as a subcontractor on a public works project. This Section also prohibits a contractor from performing work on this Contract with a subcontractor who is ineligible to perform work on this Contract pursuant to the above Labor Code sections. The CONTRACTOR shall comply with all of the provisions of Section 6109 of the Labor Code.

(END OF SECTION)

19.0 PROSECUTION AND PROGRESS

19.1 SUBCONTRACTING

The CONTRACTOR shall give personal attention to the fulfillment of the Contract and shall keep the work under his/her control. The CONTRACTOR shall perform with his/her own organization and with the assistance of workers under his/her immediate superintendence, work of a value of not less than fifty percent (50%) of the value of all work embraced in the Contract. The value of the work subcontracted shall be determined by summing all of the percentages identified for listed subcontractors on the Proposal Form. If the sum of such percentages exceeds fifty percent (50%), the DISTRICT may treat the bid as nonresponsive and reject it on that basis. When a portion of the work which has been subcontracted by the CONTRACTOR is not being prosecuted in a manner satisfactory to the DISTRICT, the subcontractor shall be removed immediately on the request of the ENGINEER and shall not again be employed on the work. No changes will be allowed from the approved subcontractor list without approval of the ENGINEER.

The CONTRACTOR agrees to be as fully responsible to the DISTRICT for the acts and omissions of his/her subcontractors at all levels and for persons either directly or indirectly employed by them, as for the acts and omissions of persons directly employed by him/her. Nothing contained in the Contract Documents shall create any contractual rights for any subcontractor against the DISTRICT. The CONTRACTOR shall cause every subcontractor to be bound by the terms of the Contract Documents.

19.2 ASSIGNMENT

The performance of the Contract may not be assigned directly or indirectly except upon the written consent of the DISTRICT. Consent will not be given to any proposed assignment which would relieve the original Contractor or his/her Surety of their responsibilities under the Contract, nor will the DISTRICT consent to any assignment of a part of the work under the Contract.

The Contract may assign monies due or to become due to the CONTRACTOR under the Contract and such assignment will be recognized by the DISTRICT, if given proper notice thereof, to the extent permitted by law, but any assignment of monies shall be subject to all proper off-sets in favor of the DISTRICT and to all deductions provided for in the Contract and particularly all money withheld, whether assigned or not, shall be subject to being used by the DISTRICT for the completion of the work in the event that the CONTRACTOR should be in default.

19.3 DELAYS AND TIME EXTENSION

If the CONTRACTOR is delayed in the progress of the work by any act or neglect of the DISTRICT or the ENGINEER, or by any separate contractor employed by the DISTRICT, or by strikes, lockouts, fire, acts of God, unusual weather conditions, or unavoidable casualties, the CONTRACTOR shall, within twenty-four (24) hours of the start of the occurrence, give written notice to the DISTRICT of the cause of the potential delay and an estimate of the possible time extension involved. Within seven (7) days after the cause of delay has been remedied, the CONTRACTOR shall give notice to the DISTRICT of any actual time extension requested as a result of the aforementioned occurrence.

For purposes of this Contract, the CONTRACTOR shall be entitled to a time extension to the Substantial Completion Milestones listed on the construction schedule as required by the Section 5.0 of the General Conditions, “Construction Schedules (Bar Charts)” for weather delays only when the CONTRACTOR’s critical path activity, as shown on its most recent schedule update, is delayed by unusual weather for over four (4) hours in a given work day. Unusual weather shall be deemed to include only days of rainfall in excess of 0.10 inches.

Rainfall shall be as measured at Bakersfield, California and reported by the Western Regional Climate Center website, www.wrcc.dri.edu. No extra payment to the CONTRACTOR will be made for delays caused by unusual weather conditions. CONTRACTOR shall note that no time extensions to

Operational Milestones as defined in the Section 5.0 of the General Conditions, “Construction Schedule (Bar Charts)” shall be allowed for weather events.

Delays in delivery of equipment or material purchased by the CONTRACTOR or his/her subcontractors shall not be considered as a just cause for delay. The CONTRACTOR shall be fully responsible for the timely ordering, scheduling, expediting, delivery, and installation of all equipment and materials. The DISTRICT does not warrant the availability of “sole source” items or the timely performance of sole source suppliers and subcontractors and the CONTRACTOR’s remedies for delay or other breach by such entities shall solely be against them and not against the DISTRICT.

Other time extension claims by the CONTRACTOR must be within ten calendar days after occurrence of the event giving rise to such claim or within ten calendar days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. Claims for time extension must be made by written notice. An additional claim made after the initial Claim has been implemented by contract change order will not be considered.

Any delay claim shall be accompanied by a critical path method (CPM) schedule showing that the delayed task was on the Project’s critical path at the time of the delay. Project schedule shall be in the form detailed in the Section 5.0 of the General Conditions, “Construction Schedules (Bar Charts)”.

19.4 TEMPORARY SUSPENSION OF WORK

The ENGINEER shall have the authority to suspend the work wholly, or in part, for such period deemed necessary due to conditions considered unfavorable for the suitable prosecution of the work, or for such time deemed necessary due to the failure on the part of the CONTRACTOR to carry out orders given or to perform the work in accordance with these Plans and Specifications. The CONTRACTOR shall immediately comply with the written order of the ENGINEER to suspend the work wholly or in part. The work shall be resumed when conditions are favorable and/or methods are corrected, as ordered or approved in writing by the ENGINEER. The period of suspension will be included in determining the time for completion of work. In the event of a suspension of work under any of the conditions previously set forth, such suspension of work shall not relieve the CONTRACTOR of his/her responsibilities as set forth under Section 17.0, “Legal Relations and Responsibility”, in these General Provisions.

19.5 PROGRESS SCHEDULE AND ORDER OF COMPLETION

To ensure completion of the work within the time limit specified, and to assist the DISTRICT in the scheduling of other work, CONTRACTOR shall submit to the DISTRICT within ten (10) calendar days after he/she receives the Notice to Proceed a detailed schedule showing the proposed dates of beginning and completion of all significant items of work under the Contract. If the actual progress of the work varies materially from the proposed program, or if the CONTRACTOR proposes to change the program for any reason, he/she shall submit to the DISTRICT the revised construction program which he/she proposes to follow. The proposed original and revised program shall be adequate, in the opinion of the DISTRICT, to meet the requirements for completion of the work as herein set forth. If, in the opinion of the DISTRICT, the CONTRACTOR's proposed program or the actual progress of the work is insufficient to meet the specified requirements, the CONTRACTOR shall take such steps as are necessary to accomplish the required progress and completion.

When in the judgment of the DISTRICT it is necessary to accelerate any part of the work ahead of schedule, the CONTRACTOR shall, when directed, concentrate his/her efforts on such part of the work.

19.6 FAILURE TO COMPLETE THE WORK IN THE TIME AGREED UPON - LIQUIDATED DAMAGES

The CONTRACTOR agrees to provide all materials, labor and equipment for the project. It is further stipulated and agreed that if the work contracted for is not completed within the time provided, the

DISTRICT will be actually and seriously damaged in the conduct of its affairs, and that from the nature of the circumstances, it would be impractical and extremely difficult to fix or compute the actual damage which may be sustained by the DISTRICT in such event, and it is therefore stipulated and agreed that upon the failure of the CONTRACTOR to complete the work contracted for within the time provided, the CONTRACTOR shall pay the DISTRICT the sum specified in Section B of this Contract, document titled "Bid Document" for each and every day after the number of specified days from and after the issuance of the Notice to Proceed until the completion of said work and the acceptance thereof by the DISTRICT, and that all sums due and payable by the CONTRACTOR to the DISTRICT shall be deemed to be liquidated damages for such period and not a penalty, and may be offset by the DISTRICT against any monies due the CONTRACTOR hereunder.

The work contracted for shall be deemed to be completed within the meaning of this Contract when same has been actually completed in accordance with the Plans and Specifications thereto and to the satisfaction of the DISTRICT. Nothing in this Section shall prohibit the DISTRICT from granting to the CONTRACTOR an extension of time beyond the fixed date of completion and waiving of the damages specified in the Contract Documents Section titled "Special Provisions".

19.7 PROJECT QUALITY CONTROL

19.7.1 Test Reports And Certifications - Where certifications or mill-test reports are required, the CONTRACTOR shall submit three (3) complete, certified copies. Certifications shall show chemical composition, mechanical properties, or other characteristics of the materials to be used in the work. Material specified by a referenced standard shall be certifiable by the mill or manufacturer under that standard. The testing, analysis, and certification shall be the responsibility of the CONTRACTOR.

19.7.2 Notices Of Fabrication - The CONTRACTOR shall submit a separate notice of fabrication for each fabricated article and material. For articles and materials fabricated outside Kern County, the CONTRACTOR shall submit the notice fourteen (14) days before starting fabrication. The CONTRACTOR shall provide a certified third party inspection firm for all work performed outside Kern County. For articles and materials fabricated within Kern County, the CONTRACTOR shall submit the notice five (5) days before starting fabrication.

19.7.3 Responsibilities - The CONTRACTOR shall be responsible for full compliance with every requirement of the Contract Documents and shall ensure that the work is in full accordance with these requirements. At all times, the CONTRACTOR's work will be subject to rigid inspection by the ENGINEER. Whether discovered by the CONTRACTOR or the ENGINEER, nonconforming work shall be corrected or replaced by the CONTRACTOR. For convenience, materials or equipment to be incorporated in the work may be designated in the Specifications by a trade name or the name of a manufacturer and the manufacturer's catalog item number information. Materials, articles, or equipment, even if supplied by a manufacturer designated in the Specifications, shall be accepted only if the items meet all other specification requirements.

The CONTRACTOR shall furnish all tools, equipment, materials, supplies, and manufactured articles necessary or required for the performance and completion of the work included in the Contract, except for materials and equipment specified to be furnished by the DISTRICT. The materials, articles, and equipment provided for permanent installation in the work shall be new and shall be in accordance with these Specifications.

The CONTRACTOR shall perform quality control on suppliers, manufacturers, products, services, site conditions, and workmanship to ensure that work conforms to the Contract Documents. The CONTRACTOR shall be prepared to document its quality control activities. The CONTRACTOR shall require and ensure conformance with specified standards as a minimum quality for the work. When more stringent tolerances, codes, or specified requirements are required by a particular manufacturer or a particular item of work, the higher standards or more precise workmanship shall be provided.

The ENGINEER's inspections and tests are for the sole benefit of the DISTRICT and shall not:

A. Relieve the CONTRACTOR of responsibility for providing adequate quality control measures.
B. Relieve the CONTRACTOR of responsibility for damage to or loss of the material before acceptance.
C. Constitute or imply acceptance.
D. Affect the continuing rights of the DISTRICT after acceptance of the completed work.

The CONTRACTOR shall be responsible for adjustments, corrections, or repairs found necessary after the delivery or installation of materials and articles. Unidentified materials shall not be used in the work, including work at fabrication plants.

Sequencing and Scheduling of Inspections and Tests - The CONTRACTOR shall furnish and prepare the required samples and test specimens ready for testing in time for the necessary tests and analysis. Where the Specifications require work to be tested or approved, it shall be tested only in the presence of the ENGINEER.

The ENGINEER shall be given timely notice of the CONTRACTOR's readiness for inspection and test. The length of advance notice shall be appropriate for the complexity of the inspection or test, the availability of the ENGINEER's staff, and the location of the inspection or test, but in no case shall less than twenty-four (24) hours' advance notice be given.

19.7.4 Testing - Materials and articles that are to be included in the works shall be subject to testing for conformance with the Specifications and Drawings. When not otherwise specified, sampling and testing shall be in accordance with the methods prescribed in the current standards of ASTM applicable to the class and nature of the articles or materials considered. However, the ENGINEER will have the right to use any generally accepted method of testing that will ensure that the quality of materials, articles, or work is in full accord with the Specifications and Drawings. The ENGINEER will have the right to select, test, and analyze, at the expense of the DISTRICT, additional test specimens of the materials to be used. Results of these tests and analyses will be considered with the results of other tests or analyses, whether performed by the ENGINEER or the CONTRACTOR, to determine compliance with the applicable Specifications for the materials.

19.7.5 Inspection By The ENGINEER - Materials and articles that are to be included in the work shall be subject to rigid inspection by the ENGINEER for conformance with the Specifications and Drawings. The CONTRACTOR shall plan for the inspections to be continuous, repetitive, and detailed. Orders for materials, articles, and equipment shall note that the articles, materials, and equipment are subject to inspection and acceptance by the DISTRICT, both during manufacture or fabrication and after delivery to the site.

When practicable and convenient for the ENGINEER, inspection will be made during the manufacture of the articles and equipment. The location, alignment, grade, plumb, and other physical characteristics of formwork for concrete, items to be embedded in concrete, and permanent improvements shall be subject to rigid survey verification. Materials or articles shall not be incorporated in the work until they have been inspected by the ENGINEER. After testing, work shall be covered or backfilled only with the approval of the ENGINEER.

The duties of the ENGINEER in conducting review of the CONTRACTOR's performance is not intended to include review of the adequacy of the CONTRACTOR's work methods, equipment, bracing, scaffolding or safety measures in, on, or near the construction site.

19.7.6 Facilities For Inspection And Testing - The CONTRACTOR shall furnish the facilities, utilities, and assistance necessary for the safe and convenient performance of inspections and tests required by the Specifications or by the ENGINEER. The CONTRACTOR shall provide adequate lighting, access, and ventilation for a safe working environment for inspections and tests. The CONTRACTOR shall cooperate with the ENGINEER's staff in the performance of their respective duties and shall provide qualified personnel to assist with the performance of tests and inspections by them. When the Specifications require tests or inspections to be performed by the CONTRACTOR, the CONTRACTOR shall provide qualified, licensed, personnel to perform them.

19.7.7 Rejection Of Work - The ENGINEER will have the right, at all times and in all places, to reject articles or materials to be furnished for the Project that fail to meet the requirements of these Specifications. This shall be regardless of whether the defects in these articles or materials are detected at the point of manufacture or after completion of the work at the site. The ENGINEER will be the sole judge as to the acceptable quality of materials, articles, and work. However, where the ENGINEER, through an oversight or otherwise, accepts material, articles, or work that is defective or that is contrary to the Specifications, the material, article, or work, no matter in what stage or condition of manufacture, delivery, or erection, may be rejected by the ENGINEER.

Promptly after notification of rejection by the ENGINEER, the CONTRACTOR shall remove rejected portions or items of materials, articles, or work to a satisfactory distance from the vicinity of accepted items and shall replace the rejected materials, etc., with items acceptable to the ENGINEER.

19.7.8 Final Inspections And Acceptance - Final inspections for acceptance of materials, articles, equipment, and work will be made at the completion of all Contract work. A minimum of ten (10) working days prior to the estimated completion of the work, the CONTRACTOR shall notify the ENGINEER in writing of the pending completion of the entire work or an agreed portion thereof. The CONTRACTOR shall include with the notice a complete list of work items remaining to be completed. On or about the CONTRACTOR's estimated completion date, the ENGINEER will make a thorough inspection of the entire work. Defects or deficiencies noted during this inspection will be reported to the CONTRACTOR in writing. The CONTRACTOR shall notify the ENGINEER in writing when all items on the list are corrected. Shortly thereafter, the ENGINEER will make a thorough final inspection of the entire work.

If the ENGINEER determines the work to be complete, it will be accepted. If defects or deficiencies are noted during this inspection, they will be reported in writing to the CONTRACTOR. When the CONTRACTOR notifies the ENGINEER of the correction of these items, another final inspection will be scheduled.

19.8 SAFETY

The CONTRACTOR shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours and/or days. The CONTRACTOR shall have in full force and effect an Injury and Illness Prevention Program (IIPP) and a Site Specific Safety Plan covering all work of the CONTRACTOR and subcontractor employees at the site.

Safety provisions shall conform to all applicable federal, state, county, and local laws, ordinances, and to other rules of law applicable to the work. Where any of these are in conflict, the more stringent requirement shall be followed.

The CONTRACTOR shall maintain at the job office and/or other well-known place on the job site, all articles necessary for giving first-aid to the injured, and shall establish the procedure for the immediate removal, to the hospital or a doctor's care, of persons who may be injured on the job site.

The right of the ENGINEER and/or DISTRICT to conduct construction review of the CONTRACTOR's performance is not intended to and will not include a review of the adequacy of the CONTRACTOR's safety measures in, on, or near the construction site.

Attention is directed to Section 832 of the Civil Code of the State of California relating to lateral and subjacent support, and the CONTRACTOR shall comply with this law.

19.8.1 Valley Fever - Notices to Employees - A special biological problem of the Project Site is presence of tiny organisms living in the soil which can cause valley fever in man. As is typical of many desert areas in southwestern United States, valley fever is endemic to Kern and Tulare County. Although everyone living in the valley has some contact with the disease-causing organisms, the illness is especially hazardous to those whose work brings them into close contact with the soil, as for example agricultural and construction workers.

19.8.2 Ventilation - Ventilation and control of oxygen-deficient atmospheres, dusts, fumes, mists, vapors, and gases shall be in accordance with the CSO and all other applicable laws, ordinances and regulations.

19.8.3 Trench Safety - In accordance with Section 6705 of the State Labor Code, the CONTRACTOR shall submit to the DISTRICT specific plans to show details of provisions for worker protection from caving ground. This trench safety plan shall be submitted to and approved by the DISTRICT prior to starting excavation for any trench or trenches five (5) feet or more in depth. The trench safety plan working Drawings shall be detailed plans showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground. If such plan varies from the shoring system standards established by the Construction Safety Orders of the California Division of Industrial Safety or the Federal Safety Standards of the Department of Health, Education and Welfare, the plan shall be prepared by a registered civil or structural ENGINEER. As a part of the plan, a note shall be included stating that the registered civil or structural ENGINEER certifies that the plan complies with the CAL-OSHA Construction Safety Orders, or that the registered civil or structural ENGINEER certifies that the plan is not less effective than the shoring, bracing, sloping, or other provisions of the Safety Orders. In no event shall the CONTRACTOR use a shoring, sloping, or protective system less effective than that required by said Construction Safety Orders, or less effective than that required by said Federal Safety Standards. Submission of this plan in no way relieves the CONTRACTOR from the requirement to maintain safety in all areas. If excavation or trench work requiring a CAL-OSHA permit are to be undertaken, the CONTRACTOR shall submit a copy of his/her permit with the excavation/trench work safety plan to the DISTRICT before work begins.

The DISTRICT or the ENGINEER may have made investigations of subsurface conditions in areas where the work is to be performed. If so, these investigations are identified in the Special Provisions, and the records of such investigations are available for inspection at the Engineering Office. The detailed plan showing the design of shoring, which the CONTRACTOR is required to submit to the DISTRICT for acceptance prior to excavation, shall not be accepted by the DISTRICT if the plan is based on subsurface conditions which are more favorable than those revealed by the investigations made by the DISTRICT or their consultants; nor will the plan be accepted if it is based on soils-related design criteria which is less restrictive than the criteria set forth in the report on the aforesaid investigations of subsurface conditions.

The detailed plan showing the design of shoring shall include surcharge loads for nearby embankments and structures, for spoil banks, and for construction equipment and other construction loadings. The plan shall indicate for all trench conditions the minimum horizontal distances from the side of the trench at its top to the near side of the surcharge loads. Nothing contained herein shall be construed as relieving the CONTRACTOR of the full responsibility for providing shoring, bracing, sloping, or other provisions which are adequate for worker protection.

Inspection or testing by the DISTRICT or any agent of the DISTRICT is not intended to include review of the adequacy of the CONTRACTOR's work methods, equipment, bracing or scaffolding or safety measures, in, on, or near the construction site, and shall not be construed as supervision of the actual construction, nor make the DISTRICT responsible for providing a safe place for the performance of work by the CONTRACTOR, subcontractors, or suppliers; or for access, visits, use, work, travel or occupancy by any person.

If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone to the DISTRICT. In addition, the CONTRACTOR must promptly report in writing to the ENGINEER all accidents whatsoever arising out of, or in connection with, the performance of the work whether on, or adjacent to, the site, giving full details and statements of witnesses.

If any claim is made by anyone against the CONTRACTOR or any subcontractor on account of any accident, the CONTRACTOR shall promptly report the facts in writing to the ENGINEER, giving full details of the claim.

Whenever abrasive blasting is to be performed for the removal of painted coating systems, the blast media shall be certified by CARB for unconfined blasting pursuant to CCR Title 17.

19.8.4 Facility Startup - The CONTRACTOR shall commission all systems and equipment to verify performance, function, and correct operation by performing procedures to activate, startup, adjust, test, and demonstrate that the work is in operating order in accordance with these general requirements of this Section and the detailed requirements of the technical sections under the system or equipment specified.

To ensure that the work is ready for full-time operation, the procedures shall include verification, balancing, calibration, witness testing, documentation, inspection by equipment manufacturers and operator training where specified. The CONTRACTOR shall notify the ENGINEER five (5) days prior to starting each system or piece of equipment. During the startup period, the CONTRACTOR shall coordinate the operation of the facilities with ENGINEER, subcontractors, DISTRICT'S operators, and manufacturer's representatives.

The CONTRACTOR shall furnish test equipment, measuring devices and supplies required to conduct tests. The CONTRACTOR shall maintain the equipment until acceptance, provide all lubricants, chemicals, and electricity necessary until acceptance, furnish all expendable supplies, gas, water, etc., required for startup, demonstration and testing, and dispose of all waste or used supplies, water, etc.

19.9 CONTRACT CLOSEOUT

19.9.1 Final Cleanup - Prior to final inspection, clean the entire construction area and all other areas affected by the performance of work under this Contract. Clean up work area using personnel specializing in and skilled in cleaning and maintenance work. The CONTRACTOR shall repair work using personnel skilled in executing the type of work being repaired. All work shall be executed to the highest trade standards applicable to that type of work.

The CONTRACTOR shall perform the following work prior to final inspection:

A. The CONTRACTOR shall remove all temporary construction, signs, tools, equipment, excess material and debris.
B. Remove all lumps, splatters, spots and stains caused by paint, adhesive, asphalt, concrete, mortar, sealant or other foreign material from exposed or finished surfaces. Remove all temporary labels.

C. Repair, patch or replace new or existing work including pavement, sidewalks, curbs, gutters, catch basins, gratings, manholes, covers, landscaping, plant materials and other items that have been damaged, broken, cracked or chipped as a result of performing this work.
D. Sweep clean and wash down all exterior pavements.
E. Remove all hazardous material and material that may cause sediment in drainage systems prior to wash down.
F. Remove all grease and oil stains on pavement caused by CONTRACTOR's equipment.

19.9.2 CONTRACTOR's Action List of Items to Be Corrected and/or Completed - During construction, the CONTRACTOR shall maintain an action list of items to be corrected and/or completed. The CONTRACTOR shall regularly add items and update the list as information becomes available or as requested by the ENGINEER. The CONTRACTOR shall deliver a current copy of the list to the ENGINEER at each progress meeting.

19.9.3 Semifinal Inspection/Substantial Completion - When the CONTRACTOR considers the work nearly complete, the CONTRACTOR shall review the Contract Documents, inspect the work, and use the CONTRACTOR's action list to prepare a CONTRACTOR's punch list of all deficient or uncompleted items. The CONTRACTOR shall complete or correct items on the punch list. When the work is substantially complete, the CONTRACTOR shall notify the ENGINEER in writing that the CONTRACTOR has reviewed the Contract Documents, inspected the work and believes that the work is substantially complete and ready for semifinal inspection.

On receipt of the CONTRACTOR's punch list and notice that the work is ready for semifinal inspection; the ENGINEER will inspect the work. The ENGINEER may add additional items to the CONTRACTOR's punch list; may find that the work is not ready for inspection; is ready for inspection but not substantially complete; or that the work is substantially complete. When the ENGINEER finds the work is substantially complete, it will prepare a final punch list and a Notice of Substantial Completion which will state the date of substantial completion and the time agreed to by the DISTRICT and the CONTRACTOR (not to exceed thirty [30] days) in which the work shall be fully complete and ready for final inspection.

19.9.4 Final Inspection, Final Completion And Final Payment - When the CONTRACTOR has completed or corrected all the items on the ENGINEER's final punch list, the CONTRACTOR shall give the ENGINEER written notice that the work is ready for final inspection. When the ENGINEER finds the work acceptable and fully complete in accordance with the Contract Documents, and upon receipt of a final Application for Payment and all final submittals, the ENGINEER will recommend that the DISTRICT issue a Notice of Final Completion, make final payment and accept the work stating that to the best of the ENGINEER's knowledge, information and belief, and on the basis of the ENGINEER's observations and inspection, the work has been fully completed in accordance with the terms and conditions of the Contract Documents.

19.9.5 Final Submittals include:

A. Operation and Maintenance Manuals and Parts Lists
B. Record Drawings
C. Extra Materials
D. Special Guarantees
E. Insurance Certificate showing required continuation of coverage beyond Final Payment
F. Release of Liens
G. Waiver of Claims by CONTRACTOR
H. And any other submittals required by the Contract Documents and not previously received

The DISTRICT will record the Notice of Final Completion at the County Recorder's Office. The DISTRICT will make Final Payment to the CONTRACTOR thirty-five (35) days after recording the Notice of Final Completion.

19.9.6 Record Drawings - The CONTRACTOR shall maintain on the jobsite, a complete set of Contract Documents and a complete file of all addenda, Contract modifications and favorably reviewed submittals. The CONTRACTOR shall prepare a set of Record Drawings concurrently with the construction of the Work and in accordance with the following:

A. Show the invert elevation of all gravity piping and the top of pipe, top of conduit or top of protective concrete encasement for other utilities. Elevations shall be related to a permanent visible elevation bench mark set at the site by the CONTRACTOR.
B. Show the horizontal location of underground utilities measured from permanent visible physical features such as face of building, face of tank, or centerline of manhole.
C. Comply with detailed requirements in technical specification sections describing the type of information required on Record Drawings. The CONTRACTOR's copy of Contract Documents, Contract modifications and Record Drawings shall be available to the ENGINEER for weekly verification that the records are being currently updated.
D. The CONTRACTOR shall submit Record Drawings and obtain acceptance prior to completion.

19.9.7 Extra Materials - Deliver specified extra materials and parts to DISTRICT. Itemize all items on a transmittal letter in duplicate and obtain signature of receiving party. Submit copies of signed transmittals for all specified extra materials and parts prior to completion.

19.9.8 Twelve-Month Inspection – Unless specified otherwise in the Technical Specifications, approximately thirty (30) days prior to the expiration of the one (1)-year guarantee period, the CONTRACTOR shall tour the Project with the ENGINEER and/or the DISTRICT to prepare a list of corrective work required under the twelve (12)-month guarantee. The CONTRACTOR shall correct all items found to be defective within twenty (20) days of receipt of the list of items to be corrected.

19.10 GUARANTEE AND WARRANTY

Guarantee And Warranty Requirements - The CONTRACTOR shall warrant and guarantee that the entire work constructed under the Contract fully meets all requirements of the Contract. The CONTRACTOR shall further warrant and guarantee that all work, including materials, articles, and equipment furnished by the CONTRACTOR under the Contract, shall be free of deficiencies and defects for a period of one (1) year after the date of final acceptance of the work unless specified otherwise.

The CONTRACTOR shall further warrant and guarantee to make or have made at CONTRACTOR's expense repairs, adjustments, replacements, or other corrective work necessary to restore or bring into full compliance with the requirements of the Specifications any part of the work which during the guarantee period is found to be deficient with respect to any provision of the Specifications.

If a defect or deficiency is of a kind which in the opinion of the ENGINEER requires immediate correction to avoid injury to the DISTRICT, the ENGINEER may make or have made such repairs, adjustments, replacements, or other corrective work and the CONTRACTOR agrees to promptly pay the DISTRICT invoice for the corrective work.

If a defect or deficiency is of a kind which in the opinion of the ENGINEER requires immediate correction but the CONTRACTOR has failed to undertake corrective work within three (3) working days of receipt of written notice from the ENGINEER, the ENGINEER may make or have made such repairs,

adjustments, replacements, or other corrective work and the CONTRACTOR agrees to promptly pay the DISTRICT invoice for the corrective work.

The DISTRICT will have the right to use deficient material and equipment until it can be taken out of service without injury to the DISTRICT. The guarantees and agreements set forth herein shall be secured by the "Faithful Performance Bond" furnished by the CONTRACTOR to the DISTRICT at the time of execution of the Contract, which bond shall be deemed to continue in effect during the period of guarantee.

This guarantee is not the exclusive remedy for the DISTRICT in the event of any breach of this Contract.

(END OF SECTION)

20.0 MEASUREMENT AND PAYMENT

20.1 MEASUREMENT OF QUANTITIES

Where the Contract provides for payment on a lump sum price basis, no measurement of quantity will be made. Where the Contract provides for payment on a unit price basis, the quantities of work performed will be computed by the ENGINEER on the basis of measurements taken by the ENGINEER, and these measurements shall be final and binding.

All quantities of work computed under the Contract shall be based upon measurements by the ENGINEER according to United States Measurements and Weights.

20.2 SCOPE OF PAYMENT

The CONTRACTOR shall accept the compensation as provided in full payment for furnishing all materials, labor, tools, and equipment necessary to the completed work; for performing all work contemplated and embraced under the Contract; for loss or damage arising from the nature of the work, or from the action of the elements, except as before provided, or from any unforeseen difficulties which may be encountered during the prosecution of the work until final acceptance by the DISTRICT, and for all risks of every description connected with the prosecution of the work; and for completing the work according to these Plans and Specifications. Neither the payment of any estimate nor of any retained percentage shall relieve the CONTRACTOR of any obligation to make good any defective work or material.

No allowance will be made, other than as indicated in this Contract, for loss of anticipated profits. Increased or decreased work involving supplemental agreements will be paid for as provided in such agreements.

20.3 CHANGE ORDER/PAYMENT FOR EXTRA WORK

It is the intention of this Contract that the differences between the parties, arising under and by virtue of the Contract be brought to the attention of the ENGINEER at the earliest possible time in order that such matters may be settled, if possible, or other appropriate action promptly taken. In no event shall the CONTRACTOR be entitled to additional compensation or an extension of time for any claim that may be based on any act, failure to act, event, thing or occurrence for which no written notice of potential claim was filed prior to the CONTRACTOR commencing any action which the CONTRACTOR seeks additional compensation or an extension of time for.

Without invalidating the Contract and without notice to any surety or insurer, DISTRICT may, at any time, or from time to time, order additions, deletions, or revisions in the Work by a written Contract Change Order. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the extra work involved which will be performed under the applicable conditions of the Contract Documents, except as otherwise specifically provided in the Change Order. Payment for extra work shall be made at the unit or lump sum price bid, when applicable, or as otherwise agreed upon in the written Contract Change Order.

Extra work shall not be performed without written approval from the Engineer. All proposed change orders submitted by the Contractor shall clearly outline the scope of work, provide an itemized list of manpower, manpower costs, and hours, provide an itemized list of equipment to be used, equipment costs, and hours, provide an itemized list of all materials to be furnished, and outline all additional costs such as project management, office supplies, insurance and bond costs, etc. Contractor mark-ups on labor, material, and equipment shall not exceed 15%. The Contractor mark-up on subcontractors work shall not exceed 5%. Subcontractors shall be restricted to a maximum 15% mark-up on all labor, equipment, and material associated with their work as well. All change order costs shall be detailed and substantiated with the documentation acceptable to the District's Representative.

Time and Material or Force Account work, if authorized by the District's Representative, shall be in accordance with the following paragraphs.

The CONTRACTOR shall provide a copy of the Daily Extra Work Report (DEWR) for each day of extra work. The DEWR is to be signed by the CONTRACTOR's authorized representative and the DISTRICT'S on site representative on the day the work is performed. THE DEWR is to include the name and hours for each person, equipment designation and hours and designation and quantities of all materials. Mark-ups shall be limited to fifteen percent (15%). Items not included on the DEWR will not be paid for. Work on DEWR not signed by the DISTRICT'S on site representative will not be paid for.

A copy of each DEWR with the labor rates, equipment rates, cost of materials, extended amounts, markups and total. Computer generated sheets can be submitted if the information on the computer sheets can be readily cross referenced with the signed DEWR.

When extra work to be paid for on a force account basis is performed by a subcontractor, approved in accordance with the provisions in Section 19.1 titled "Subcontracting," an additional markup of five percent (5%) will be added to the total cost of said extra work including all markups specified in Section 20.3, titled "Payment for Extra Work." Said additional five percent (5%) markup shall reimburse the CONTRACTOR for additional administrative costs, and no other additional payment will be made by reason of performance of the extra work by a subcontractor.

When both additional and deleted work are involved in any one change, the markup allowances of this Section shall be applied to the net extra cost of the work, if any, after subtraction of the costs for the omitted work from the extra work. For Change Order work which results in a net decrease in cost a minimum of five percent (5%) markup shall be added to the sum of the direct labor, materials and equipment as a deduction for profit, indirect and overhead costs and reduction in bond and insurance. The CONTRACTOR shall neither be entitled to nor claim anticipated profits on work that may be omitted.

The added fixed fees shall be considered to be full compensation, covering the cost of general supervision, overhead, profit, small tools, incidentals and any other general expenses. The above fixed fees represent the maximum limits which will be allowed, and they include, but are not limited to, the CONTRACTOR's and all subcontractor's indirect field and home office expenses and all other costs for cost proposal preparation, schedule analysis and preparation, operation and maintenance manual documentation, and record documents and change order administration.

20.3.1 Direct Labor Cost - Charges for all of the labor furnished and used by the CONTRACTOR shall be made for manual classifications up to and including general foreman, when authorized by the ENGINEER for the workers used in the actual and direct performance of the work. It will not include charges for assistant superintendents, superintendents, office personnel, timekeepers and maintenance mechanics. The time charged to extra work shall be subject to the daily approval of the ENGINEER and evidence of such daily approval shall be submitted with the billing. Labor rates used to calculate the costs shall be those basic wages including current employer contributions for fringe benefits and including applicable subsistence and travel allowances, all as actually paid to workers under collective bargaining agreements or as regular workers under collective bargaining agreements or as a regular practice of the employer. No time or charges will be allowed except when the workers are actually engaged in the proper, efficient and diligent performance or completion of the extra work as authorized. The CONTRACTOR shall submit with the billing, copies of certified payrolls for labor associated with extra work. Overtime shall not be worked without prior approval of the ENGINEER.

20.3.2 Equipment Cost - Charges for the rental and operation of the equipment furnished and used by the CONTRACTOR shall be made for all prime construction and automotive equipment. It shall not include charges for listed equipment or major tools with a new cost of five-hundred dollars ($500.00) or less. Equipment time charges shall be subject to the daily approval of the ENGINEER and evidence of such daily approval submitted with the billing. The CONTRACTOR will be paid for the use of equipment at the rental rates listed for such equipment in the California

Department of Transportation publication entitled Labor Surcharge And Equipment Rental Rates, which is in effect on the date upon which the work is accomplished and which is a part of the Contract, regardless of ownership and any rental or other agreement, if such may exist, for the use of such equipment entered into by the CONTRACTOR, except that for those pieces of equipment with a rental rate of ten dollars ($10.00) per hour or less as listed in the Labor Surcharge And Equipment Rental Rates publication and which are rented from a local equipment DISTRICT, other than CONTRACTOR owned, the CONTRACTOR will be paid at the hourly rate shown on the rental DISTRICT invoice or agreement for the time used on force account work. If a minimum equipment rental amount is required by the local equipment rental DISTRICT, the actual amount charged will be paid to the CONTRACTOR.

If it is deemed necessary by the ENGINEER to use equipment not listed in said publication, a suitable rental rate for such equipment will be established by the ENGINEER. The CONTRACTOR may furnish any cost data which might assist the ENGINEER in the establishment of such rental rate. If the rental rate established by the ENGINEER is ten dollars ($10.00) per hour or less, the provisions above concerning rental of equipment from a local equipment DISTRICT shall apply.

20.3.3 The rental rates paid as above provided shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals.

20.3.4 Operators of rented equipment will be paid for as provided in Section 20.3.1, titled “Direct Labor Cost.”

20.3.5 All equipment shall, in the opinion of the ENGINEER, be in good working condition and suitable for the purpose for which the equipment is to be used.

20.3.6 Unless otherwise specified, manufacturer’s ratings and manufacturer approved modifications shall be used to classify equipment for the determination of applicable rental rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer. Rental time will not be allowed while equipment is inoperative due to breakdowns.

20.3.7 The time to be paid for equipment on the work shall be the time the equipment is in operation on the extra work being performed, and in addition, shall include the time required to move the equipment to the location of the extra work and return it to the original location or to another location requiring no more time than that required to return it to its original location, except that moving time will not be paid for if the equipment is used at the site of the extra work on other than such extra work. Loading and transporting costs will be allowed, in lieu of moving time, when the equipment is moved by means other than its own power, except that no payment will be made if the equipment is used at the site of the extra work on other than such extra work. The following shall be used in computing the rental time of equipment on the work:

A. When hourly rates are listed, less than thirty (30) minutes of operation shall be considered to be two (2) hours of operation.
B. When daily rates are listed, less than four (4) hours of operation shall be considered to be two (2) days of operation.

20.3.8 When owner-operated equipment is used to perform extra work to be paid for on a force account basis, the CONTRACTOR will be paid for the equipment and operator, as follows:

Payment for the equipment will be made in accordance with the provisions in Section 20.3.2, titled “Equipment Cost.”

Payment for the cost of labor and subsistence or travel allowance will be made at the rates paid by the CONTRACTOR to other workers operating similar equipment already on the Project or, in the absence of such other workers, at the rates for such labor established by collective bargaining agreements for the type of workman and location of the work, whether or not the owner-operator is actually covered by such an agreement.

To the direct cost of equipment rental and labor, computed as provided herein, will be added the markups for equipment rental and labor as provided in Section 20.3, titled "Change Order/Payment for Extra Work."

All force account work shall be adjusted daily upon Daily Extra Work report sheets, furnished to the CONTRACTOR by the ENGINEER and signed by both parties, which daily reports shall thereafter be considered the true record of force account work done.

20.3.9 Material Costs - Charges for the cost of materials furnished by the CONTRACTOR shall be made provided such furnishing was specifically authorized in the extra work order and the actual use verified by the ENGINEER. Charges shall be net cost to the CONTRACTOR delivered at the job, including all applicable sales taxes and vendor's invoice must accompany the billing along with verification of use of such materials by the ENGINEER.

20.4 DISPUTED CHANGE ORDER WORK VERIFICATION

A. In no event may the CONTRACTOR refuse to proceed with the work as directed by the ENGINEER. It is agreed and understood that the CONTRACTOR's failure to properly and timely carry out the directions of the ENGINEER shall be deemed as a material breach of this Contract.

B. If the CONTRACTOR believes that the DISTRICT or the ENGINEER has failed to provide a Change Order when one is due to the CONTRACTOR, or his subcontractors, the CONTRACTOR shall immediately notify the DISTRICT and the ENGINEER of such belief in writing and shall immediately document the work the CONTRACTOR feels justifies the Change Order in accordance with the provisions herein provided for in this Section 20.4.

C. The CONTRACTOR's failure to document the work as provided for in this Section 20.4 shall be deemed as a waiver by the CONTRACTOR of any right to an adjustment in Contract Price and/or Contract Time for the work in question. Likewise, the CONTRACTOR's failure to assert the disputed work in the Request for Payment and the Progress Payment Waiver covering the time period in question shall be deemed as a waiver by the CONTRACTOR of any right to an adjustment in Contract Price and/or Contract Time for the work in question.

D. For Disputed Change Order Work Verification, the CONTRACTOR, or his subcontractor through the CONTRACTOR, shall submit on a daily basis at the end of each day a Force Account Worksheet for the day to the DISTRICT's Representative for examination and review. The worksheet shall include an itemized breakdown of the labor, materials, tools and equipment used in performing the work. The DISTRICT's Representative shall receive the worksheet on a daily basis and shall provide to the CONTRACTOR a receipt to signifying the acceptance of the daily worksheet. The receipt only signifies that the DISTRICT's Representative has received the worksheet and in no way shall said receipt be construed as an admission by the DISTRICT, or the DISTRICT's Representative, that the matters claimed in the worksheet are accurate and require payment.

E. The DISTRICT's Representative shall examine and review the worksheet and make any adjustments as needed based upon the Representative's observations of the work that day; said adjustments shall be limited to the itemized break down of labor, materials, tools and equipment used in performing the work. The CONTRACTOR shall be given a copy of the worksheet with any adjustments noted by the DISTRICT's Representative the following day.

F. The Engineer shall review the worksheets as adjusted by the DISTRICT's Representative and shall verify the costs and entitlements listed on the same. As a part of this process, the Engineer shall reject for payment any portion of the Force Account Worksheet which does not reflect a Change in the Contract Price and/or Contract Time or which is otherwise improperly charged to the DISTRICT.

G. Once verified by the Engineer, any Work listed on the worksheets which the CONTRACTOR is entitled to payment for shall be paid along with the Progress Payment for the time period covering in question.

H. Submission of daily worksheets under this Section 20.4 shall not alleviate the CONTRACTOR's responsibility to properly list any and all claims, including but not limited to the claims found in the daily worksheets on the monthly Request for Payment and the Progress Payment Waiver covering the time period in question and the failure to do so shall act as a waiver to said claims. Likewise, it is agreed and understood that the submission of daily worksheets in accordance with this Section 20.4 is a condition precedent to the filing of any claim under Section 20.7, or any other applicable law, and the failure to submit a daily worksheet or worksheets shall act as a waiver to said claims.

20.5 PROGRESS PAYMENTS

Once each month the CONTRACTOR shall submit to the DISTRICT a Request for Payment, including waivers and releases, on forms to be provided by the DISTRICT. CONTRACTOR shall list all claims for payment, including all disputed claims if any, on the required monthly form for the work period covered by the form. CONTRACTOR acknowledges and agrees that the failure to list any and all work on the forms, including all disputed claims if any, shall act as a waiver and release of any claim the CONTRACTOR may have, of whatever type or nature, for the period specified on the required monthly form. Likewise, CONTRACTOR agrees and acknowledges that said monthly forms cannot be revised more than 7 days after the work period covered by the form and the Request for Payment shall follow the form of the Schedule of Values required by the ENGINEER.

In addition to the required monthly Request for Payment forms, CONTRACTOR must submit Waiver and Releases on forms provided by the DISTRICT. Waiver and Release submittal sequence shall be as follows:

1. Upon initial submittal for progress payment, submit for each subcontractor, material or equipment supplier a "**CONDITIONAL WAIVER AND RELEASE UPON PROGRESS PAYMENT**". If initial submittal is also a final submittal for any or all subcontractors, material or equipment suppliers, submit a "**CONDITIONAL WAIVER AND RELEASE UPON FINAL PAYMENT**" for those suppliers or subcontractors**.**

2. Upon each subsequent submittal for progress payment, submit for each subcontractor, material or equipment supplier a "**CONDITIONAL WAIVER AND RELEASE UPON PROGRESS PAYMENT**" for a total amount reflecting the current progress payment. Also submit an "**UNCONDITIONAL WAIVER AND RELEASE UPON PROGRESS PAYMENT**" reflecting the previous progress payment aggregate sum.

3. Upon submittal for final progress payment, submit for each subcontractor, material or equipment supplier a "**CONDITIONAL WAIVER AND RELEASE UPON FINAL PAYMENT**". Also submit an "**UNCONDITIONAL WAIVER AND RELEASE UPON PROGRESS PAYMENT**" reflecting the previous progress payment aggregate sum.

4. Prior to final payment, submit for each subcontractor, material or equipment supplier a "**CONDITIONAL WAIVER AND RELEASE UPON FINAL PAYMENT".**

5. Upon receipt of final payment**,** Contractor shall submit an "**UNCONDITIONAL WAIVER AND RELEASE UPON FINAL PAYMENT**".

Upon receipt of a Request for Payment, the DISTRICT shall review it as soon as practicable to determine if it is proper. Any Request for Payment determined not to be a proper request suitable for payment shall be returned to the CONTRACTOR as soon as practicable, but not less than seven (7) days after receipt. Any Request for Payment returned to the CONTRACTOR shall be accompanied by a document setting forth in writing the reasons why the request is not proper.

Upon receipt of an undisputed and properly submitted Request for Payment the DISTRICT shall prepare a written Progress Pay Estimate which shall include the total amount of work done including Contract Change Orders and/or force account and allowances for materials on hand. The Progress Pay Estimate shall be submitted to the DISTRICT Board of Directors for approval.

In accordance with the provisions of Section 20104.50 of the Public Contract Code, the DISTRICT shall pay interest at the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure on any Request for Payment submitted by the CONTRACTOR if the DISTRICT fails to make the progress payment within thirty (30) days after receipt of an undisputed and properly submitted Request for Payment. The number of days available to the DISTRICT to make a progress payment without incurring interest pursuant to Section 20104.50 of the Public Contract Code shall be reduced by the number of days by which the DISTRICT exceeds the seven (7) day requirement set forth above for the return of an improper Request for Payment.

Pipelines, whether paid on a lump sum or unit price basis shall be considered 75% complete when laid and backfilled with compaction tests passed; 85% complete when hydrostatic and bacteria tests have passed, and pipe has been tied-in to the DISTRICT'S system; and 100% complete when the paving is accepted.

To be acceptable for partial payment, materials on hand must be clean, undamaged, and properly stored as directed by the ENGINEER. The quantity of materials on hand shall not include materials used in any partially completed items of work. The Request for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that the DISTRICT has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances ("Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect DISTRICT'S interest therein, all of which will be satisfactory to DISTRICT. The amount of retainage with respect to progress payments will be as stipulated in the Contract.

Each Progress Pay Estimate shall include an accounting of the Contract time, including any allowances or revisions due to weather and/or Contract Change Orders.

The DISTRICT will pay ninety-five percent (95%) of the amount of each Progress Pay Estimate less any withholds under this or the following sections, within thirty (30) days of approval of the Progress Pay Estimate by the CONTRACTOR and the ENGINEER. No payments, except the final payment, shall constitute an acceptance of any portion of the work.

Prior to issuance of a check from the DISTRICT, the DISTRICT may require the CONTRACTOR to furnish the following information: a current list of subcontractors, current fringe benefit statements, apprenticeship certifications, and certified payrolls.

If the CONTRACTOR fails to correct a prevailing wage deficiency within fifteen (15) days after notification, a deduction shall be made. In such cases, the deduction shall be ten percent (10%) of the estimated value of the work done during the month, except that the deduction shall not exceed ten-thousand dollars ($10,000), nor be less than one-thousand dollars ($1,000), and shall be deducted from the progress payment.

Deductions for noncompliance shall be in addition to all other deductions provided for in these Specifications, and shall apply irrespective of the number of instances of noncompliance. Deductions shall be made separately and additively for each estimate period in which a new deficiency appears. When all deficiencies for a period have been corrected, the deduction covering that period shall be released on the next progress payment. Otherwise, the deduction shall be retained.

The CONTRACTOR may elect to receive one-hundred percent (100%) of payments due under the Contract from time to time, without retention of any portion of the payment by the DISTRICT, by depositing securities of equivalent value with the DISTRICT in accordance with the provisions of Section 22300 of the Public Contract Code. Such securities, if deposited by the CONTRACTOR, shall be valued by the DISTRICT, whose decision on valuation of the securities is final.

20.6 RIGHT TO WITHHOLD PAYMENTS

When, in the judgment of the ENGINEER, the work is not proceeding in accordance with the provisions of the Contract or good construction practice, or when in the ENGINEER's judgment the total amount of work done since the last estimate amounts to less than five thousand dollars ($5,000.00), the DISTRICT may elect to not prepare a Progress Pay Estimate and make no Progress Payment.

In addition to all other rights and remedies of the DISTRICT hereunder and by virtue of law, the DISTRICT may withhold or nullify the whole or any part of any progress payment or up to one-hundred and fifty percent (150%) of the disputed amount from the final payment (see California Public Contract Code Section 7107) to such extent as may reasonably be necessary to protect the DISTRICT from loss on account of:

A. Defective work not remedied, irrespective of when any such work be found to be defective;
B. Claims or liens filed or other reasonable evidence indicating probable filing of claims or liens including, but not limited to, claims under California Labor Code Sections 1775, 1776, or 1777.7;
C. Failure of the CONTRACTOR to make payments properly for labor, materials, equipment, or other facilities, or to subcontractors and/or suppliers;
D. A reasonable doubt that the work can be completed for the balance then unearned;
E. A reasonable doubt that the CONTRACTOR will complete the work within the agreed time limits;
F. Costs to the DISTRICT, including without limitation, liquidated damages, resulting from failure of the CONTRACTOR to complete the work within the proper time;
G. Failure to comply with environmental and other regulatory requirements;
H. Cost of insurance arranged by the DISTRICT due to cancellation or reduction of the CONTRACTOR's insurance;
I. Payments due the DISTRICT from the CONTRACTOR, including but not limited to the monthly service charge, and consumption charge for water used by CONTRACTOR;
J. Penalties under Labor Code Section 1775, 1776, 1777.5, 1810 through 1815, or any of them;
K. Failure to adequately supervise the work competently and efficiently and pursue completion of the Project with an adequate work force in compliance with established construction schedule;
L. Failure to maintain as-constructed information and Drawings current for the Project;
M. Provisions of law that enable or require the DISTRICT to withhold such payments in whole or in part; or
N. Damage to another contractor or third party, work or property.

Whenever the DISTRICT shall, in accordance herewith, withhold any monies otherwise due the CONTRACTOR, written notice of the amount withheld and the reasons therefore will be given the CONTRACTOR. After the CONTRACTOR has corrected the enumerated deficiencies, the DISTRICT will promptly pay to the CONTRACTOR the amount so withheld. When monies are withheld to protect the

DISTRICT against claims or liens of mechanics, suppliers, subcontractors, etc., the DISTRICT may at its discretion permit the CONTRACTOR to deliver a surety bond in terms and amount satisfactory to the DISTRICT, indemnifying the DISTRICT against any loss or expense, and upon acceptance thereof by the DISTRICT, the DISTRICT shall release to the CONTRACTOR monies so withheld.

20.7 CLAIMS PROCEDURES PRIOR TO ANY LEGAL ACTION

The CONTRACTOR shall not be entitled to the payment of any additional compensation or any extensions of time for any cause, including any act, or failure to act by the ENGINEER, or happening of any event, thing or occurrence, unless the CONTRACTOR shall have given the ENGINEER due written notice of potential claims as required under this Contract. The CONTRACTOR hereby agrees that he or she shall have no right to additional compensation or an extension of time for any claim that may be based on any act, failure to act, event, thing or occurrence for which no written notice of potential claim was filed prior to the CONTRACTOR commencing any action which the CONTRACTOR seeks additional compensation or an extension of time for. The CONTRACTOR further agrees that this Section 20.7 works in coordination with other Sections within this Contract, including and not limited to notice and verification provisions in those other Sections, and the CONTRACTOR's failure to abide by all of the provisions in those other Sections shall act as a waiver and release of any and all claims against the DISTRICT and/or its representatives.

It is also the general intention of this Section to implement the provisions of Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3 of the Public Contract Code of California.

All claims shall be filed in writing on or before the times prescribed herein, but in no event later than thirty (30) days after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty (60) days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim). All claims shall set forth clearly and in detail, for each item of additional compensation or extension of time claimed, the reasons for the claim, references to applicable provisions of the Specifications, the nature and the amount of the cost involved, the computations used in determining such costs, and all pertinent factual data necessary to substantiate the claim. No claim for an adjustment in the Contract price, or time, will be valid if not submitted in accordance with this Section and when applicable verified under the provisions of Section 20.4 and or Section 20.3. Likewise, the CONTRACTOR's failure to list any and all work, including all disputed claims if any, on the monthly Request for Payment and Release forms for the work period covered by the form shall act as a waiver and release of any claim the CONTRACTOR may have, of whatever type or nature.

20.7.1 Claims of Less Than Fifty-Thousand Dollars ($50,000) – The DISTRICT will respond in writing to claims for less than fifty-thousand dollars ($50,000) within forty-five (45) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the DISTRICT may have against the CONTRACTOR. If additional information is thereafter required, it shall be requested and provided pursuant to this subsection upon mutual agreement of the DISTRICT and the CONTRACTOR. The DISTRICT'S written response to the claim, as further documented, will be submitted to the CONTRACTOR within fifteen (15) days after receipt of the further documentation, or within a period of time no greater than that taken by the CONTRACTOR in producing the additional information, whichever is greater. If the CONTRACTOR is unsatisfied with the outcome of the DISTRICT'S written response, the CONTRACTOR must file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code before initialing any legal action.

20.7.2 Claims Over Fifty-Thousand Dollars ($50,000) But Not Over Three-Hundred and Seventy-Five Thousand Dollars ($375,000) –

The DISTRICT will respond in writing to claims over fifty-thousand dollars ($50,000) but not over three-hundred and seventy-five thousand dollars ($375,000) within forty-five (45) days of

receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the DISTRICT may have against the CONTRACTOR. If additional information is thereafter required, it shall be requested and provided pursuant to this subsection, upon mutual agreement of the DISTRICT and the CONTRACTOR. The DISTRICT's written response to the claim, as further documented, shall be submitted to the CONTRACTOR within thirty (30) days after receipt of the further documentation, or within a period of time no greater than that taken by the CONTRACTOR in producing the additional information or requested documentation, whichever is greater. If the CONTRACTOR is unsatisfied with the outcome of the DISTRICT'S written response, the CONTRACTOR must file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code before initialing any legal action.

20.7.3 All Claims of Three-Hundred and Seventy-Five Thousand Dollars ($375,000) or Less - If the CONTRACTOR disputes the DISTRICT'S written response or the DISTRICT fails to respond within the times prescribed for claims of three-hundred and seventy-five thousand dollars ($375,000) or less, the CONTRACTOR may so notify the DISTRICT, in writing, either within fifteen (15) days of receipt of the DISTRICT'S response or within fifteen (15) days of the DISTRICT'S failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon such a demand, the DISTRICT will schedule a meet and confer conference within thirty (30) days for settlement of the dispute. If following the meet and confer conference the claim or any portion remains in dispute, the CONTRACTOR must file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of this specific provision, the running of the period of time in which a claim must be filed shall be tolled from the time the CONTRACTOR submits his or her written claim pursuant to this Section until the time the claim is denied, including any period of time utilized by the meet and confer conference. The procedures governing all civil actions filed by the CONTRACTOR to resolve claims of three-hundred and seventy-five thousand dollars ($375,000) or less shall be those set forth in Public Contract Code Section 20104.4 which provides for mediation and judicial arbitration. In any suit filed under Section 20104.4, the DISTRICT shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law. The DISTRICT will pay any portion of a claim that is undisputed in accordance with the payment provisions of the Contract.

Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

20.7.4 Claims of Three-Hundred and Seventy-Five Thousand Dollars ($375,000) or More - All claims of $375,000 or more are subject to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. Jurisdiction over such claims shall rest with the Superior Court of the State of California in and for Kern County.

20.7.5 Final Payment - Whenever the CONTRACTOR shall deem all work under this Contract to have been completed in accordance therewith, he/she shall so notify the ENGINEER in writing, and the ENGINEER shall promptly ascertain whether the work has been satisfactorily completed and, if not, shall advise the CONTRACTOR in detail and in writing of any additional work required. Completion of work will include submittal and approval of 'As-Built' record Drawings and final O&M manuals. When all the provisions of the Contract have been fully complied with to the satisfaction of the ENGINEER, he/she shall proceed with all reasonable diligence to determine accurately the total value of all work performed by the CONTRACTOR at the prices set forth in the Contract or fixed by Change Orders, in accordance with the Contract. The ENGINEER will then certify to said final estimate and to the completion of the work, and will file copies thereof with the DISTRICT and the CONTRACTOR. The date of completion shall be the date upon which the DISTRICT makes its formal acceptance of the work.

Within ten (10) days after the date of completion, the DISTRICT will file in the Office of the County Recorder, a Notice of Completion of the work herein agreed to be done by the CONTRACTOR. On the expiration of thirty-five (35) days after the recordation of such Notice of Completion, the difference between said final estimate and all payments theretofore made to the CONTRACTOR shall be due and payable to the CONTRACTOR, subject to any requirements concerning the furnishing of a maintenance bond, and excepting only such sum or sums as may be withheld or deducted in accordance with the provisions of this Contract. All prior certifications, upon which partial payments may have been made, being merely estimates, shall be subject to correction in the final certificate.

It is mutually agreed between the parties to the Contract that no certificate given or payments made under the Contract, except the final certificate or final payment, shall be conclusive evidence of the performance of the Contract, either wholly or in part, against any claim of the DISTRICT, and no payment shall be construed to be an acceptance of any defective work or improper materials.

The CONTRACTOR further agrees that the payment of the final amount due under the Contract, and the adjustment and payment for any work done in accordance with any alteration of the same, shall release the DISTRICT, the Directors, the General Manager, the Project Manager, the ENGINEER, employees and volunteers, from any and all claims or liability on account of work performed under the Contract or any alteration thereof.

(END OF SECTION)

PROGRESS PAYMENT REQUEST RELEASE FORM

OWNER: Lamont Public Utility District

NAME OF CONTRACTOR: _____

PROJECT DESCRIPTION: Boardroom Tenant Improvement Remodel Project

PERIOD WORK PERFORMED: _____

PAYMENT REQUEST FOR THE WORK PERIOD COVERED: $_____

RETENTION AMOUNT FOR THIS PERIOD: $_____

The above named Contractor hereby acknowledges the above dollar amount represents payment in full for all compensation of whatever nature due the Contractor for all labor and materials furnished and for all work performed on the above-referenced project for the period specified above with the exception of disputed claim amounts specifically shown below.

DISPUTED CLAIMS

DESCRIPTION OF CLAIM	AMOUNT CLAIMED

The Contractor further expressly waives and releases any claim the Contractor may have, of whatever type or nature, which is not shown as a disputed claim on this form for the period specified. This release and waiver has been made voluntarily by Contractor without any fraud, duress, or undue influence by any person or entity.

Contractor further certifies, warrants, and represents that all bills for labor, materials and work due subcontractors for the specified period have been paid in full and that the parties signing below on behalf of Contractor have express authority to execute this release.

DATED:_____

_____

PRINT NAME OF CONTRACTOR

_____

DESCRIBE ENTITY (Partnership, Corporate, etc.)

By_____

By_____

PROGRESS/FINAL PAYMENT RELEASE FORM

OWNER: Lamont Public Utility District

NAME OF CONTRACTOR: _____

PROJECT DESCRIPTION: Boardroom Tenant Improvement Remodel Project

PERIOD WORK PERFORMED: _____

PAYMENT REQUEST FOR THE WORK PERIOD COVERED: $_____

RETENTION AMOUNT FOR THIS PERIOD: $_____

The above named Contractor hereby acknowledges payment in full for all compensation of whatever nature due the Contractor for all labor and materials furnished and for all work performed on the above-referenced project for the period specified above with the exception of disputed claim amounts specifically shown below.

DISPUTED CLAIMS

DESCRIPTION OF CLAIM	AMOUNT CLAIMED

The Contractor further expressly waives and releases any claim the Contractor may have, of whatever type or nature, which is not shown as a disputed claim on this form for the period specified. This release and waiver has been made voluntarily by Contractor without any fraud, duress, or undue influence by any person or entity.

Contractor further certifies, warrants, and represents that all bills for labor, materials and work due subcontractors for the specified period have been paid in full and that the parties signing below on behalf of Contractor have express authority to execute this release.

DATED:_____

_____

PRINT NAME OF CONTRACTOR

_____

DESCRIBE ENTITY (Partnership, Corporate, etc.)

By_____

By_____

CONDITIONAL WAIVER AND RELEASE UPON PROGRESS PAYMENT

Upon receipt by the undersigned of a check from _____
(Maker of Check)

in the sum of $_____ payable to_____
(Amount of Check) (Payee or Payees of Check)

and when the check has been properly endorsed and has been paid by the bank upon which it is drawn, this document shall become effective to release any mechanic's lien, stop notice, or bond right the undersigned has on the job of

Lamont Public Utility District located at the Boardroom Tenant Improvements Project at 8624 Segrue Rd
(Owner) (Job Description)

to the following extent. This release covers a progress payment for labor, services, equipment, or material furnished to

_____ through _____
(Your Customer) (Date)

only and does not cover any retentions retained before or after the release date or extras or items furnished after the release date. Rights based upon work performed or items furnished under a written change order which has been fully executed by the parties prior to the release date are covered by this release unless specifically reserved by the claimant in this release. Likewise the rights based upon any work performed or items furnished which the undersigned, or the Contractor, believe should be paid as part of a change order are covered by this release unless specifically reserved by the claimant. This release and waiver has been made voluntarily without any fraud, duress, or undue influence by any person or entity.

DISPUTED CLAIMS

DESCRIPTION OF CLAIM **AMOUNT CLAIMED**

DATE: _____ _____
(Company Name)

By: _____ _____
(Signature) (Title)

UNCONDITIONAL WAIVER AND RELEASE UPON PROGRESS PAYMENT

The undersigned has been paid and has received a progress payment in the sum of $_____

for labor, services, equipment and/or material furnished to _____ on the job of

Lamont Public Utility District located at the Boardroom Tenant Improvements Project at 8624 Segrue Rd

and does hereby release any mechanic's lien, stop notice, or bond right that the undersigned has on the above referenced job to the following extent. This release covers a progress payment for labor, services, equipment and/or materials furnished to

_____ through _____ only, and does not
(Your Customer) (Date)

cover any retentions retained before or after the release date or extras or items furnished after the release date. Rights based upon work performed or items furnished under a written change order which has been fully executed by the parties prior to the release date are covered by this release unless specifically reserved by the claimant in this release. Likewise the rights based upon any work performed or items furnished which the undersigned, or the Contractor, believe should be paid as part of a change order are covered by this release unless specifically reserved by the claimant. This release and waiver has been made voluntarily without any fraud, duress, or undue influence by any person or entity.

DISPUTED CLAIMS

DESCRIPTION OF CLAIM **AMOUNT CLAIMED**

DATE: _____ _____
(Company Name)

By: _____ _____
(Signature) (Title)

NOTICE: THIS DOCUMENT WAIVES RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL RELEASE FORM.

CONDITIONAL WAIVER AND RELEASE UPON FINAL PAYMENT

Upon receipt by the undersigned of a check from _____
(Maker of Check)

in the sum of $_____ payable to _____
(Amount of Check) (Payee or Payees of Check)

and when the check has been properly endorsed and has been paid by the bank upon which it is drawn, this document shall become effective to release any mechanic's lien, stop notice, or bond right the undersigned has on the job of

Lamont Public Utility District located at the Boardroom Tenant Improvements Project at 8624 Segrue Rd
(Owner) (Job Description)

This release covers the final payment to the undersigned for all labor, services, equipment, or material furnished on the job. Likewise, this release covers rights based upon any work performed or items furnished which the undersigned, or the Contractor, believe should be paid as part of a change order are covered by this release unless specifically reserved by the claimant. This release and waiver has been made voluntarily without any fraud, duress, or undue influence by any person or entity.

DISPUTED CLAIMS

DESCRIPTION OF CLAIM **AMOUNT CLAIMED**

DATE: _____ _____
(Company Name)

By: _____ _____
(Signature) (Title)

UNCONDITIONAL WAIVER AND RELEASE UPON FINAL PAYMENT

The under signed has been paid in full for all labor, services, equipment or material furnished to

_____ on the job of Lamont Public Utility District
(Your Customer) (Owner)

located at the Boardroom Tenant Improvements Project at 8624 Segrue Rd and does
(Job Description)

hereby waive and release any right to a mechanic's lien, stop notice, or any right against a labor and material bond on the job. This release covers the final payment to the undersigned for all labor, services, equipment, or material furnished on the job. Likewise, this release covers rights based upon any work performed or items furnished which the undersigned, or the Contractor, believe should be paid as part of a change order are covered by this release unless specifically reserved by the claimant. This release and waiver has been made voluntarily without any fraud, duress, or undue influence by any person or entity.

DISPUTED CLAIMS

DESCRIPTION OF CLAIM **AMOUNT CLAIMED**

DATE: _____ _____
(Company Name)

By: _____ _____
(Signature) (Title)

NOTICE: THIS DOCUMENT WAIVES RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL RELEASE FORM.

SECTION T

TECHNICAL SPECIFICATIONS

LAMONT PUBLIC UTILITY DISTRICT

BOARDROOM TENANT IMPROVEMENTS
REMODEL PROJECT

DECEMBER 2024

Technical Specifications

December 6, 2024

Lamont Public Utility District

Boardroom Tenant Improvement Remodel

8624 Segrue Road, Lamont CA 93241

INLAND ARCHITECTS

Boardroom TI - Lamont Public Utility District

23046

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SECTION 024100
DEMOLITION

PART 1 GENERAL

2.01 SECTION INCLUDES

A. Selective demolition of built site elements.

B. Selective demolition of building elements for alteration purposes.

C. Abandonment and removal of existing utilities and utility structures.

2.02 RELATED REQUIREMENTS

A. Section 312323 - Fill: Filling holes, pits, and excavations generated as a result of removal operations.

2.03 DEFINITIONS

A. Demolition: Dismantle, raze, destroy or wreck any building or structure or any part thereof.

B. Remove: Detach or dismantle items from existing construction and dispose of them off site, unless items are indicated to be salvaged or reinstalled.

C. Remove and Salvage: Detach or dismantle items from existing construction in a manner to prevent damage. Clean, package, label and deliver salvaged items to Owner in ready-for-reuse condition.

D. Remove and Reinstall: Detach or dismantle items from existing construction in a manner to prevent damage. Clean and prepare for reuse and reinstall where indicated.

E. Existing to Remain: Designation for existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

2.04 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction; Current Edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

PART 3 EXECUTION

3.01 DEMOLITION

A. Remove other items indicated, for salvage, relocation, recycling, and _____.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with requirements in Section 017000.

B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Comply with applicable requirements of NFPA 241.
   3. Use of explosives is not permitted.
   4. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   5. Provide, erect, and maintain temporary barriers and security devices.
   6. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
   7. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   8. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
   9. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
   10. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.

C. Do not begin removal until receipt of notification to proceed from Owner.

D. Do not begin removal until built elements to be salvaged or relocated have been removed.

E. Protect existing structures and other elements to remain in place and not removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

F. Minimize production of dust due to demolition operations. Do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

G. Hazardous Materials:
   1. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCBs, and mercury.
   2. Hazardous Materials: Comply with 29 CFR 1926 and state and local regulations.

H. Perform demolition in a manner that maximizes salvage and recycling of materials.
   1. Comply with requirements of Section 017419 - Construction Waste Management and Disposal.
   2. Dismantle existing construction and separate materials.
   3. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.

3.03 EXISTING UTILITIES

A. Coordinate work with utility companies. Notify utilities before starting work, comply with their requirements, and obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Existing construction and utilities indicated on drawings are based on casual field observation and existing record documents only.
   1. Verify construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Maintain weatherproof exterior building enclosure, except for interruptions required for replacement or modifications; prevent water and humidity damage.

C. Remove existing work as indicated and required to accomplish new work.
   1. Remove items indicated on drawings.

D. Services including, but not limited to, HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications: Remove existing systems and equipment as indicated.
   1. Maintain existing active systems to remain in operation, and maintain access to equipment and operational components.
   2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.

3. Verify that abandoned services serve only abandoned facilities before removal.
4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings. Remove back to source of supply where possible, otherwise cap stub and tag with identification.

E. Protect existing work to remain.
1. Prevent movement of structure. Provide shoring and bracing as required.
2. Perform cutting to accomplish removal work neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.
4. Patch to match new work.

3.05 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Remove materials not to be reused on site; comply with requirements of Section 017419 - Waste Management.

C. Leave site in clean condition, ready for subsequent work.

D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION 024100

SECTION 030516
UNDERSLAB VAPOR BARRIER - STEGO

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Sheet vapor barrier under concrete slabs on grade.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

A. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs; 2018a.

B. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2017 (Reapproved 2023).

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit manufacturers' data on manufactured products.

C. Samples: Submit samples of underslab vapor barrier to be used.

D. Manufacturer's Installation Instructions: Indicate installation procedures and interface required with adjacent construction.

PART 2 PRODUCTS

2.01 MATERIALS

A. Underslab Vapor Barrier:
   1. Water Vapor Permeance: Not more than 0.010 perms, maximum.
   2. Thickness: 15 mils.
   3. Product:
      a. Stego Industries LLC; Stego Wrap Vapor Barrier (15-mil): www.stegoindustries.com/#sle.

B. Accessory Products: Vapor barrier manufacturer's recommended tape, adhesive, mastic, etc., for sealing seams and penetrations in vapor barrier.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surface over which vapor barrier is to be installed is complete and ready before proceeding with installation of vapor barrier.

3.02 INSTALLATION

A. Install vapor barrier in accordance with manufacturer's instructions and ASTM E1643.

B. Install vapor barrier under interior slabs on grade; lap sheet over footings and seal to foundation walls.

C. Lap joints minimum 6 inches.

D. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions.

E. No penetration of vapor barrier is allowed except for reinforcing steel and permanent utilities.

F. Repair damaged vapor retarder before covering with other materials.

END OF SECTION 030516

SECTION 031000
CONCRETE FORMING AND ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Formwork for cast-in-place concrete, with shoring, bracing and anchorage.

B. Openings for other work.

C. Form accessories.

D. Form stripping.

1.02 RELATED REQUIREMENTS

A. Section 032000 - Concrete Reinforcing.

B. Section 033000 - Cast-in-Place Concrete.

C. Section 051200 - Structural Steel Framing: Placement of embedded steel anchors and plates in cast-in-place concrete.

D. Section 312316 - Excavation: Shoring and underpinning for excavation.

1.03 REFERENCE STANDARDS

A. ACI SPEC-301 - Specifications for Concrete Construction; 2020.

1.04 QUALITY ASSURANCE

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver prefabricated forms and installation instructions in manufacturer's packaging.

B. Store prefabricated forms off ground in ventilated and protected manner to prevent deterioration from moisture.

C. Protect plastic foam products from damage and exposure to sunlight.

PART 2 PRODUCTS

2.01 FORMWORK - GENERAL

A. Provide concrete forms, accessories, shoring, and bracing as required to accomplish cast-in-place concrete work.

B. Design and construct concrete that complies with design with respect to shape, lines, and dimensions.

C. Comply with applicable state and local codes with respect to design, fabrication, erection, and removal of formwork.

2.02 WOOD FORM MATERIALS

A. Form Materials: At the discretion of the Contractor.

2.03 FORMWORK ACCESSORIES

A. Form Release Agent: Capable of releasing forms from hardened concrete without staining or discoloring concrete or forming bugholes and other surface defects, compatible with concrete and form materials, and not requiring removal for satisfactory bonding of coatings to be applied.
   1. Do not use materials containing diesel oil or petroleum-based compounds.

B. Dowel Sleeves: Plastic sleeve and nailable plastic base for smooth, round, steel load-transfer dowels.

C. Embedded Anchor Shapes, Plates, Angles and Bars: As specified in Section 051200.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify lines, levels and centers before proceeding with formwork. Ensure that dimensions agree with drawings.

3.02 EARTH FORMS

A. Hand trim sides and bottom of earth forms. Remove loose soil prior to placing concrete.

3.03 ERECTION - FORMWORK

A. Erect formwork, shoring and bracing to achieve design requirements, in accordance with requirements of ACI SPEC-301.

B. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to overstressing by construction loads.

C. Install stay in place mesh steel formwork in accordance with manufacturer's recommendations.

D. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.

E. Align joints and make watertight. Keep form joints to a minimum.

F. Coordinate this section with other sections of work that require attachment of components to formwork.

G. If formwork is placed after reinforcement, resulting in insufficient concrete cover over reinforcement, request instructions from Architect before proceeding.

3.04 APPLICATION - FORM RELEASE AGENT

A. Apply form release agent on formwork in accordance with manufacturer's recommendations.

3.05 INSERTS, EMBEDDED PARTS, AND OPENINGS

A. Provide formed openings where required for items to be embedded in passing through concrete work.

B. Locate and set in place items that will be cast directly into concrete.

C. Coordinate with work of other sections in forming and placing openings, slots, reglets, recesses, sleeves, bolts, anchors, other inserts, and components of other work.

3.06 FORM CLEANING

A. Clean forms as erection proceeds, to remove foreign matter within forms.

B. Clean and protect permanent insulated concrete foam panel formwork per manufacturer's recommendations.

C. Clean formed cavities of debris prior to placing concrete.

3.07 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 014000 - Quality Requirements.

3.08 FORM REMOVAL

A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.

B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.

END OF SECTION 031000

SECTION 032000
CONCRETE REINFORCING

PART 1 GENERAL

2.01 SECTION INCLUDES

A. Reinforcing steel for cast-in-place concrete.

2.02 RELATED REQUIREMENTS

A. Section 031000 - Concrete Forming and Accessories.

B. Section 033000 - Cast-in-Place Concrete.

C. Section 260526 - Grounding and Bonding for Electrical Systems: Grounding connection to concrete reinforcement.

2.03 REFERENCE STANDARDS

A. ACI CODE-318 - Building Code Requirements for Structural Concrete and Commentary; 2019 (Reapproved 2022).

B. ACI SPEC-301 - Specifications for Concrete Construction; 2020.

C. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2022.

D. ASTM A704/A704M - Standard Specification for Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement; 2019, with Editorial Revision.

E. ASTM A706/A706M - Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement; 2022a.

F. ASTM A996/A996M - Standard Specification for Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement; 2016.

G. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2022.

H. AWS D1.4/D1.4M - Structural Welding Code - Steel Reinforcing Bars; 2018, with Amendment (2020).

I. CRSI (DA4) - Manual of Standard Practice; 2023.

2.04 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI SPEC-301.

PART 2 PRODUCTS

3.01 REINFORCEMENT

A. Reinforcing Steel: ASTM A706/A706M, deformed low-alloy steel bars.

B. Reinforcing Steel: Deformed bars, ASTM A996/A996M Grade 40 (280), Type A.

C. Reinforcing Steel Mat: ASTM A704/A704M, using ASTM A615/A615M, Grade 40 (40,000 psi) steel bars or rods, unfinished.

D. Stirrup Steel: ASTM A1064/A1064M steel wire, unfinished.

E. Steel Welded Wire Reinforcement (WWR): Galvanized, deformed type; ASTM A1064/A1064M.

3.02 RE-BAR SPLICING:

A. Coupler Systems: Mechanical devices for splicing reinforcing bars.
   1. Comply with ACI CODE-318 steel reinforcing design strength requirements for splices in tension and compression.

B. Dowel Bar Splicer with Dowel-Ins: Mechanical devices for splicing reinforcing bars.
   1. Comply with ACI CODE-318 steel reinforcing design strength requirements for splices in tension and compression.

C. Taper Tie Hole Plug: Mechanical device for plugging tie holes; anchors optional flush or recessed grout.

D. Grout: Cementitious, non-metallic, non-shrink grout for use with manufacturer's grout sleeve reinforcing bar coupler system.

3.03 FABRICATION

A. Fabricate concrete reinforcing in accordance with CRSI (DA4) - Manual of Standard Practice.

B. Welding of reinforcement is permitted only with the specific approval of Architect. Perform welding in accordance with AWS D1.4/D1.4M.

END OF SECTION 032000

SECTION 033000
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete formwork.

B. Concrete building frame members.

C. Floors and slabs on grade.

D. Concrete reinforcement.

E. Joint devices associated with concrete work.

F. Miscellaneous concrete elements, including equipment pads, equipment pits, light pole bases, flagpole bases, thrust blocks, and manholes.

G. Concrete curing.

1.02 RELATED REQUIREMENTS

A. Section 032000 - Concrete Reinforcing.

B. Section 079200 - Joint Sealants: Products and installation for sealants and joint fillers for saw cut joints and isolation joints in slabs.

C. Section 321313 - Concrete Paving: Sidewalks, curbs and gutters.

1.03 REFERENCE STANDARDS

A. ACI CODE-318 - Building Code Requirements for Structural Concrete and Commentary; 2019 (Reapproved 2022).

B. ACI PRC-211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide; 2022.

C. ACI PRC-302.1 - Guide to Concrete Floor and Slab Construction; 2015.

D. ACI PRC-304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000 (Reapproved 2009).

E. ACI PRC-305 - Guide to Hot Weather Concreting; 2020.

F. ACI PRC-306 - Guide to Cold Weather Concreting; 2016.

G. ACI PRC-308 - Guide to External Curing of Concrete; 2016.

H. ACI PRC-347 - Guide to Formwork for Concrete; 2014 (Reapproved 2021).

I. ACI SPEC-117 - Specification for Tolerances for Concrete Construction and Materials; 2010 (Reapproved 2015).

J. ACI SPEC-301 - Specifications for Concrete Construction; 2020.

K. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2022.

L. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2023.

M. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2023.

N. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2024.

O. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a (Reapproved 2016).

P. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2019.

Q. ASTM C330/C330M - Standard Specification for Lightweight Aggregates for Structural Concrete; 2023.

R. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2019, with Editorial Revision (2022).

S. ASTM C618 - Standard Specification for Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2023, with Editorial Revision.

T. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing; 2017.

U. ASTM C1059/C1059M - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete; 2021.

V. ASTM C1116/C1116M - Standard Specification for Fiber-Reinforced Concrete; 2023.

W. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures; 2020.

X. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete; 2019.

Y. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete; 2022.

Z. ASTM D471 - Standard Test Method for Rubber Property--Effect of Liquids; 2016a (Reapproved 2021).

AA. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs; 2018a.

BB. COE CRD-C 513 - Handbook for Concrete and Cement Corps of Engineers Specifications for Rubber Waterstops; 1974.

CC. COE CRD-C 572 - Handbook for Concrete and Cement Corps of Engineers Specifications for Polyvinylchloride Waterstop; 1974.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.
   1. For curing compounds, provide data on method of removal in the event of incompatibility with floor covering adhesives.
   2. For chemical-resistant waterstops, provide data on ASTM D471 test results.

C. Mix Design: Submit proposed concrete mix design.
   1. Indicate proposed mix design complies with requirements of ACI SPEC-301, Section 4 - Concrete Mixtures.
   2. Indicate proposed mix design complies with requirements of ACI CODE-318, Chapter 5 - Concrete Quality, Mixing and Placing.
   3. Indicate proposed mix design complies with fiber reinforcing manufacturer's written recommendations.

D. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

E. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI SPEC-301 and ACI CODE-318.
   1. Maintain one copy of each document on site.

B. Follow recommendations of ACI PRC-305 when concreting during hot weather.

C. Follow recommendations of ACI PRC-306 when concreting during cold weather.

D. For slabs required to include moisture vapor reducing admixture (MVRA), do not proceed with placement unless manufacturer's representative is present for every day of placement.

1.06 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.
   1. Include cost of repair or removal of failed flooring, placement of topical moisture remediation system, and replacement of flooring with comparable flooring system.

B. Moisture Emission-Reducing Curing and Sealing Compound, Membrane-Forming: Provide warranty to cover cost of flooring delamination failures for 10 years.
   1. Include cost of repair or removal of failed flooring, remediation with a moisture vapor impermeable surface coating, and replacement of flooring with comparable flooring system.

PART 2 PRODUCTS

2.01 FORMWORK

A. Comply with requirements of Section 031000.

B. Formwork Design and Construction: Comply with guidelines of ACI PRC-347 to provide formwork that will produce concrete complying with tolerances of ACI SPEC-117.

C. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
   1. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface.

2.02 REINFORCEMENT MATERIALS

A. Comply with requirements of Section 032000.

B. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).

C. Reinforcement Accessories:

2.03 CONCRETE MATERIALS

A. Cement: ASTM C150/C150M, Type I - Normal unless noted otherwise on plans and soils report - report takes authority - Portland type. Provide _____manufactured by _____.

B. Fine and Coarse Aggregates: ASTM C33/C33M.
   1. Acquire aggregates for entire project from same source.

C. Lightweight Aggregate: ASTM C330/C330M.

D. Fly Ash: ASTM C618, Class C or F.

E. Calcined Pozzolan: ASTM C618, Class N.

F. Silica Fume: ASTM C1240, proportioned in accordance with ACI PRC-211.1.

G. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

H. Early Age Crack-Control Fiber Reinforcement: ASTM C1116/C1116M.

I. Blended Fiber Reinforcement: ASTM C1116/C1116M, engineered blend of two or more sizes of reinforcing fibers.

J. Packaged Dry Material for Concrete Countertops: Premixed cementitious materials for use in casting countertops and furniture; color and decorative aggregate optional.

2.04 ADMIXTURES

A. Chemical Admixture:

B. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

C. Air Entrainment Admixture: ASTM C260/C260M.

D. High Range Water Reducing and Retarding Admixture: ASTM C494/C494M Type G.

E. High Range Water Reducing Admixture: ASTM C494/C494M Type F.

F. Water Reducing and Retarding Admixture: ASTM C494/C494M Type D.

G. Accelerating Admixture: ASTM C494/C494M Type C.

H. Retarding Admixture: ASTM C494/C494M Type B.

I. Water Reducing Admixture: ASTM C494/C494M Type A.

J. Shrinkage Reducing Admixture:

K. Moisture Vapor Reducing Admixture (MVRA): Liquid, inorganic admixture free of volatile organic compounds (VOCs). Closes capillary systems formed during concrete curing to reduce moisture vapor emission and transmission. Reduces concrete shrinkage with no adverse effect on

concrete properties or applied flooring.

2.05 ACCESSORY MATERIALS

2.06 BONDING AND JOINTING PRODUCTS

A. Latex Bonding Agent: Non-redispersable acrylic latex, complying with ASTM C1059/C1059M, Type II.

B. Waterstops: Rubber, complying with COE CRD-C 513.

C. Waterstops: PVC, complying with COE CRD-C 572.

D. Slab Isolation Joint Filler: 1/2-inch thick, height equal to slab thickness, with removable top section forming 1/2-inch deep sealant pocket after removal.

E. Slab Construction Joint Devices: Combination keyed joint form and screed, galvanized steel, with rectangular or round knockout holes for conduit or rebar to pass through joint form at 6 inches on center; ribbed steel stakes for setting.

F. Dowel Sleeves: Plastic sleeve for smooth, round, steel load-transfer dowels.

G. Plate Dowel System: Steel plate dowel and plastic dowel sleeve; with integral fasteners for attachment to formwork.

2.07 CURING MATERIALS

A. Evaporation Reducer: Liquid thin-film-forming compound that reduces rapid moisture loss caused by high temperature, low humidity, and high winds; intended for application immediately after concrete placement.

B. Curing Compound, Naturally Dissipating: Clear, water-based, liquid membrane-forming compound; complying with ASTM C309.

C. Curing Agent, Water-Cure Equivalent Type: Clear, water-based, non-film-forming, liquid-water cure replacement agent.
   1. Comply with ASTM C309 standards for water retention.
   2. Compressive Strength of Treated Concrete: Equal to or greater than strength after 14-day water cure when tested in accordance with ASTM C39/C39M.
   3. VOC Content: Zero.

D. Curing and Sealing Compound, Moisture Emission-Reducing, Membrane-Forming: Clear, liquid sealer for application to newly-placed concrete; capable of providing adequate bond for flooring adhesives, initially and over the long term; with sufficient moisture vapor impermeability to prevent deterioration of flooring adhesives due to moisture emission.
   1. Use this product to cure and seal all slabs to receive adhesively applied flooring or roofing.
   2. Comply with ASTM C309 and ASTM C1315 Type I Class A.
   3. VOC Content: Less than 100 g/L.

2.08 CONCRETE MIX DESIGN

A. Admixtures: Add acceptable admixtures as recommended in ACI PRC-211.1 and at rates recommended or required by manufacturer.

B. Fiber Reinforcement: if indicated on plans per plans

2.09 MIXING

A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.
   1. Fiber Reinforcement: Batch and mix as recommended by manufacturer for specific project conditions.

B. Transit Mixers: Comply with ASTM C94/C94M.

C. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

D. Do not use shrinkage-reducing admixture (SRA) in same concrete batch with MVRA or PIA.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

A. Formwork: Comply with requirements of ACI SPEC-301. Design and fabricate forms to support all applied loads until concrete is cured and for easy removal without damage to concrete.

B. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent in according to bonding agent manufacturer's instructions.
   1. Use latex bonding agent only for non-load-bearing applications.

C. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Comply with ASTM E1643. Lap joints minimum 6 inches. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.

3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

A. Comply with requirements of ACI SPEC-301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.

C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

3.04 PLACING CONCRETE

A. Place concrete in accordance with ACI PRC-304.

B. Place concrete for floor slabs in accordance with ACI PRC-302.1.

C. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.

D. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.05 SLAB JOINTING

A. Locate joints as indicated on drawings.

B. Anchor joint fillers and devices to prevent movement during concrete placement.

C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.

3.06 FLOOR FLATNESS AND LEVELNESS TOLERANCES

A. Maximum Variation of Surface Flatness:
   1. Exposed Concrete Floors: 1/4 inch in 10 feet.
   2. Under Seamless Resilient Flooring: 1/4 inch in 10 feet.
   3. Under Carpeting: 1/4 inch in 10 feet.

B. Correct the slab surface if tolerances are less than specified.

C. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.07 CONCRETE FINISHING

A. Repair surface defects, including tie holes, immediately after removing formwork.

B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.

C. Concrete Slabs: Finish to requirements of ACI PRC-302.1 and as follows:
   1. Other Surfaces to Be Left Exposed: Trowel as described in ACI PRC-302.1, minimizing burnish marks and other appearance defects.

3.08 CURING AND PROTECTION

A. Comply with requirements of ACI PRC-308. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

C. Surfaces Not in Contact with Forms:
   1. Slabs and Floors To Receive Adhesive-Applied Flooring: Curing compounds and other surface coatings are usually considered unacceptable by flooring and adhesive manufacturers. If such materials must be used, either obtain the approval of the flooring and adhesive manufacturers prior to use or remove the surface coating after curing to flooring manufacturer's satisfaction.
   2. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
   3. Final Curing: Begin after initial curing but before surface is dry.

3.09 DEFECTIVE CONCRETE

A. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.

B. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect for each individual area.

END OF SECTION 033000

SECTION 033005
MOISTURE VAPOR REDUCING ADMIXTURE FOR CAST-IN-PLACE CONCRETE - SPG

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Water vapor reducing admixture (WVRA) for cast-in-place concrete - this section applies if indicated on plans or recommended by concrete sub contractor and general contractor

1.02 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Finishing of concrete surface to tolerance; floating, troweling, and similar operations; curing.

1.03 REFERENCE STANDARDS

A. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2019, with Editorial Revision (2022).

B. ASTM D5084 - Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter; 2016a.

C. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2023.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this section; require attendance by all affected installers.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.

C. Mix Design: Submit MVRA manufacturer approval of proposed concrete mix design.

D. Field Quality Control Submittals: Include project name and number, date of MVRA application, name of testing agency, location of concrete batch in work, mix proportions, materials, and test result.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than ten years of documented experience.

B. Concrete Supplier Qualifications: Company certified by MVRA manufacturer with not less than three years of documented experience.

C. Concrete Finisher Qualifications: Company certified by MVRA manufacturer with not less than three years of documented experience, and approved by manufacturer.

D. Moisture Testing: By MVRA manufacturer's representative.

E. Bond Testing: By MVRA manufacturer's representative.

F. For slabs required to to have MVRA, do not proceed with placement unless manufacturer's representative is present for every day of placement.

G. Obtain MVRA from a single manufacturer.

PART 2 PRODUCTS

2.01 MOISTURE VAPOR REDUCING ADMIXTURE

A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

B. Moisture Vapor Reducing Admixture (WVRA): ASTM C494/C494M, Type S; liquid, inorganic admixture free of volatile organic compounds (VOCs); formulated to react with cementitious material to integrally and permanently close capillary systems formed during curing.
   1. Capillary Break: Calcium silicate hydrate.

2. Water Vapor Permeance: 0.03 perms, maximum, when tested in accordance with ASTM E96/E96M.
3. Hydraulic Conductivity: 3.28 x 10^-8 feet per second, maximum, when tested according to ASTM D5084.
4. Toxicity: None.
5. Solvent: Water.
6. Hazardous Vapors: None.
7. Products:
   a. Specialty Products Group; Vapor Lock 20/20: www.spggogreen.com/#sle.

PART 3 EXECUTION

3.01 PREPARATION

A. Where new concrete with MVRA is to be bonded to previously placed concrete, prepare surfaces according to admixture manufacturer's instructions.

3.02 INSTALLATION

A. Dispense MVRA according to mix design and supplier's written instructions.

B. Add MVRA to concrete according to manufacturer's written instructions.

C. Place and cure concrete as specified in Section 033000.

3.03 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. An independent testing agency will perform field quality control tests, as specified in Section 014000.

C. Provide free access to concrete operations at project site and cooperate with appointed testing agency.

D. Slab Testing: Cooperate with manufacturer of specified moisture vapor reducing admixture (MVRA) to allow access for sampling and testing concrete for compliance with warranty requirements.

E. Maintain four concrete cylinders for one year from date of Substantial Completion.

F. Test cylinders as required by WRVA manufacturer.

G. Demonstrate test cylinders comply with requirements specified in Part 2.

H. Test one cylinder per project.

I. Field Quality Control Reports:
   1. Submit test results to Architect, Contractor, and WVRA manufacturer, within 48 hours of testing.
   2. Include project name, project number, date of MVRA application, name of testing agency, location of concrete in the Work, concrete mix design, and waterproofing capability.

J. Defective Concrete: Concrete not complying with specified requirements.

K. When test results indicate concrete does not comply with specified requirements, conducts additional tests as directed by Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

L. Repair or replacement of defective concrete will be determined by the Architect.

END OF SECTION 033005

SECTION 035400
CAST UNDERLAYMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Liquid-applied self-leveling floor underlayment - if indicated on plans or if needed to level deficiently level slab.
   1. Use cementitious type at _____.

1.02 REFERENCE STANDARDS

A. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 50 mm [2 in.] Cube Specimens); 2023.

B. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete; 2022.

C. ASTM C348 - Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars; 2021.

D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

1.03 QUALITY ASSURANCE

A. Applicator Qualifications: Company specializing in performing the work of this section, and approved by manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Gypsum Underlayment:
   1. Arcosa Specialty Products; Accucrete: www.arcosaspecialtymaterials.com/#sle.
   2. ARDEX Engineered Cements; ARDEX K 22 F with ARDEX P51 Primer: www.ardexamericas.com/#sle.
   3. Substitutions: See Section 016000 - Product Requirements.

B. Cementitious Underlayment:
   1. ARDEX Engineered Cements; ARDEX K 34 LIGHTWEIGHT with ARDEX P51 Primer: www.ardexamericas.com/#sle.
   2. Custom Building Products; CL-150 Self-Leveling Underlayment: www.custombuildingproducts.com/#sle.
   3. LATICRETE International, Inc; LATICRETE NXT LEVEL PLUS with NXT PRIMER: www.laticrete.com/#sle.

2.02 MATERIALS

A. Cast Underlayments, General:
   1. Comply with applicable code for combustibility or flame spread requirements.
   2. Provide certificate of compliance from authority having jurisdiction indicating approval of underlayment materials in the required fire rated assembly.

B. Cementitious Underlayment: Blended cement mix, that when mixed with water in accordance with manufacturer's directions will produce self-leveling underlayment with the following properties:
   1. Compressive Strength: Minimum _____pounds per square inch after 28 days, tested per ASTM C109/C109M.
   2. Flexural Strength: Minimum 1000 psi after 28 days, tested per ASTM C348.
   3. Density: 125 pounds per cubic foot, nominal.
   4. Final Set Time: 1-1/2 to 2 hours, maximum.
   5. Thickness: Capable of thicknesses from feather edge to maximum 3-1/2 inch.
   6. Surface Burning Characteristics: Flame spread/Smoke developed index of 0/0 in accordance with ASTM E84.

C. Aggregate: Dry, well graded, washed silica aggregate, approximately 1/8 inch in size and acceptable to underlayment manufacturer.

D. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to underlayment mix materials.

E. Primer: Manufacturer's recommended type.

F. Joint and Crack Filler: Latex-based filler, as recommended by manufacturer.

2.03 MIXING

A. Site mix materials in accordance with manufacturer's instructions.

B. Add aggregate for areas where thickness will exceed 1/2 inch. Mix underlayment and water for at least two minutes before adding aggregate, and continue mixing to assure that aggregate has been thoroughly coated.

C. Mix to self-leveling consistency without over-watering.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are clean, dry, unfrozen, do not contain petroleum byproducts, or other compounds detrimental to underlayment material bond to substrate.

3.02 PREPARATION

A. Concrete: Mechanically prepare steel troweled concrete to create a textured surface necessary to achieve the best bond; acceptable methods include bead blasting and scarifying. Do not use acid etching.

B. Remove substrate surface irregularities. Fill voids and deck joints with filler. Finish smooth.

C. Vacuum clean surfaces.

D. Prime substrate in accordance with manufacturer's instructions. Allow to dry.

E. Close floor openings.

3.03 APPLICATION

A. Install underlayment in accordance with manufacturer's instructions.

B. Place to indicated thickness, with top surface level to 1/8 inch in 10 ft.

3.04 CURING

A. Once underlayment starts to set, prohibit foot traffic until final set has been reached.

B. Air cure in accordance with manufacturer's instructions.

3.05 PROTECTION

A. Protect against direct sunlight, heat, and wind; prevent rapid drying to avoid shrinkage and cracking.

B. Do not permit traffic over unprotected floor underlayment surfaces.

END OF SECTION 035400

SECTION 040100
MAINTENANCE OF MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Repair of damaged masonry.

1.02 REFERENCE STANDARDS

A. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2022, with Errata (2024).

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Restoration and Cleaning Chemicals:
   1. Diedrich Technologies, Inc; Product ____: www.diedrichtechnologies.com/#sle.
   2. HMK Stone Care System; Product ____: www.hmkstonecare.com/#sle.
   3. PROSOCO; Product ____: www.prosoco.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

2.02 CLEANING MATERIALS

A. Cleaning Agent: Detergent type.

B. Cleaning Agent: 0.5 lb of sodium hydrosulphite mixture to one gallon of water.

C. Acid Solution: Clean, stain free, commercial hydrochloric (muriatic) acid, mixed one part to 10 parts of potable water.

2.03 MORTAR MATERIALS

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces to be cleaned are ready for work of this section.

3.02 PREPARATION

A. Protect surrounding elements from damage due to restoration procedures.

B. Carefully remove and store removable items located in areas to be restored, including fixtures, fittings, finish hardware, and accessories; reinstall upon completion.

C. Separate areas to be protected from restoration areas using means adequate to prevent damage.

D. Cover existing landscaping with tarpaulins or similar covers.

E. Mask immediately adjacent surfaces with material that will withstand cleaning and restoration procedures.

F. Protect roof membrane and flashings from damage with 1/2 inch plywood laid on roof surfaces over full extent of work area and traffic route.

G. When using cleaning methods that involve water or other liquids, install drainage devices to prevent runoff over adjacent surfaces unless those surfaces are impervious to damage from runoff.

H. Do not allow cleaning runoff to drain into sanitary or storm sewers.

3.03 REBUILDING

A. Cut out damaged and deteriorated masonry with care in a manner to prevent damage to any adjacent remaining materials.

B. Support structure as necessary in advance of cutting out units.

C. Build in new units following procedures for new work specified in other section(s).

D. Mortar Mix: Colored and proportioned to match existing work.

E. Ensure that anchors are correctly located and built in.

F. Install built in masonry work to match and align with existing, with joints and coursing true and level, faces plumb and in line. Build in all openings, accessories and fittings.

3.04 REPOINTING

A. Perform repointing prior to cleaning masonry surfaces.

B. Cut out loose or disintegrated mortar in joints to minimum 1/2 inch depth or until sound mortar is reached.

C. Do not damage masonry units.

D. When cutting is complete, remove dust and loose material by brushing.

E. Premoisten joint and apply mortar. Pack tightly in maximum 1/4 inch layers. Form a smooth, compact concave joint to match existing.

3.05 RESTORATION CLEANING

A. Clean surfaces and remove large particles with wood scrapers or non-ferrous wire brush.

3.06 AGING

A. Rub in new masonry work to match, as close as possible, adjacent original work.
   1. Use carbon black in small amounts, rubbing in well with burlap rags.

B. After each application, dust off surplus and wash down with low pressure hose. Allow surface to dry before proceeding with succeeding applications.

C. Continue process until acceptance.

3.07 CLEANING

A. Immediately remove stains, efflorescence, or other excess resulting from the work of this section.

B. Remove excess mortar, smears, and droppings as work proceeds and upon completion.

C. Clean surrounding surfaces.

END OF SECTION 040100

SECTION 040511
MASONRY MORTARING AND GROUTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Mortar for masonry.

B. Grout for masonry.

1.02 RELATED REQUIREMENTS

A. Section 040100 - Maintenance of Masonry: Bedding and pointing mortar for masonry restoration work.

B. Section 042000 - Unit Masonry: Installation of mortar and grout.

C. Section 081113 - Hollow Metal Doors and Frames: Products and execution for grouting steel door frames installed in masonry.

D. Section 081213 - Hollow Metal Frames: Products and execution for grouting steel door frames installed in masonry.

1.03 REFERENCE STANDARDS

A. ASTM C91/C91M - Standard Specification for Masonry Cement; 2023.

B. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2024.

C. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2019a, with Editorial Revision.

D. ASTM C476 - Standard Specification for Grout for Masonry; 2023.

E. ASTM C780 - Standard Test Methods for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry; 2023.

F. ASTM C1019 - Standard Test Method for Sampling and Testing Grout for Masonry; 2020.

G. ASTM C1714/C1714M - Standard Specification for Preblended Dry Mortar Mix for Unit Masonry; 2019a.

PART 2 PRODUCTS

2.01 MORTAR AND GROUT APPLICATIONS

A. At Contractor's option, mortar and grout may be field-mixed from packaged dry materials, made from factory premixed dry materials with addition of water only, or ready-mixed.

B. Use only ready-mixed mortar and grout, produced in on-site plant.

C. Use only factory premixed packaged dry materials for mortar and grout, with addition of water only at project site.

D. Field-mix all mortar and grout.

E. Mortar Color: Natural gray unless otherwise indicated.

F. Mortar Mix Designs: ASTM C270, Property Specification.

2.02 MATERIALS

A. Packaged Dry Material for Mortar for Unit Masonry: Premixed Portland cement, hydrated lime, and sand; complying with ASTM C1714/C1714M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only.
   1. Color: Standard gray.

B. Packaged Dry Material for Mortar for Unit Masonry: Premixed masonry cement and mason's sand; complying with ASTM C1714/C1714M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only.
   1. Color: Standard gray.

C. Packaged Dry Material for Mortar for Repointing: Premixed Portland cement, graded sand, and chemical admixtures complying with ASTM C91/C91M with the addition of water only.
   1. Color: Natural gray.

D. Packaged Dry Material for Mortar for Repointing: Premixed Portland cement, hydrated lime, and graded sand; capable of producing Type O mortar in accordance with ASTM C270 with the addition of water only.
   1. Color: Standard gray.

E. Water: Clean and potable.

F. Bonding Agent: Latex type.

2.03 MORTAR MIXING

A. Thoroughly mix mortar ingredients using mechanical batch mixer, in accordance with ASTM C270 and in quantities needed for immediate use.

B. Maintain sand uniformly damp immediately before the mixing process.

C. Do not use anti-freeze compounds to lower the freezing point of mortar.

D. If water is lost by evaporation, re-temper only within two hours of mixing.

2.04 GROUT MIXING

A. Mix grout in accordance with ASTM C94/C94M.

B. Thoroughly mix grout ingredients in quantities needed for immediate use in accordance with ASTM C476 for fine and coarse grout.

C. Add admixtures in accordance with manufacturer's instructions; mix uniformly.

D. Do not use anti-freeze compounds to lower the freezing point of grout.

PART 3 EXECUTION

3.01 PREPARATION

A. Apply bonding agent to existing concrete surfaces.

B. Plug clean-out holes for grouted masonry with brick masonry units. Brace masonry to resist wet grout pressure.

3.02 INSTALLATION

A. Install mortar and grout to requirements of section(s) in which masonry is specified.

B. Do not install grout in lifts greater than 16 inches without consolidating grout by rodding.

C. Do not displace reinforcement while placing grout.

D. Remove excess mortar from grout spaces.

3.03 GROUTING

A. Use either high-lift or low-lift grouting techniques, at Contractor's option, subject to other limitations of Contract Documents.

B. Perform all grouting by means of low-lift technique. Do not employ high-lift grouting.

C. Perform grouting by means of high-lift technique, except in locations that mandate use of low-lift grouting technique.
   1. Do not use high-lift grouting where size of cavities mandates use of fine grout.

D. Low-Lift Grouting:
   1. Limit height of pours to 12 inches.
   2. Limit height of masonry to 16 inches above each pour.
   3. Pour grout only after vertical reinforcing is in place; place horizontal reinforcing as grout is poured. Prevent displacement of bars as grout is poured.
   4. Place grout for each pour continuously and consolidate immediately; do not interrupt pours for more than 1-1/2 hours.

3.04 FIELD QUALITY CONTROL

A. An independent testing agency will perform field tests, in accordance with provisions of Section 014000 - Quality Requirements.

B. Test and evaluate mortar in accordance with ASTM C780 procedures.

C. Test and evaluate grout in accordance with ASTM C1019 procedures.

END OF SECTION 040511

SECTION 051200
STRUCTURAL STEEL FRAMING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Structural steel framing members.

B. Structural steel support members and struts.

C. Base plates, shear stud connectors and expansion joint plates.

D. Grouting under base plates.

1.02 RELATED REQUIREMENTS

A. Section 051213 - Architecturally-Exposed Structural Steel Framing: Additional requirements for structural steel members designated as architecturally-exposed structural steel (AESS).

B. Section 053100 - Steel Decking: Support framing for small openings in deck.

C. Section 055000 - Metal Fabrications: Steel fabrications affecting structural steel work.

1.03 REFERENCE STANDARDS

A. AISC (MAN) - Steel Construction Manual; 2023, with Errata (2024).

B. AISC 303 - Code of Standard Practice for Steel Buildings and Bridges; 2022.

C. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.

D. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.

E. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.

F. ASTM A242/A242M - Standard Specification for High-Strength Low-Alloy Structural Steel; 2013 (Reapproved 2018).

G. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2021.

H. ASTM A514/A514M - Standard Specification for High-Yield-Strength, Quenched and Tempered Alloy Steel Plate, Suitable for Welding; 2022.

I. ASTM A529/A529M - Standard Specification for High-Strength Carbon-Manganese Steel of Structural Quality; 2019.

J. ASTM A563/A563M - Standard Specification for Carbon and Alloy Steel Nuts (Inch and Metric); 2021a.

K. ASTM A992/A992M - Standard Specification for Structural Steel Shapes; 2022.

L. ASTM F436/F436M - Standard Specification for Hardened Steel Washers Inch and Metric Dimensions; 2019.

M. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength; 2023.

N. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2020.

O. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel AC172; 2019.

P. RCSC (HSBOLT) - Specification for Structural Joints Using High-Strength Bolts; Research Council on Structural Connections; 2020.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings:

1. Indicate profiles, sizes, spacing, locations of structural members, openings, attachments, and fasteners.
2. Connections not detailed.
3. Indicate cambers and loads.
4. Indicate welded connections with AWS A2.4 welding symbols. Indicate net weld lengths.

C. Fabricator's Qualification Statement.

1.05 QUALITY ASSURANCE

A. Fabricate structural steel members in accordance with AISC (MAN) "Steel Construction Manual."

B. Structural steel members designated as architecturally-exposed structural steel (AESS) to also comply with Section 051213.

C. Fabricator: Company specializing in performing the work of this section with minimum 5 years of documented experience.

D. Fabricator Qualifications: A qualified steel fabricator that is accredited by the International Accreditation Service (IAS) Fabricator Inspection Program for Structural Steel in accordance with IAS AC172.

PART 2 PRODUCTS

2.01 MATERIALS

A. Steel Angles and Plates: ASTM A36/A36M.

B. Steel W Shapes and Tees: ASTM A992/A992M.

C. Rolled Steel Structural Shapes: ASTM A992/A992M.

D. Steel Shapes, Plates, and Bars: ASTM A242/A242M high-strength, corrosion-resistant structural steel.

E. Steel Shapes, Plates, and Bars: ASTM A529/A529M high-strength, carbon-manganese structural steel, Grade 50.

F. Steel Plate: ASTM A514/A514M.

G. Structural Bolts and Nuts: Carbon steel, ASTM A307, Grade A and galvanized in compliance with ASTM A153/A153M Class C.

H. High-Strength Structural Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, with matching compatible ASTM A563/A563M nuts and ASTM F436/F436M washers.

I. Grout: ASTM C1107/C1107M; Non-shrink; premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.
   1. Minimum Compressive Strength at 48 Hours: 2,000 pounds per square inch.
   2. Minimum Compressive Strength at 28 Days: 7,000 pounds per square inch.

J. Shop and Touch-Up Primer: Fabricator's standard, complying with VOC limitations of authorities having jurisdiction.

K. Touch-Up Primer for Galvanized Surfaces: Fabricator's standard, complying with VOC limitations of authorities having jurisdiction.

2.02 FABRICATION

A. Shop fabricate to greatest extent possible.

B. Continuously seal joined members by continuous welds. Grind exposed welds smooth.

C. Fabricate connections for bolt, nut, and washer connectors.

D. Develop required camber for members.

2.03 FINISH

A. Shop prime structural steel members. Do not prime surfaces that will be fireproofed, field welded, in contact with concrete, or high strength bolted.

B. Leave structural steel members un-primed.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that conditions are appropriate for erection of structural steel and that the work may properly proceed.

3.02 ERECTION

A. Erect structural steel in compliance with AISC 303.

B. Allow for erection loads and provide sufficient temporary bracing to maintain structure in safe condition, plumb, and in true alignment until completion of erection and installation of permanent bracing.

C. Field weld components and shear studs indicated on shop drawings.

D. Use carbon steel bolts only for temporary bracing during construction, unless otherwise specifically permitted on drawings. Install high-strength bolts in accordance with RCSC (HSBOLT) "Specification for Structural Joints Using High-Strength Bolts".

E. Do not field cut or alter structural members without approval of Architect.

F. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.

3.03 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch.

END OF SECTION 051200

SECTION 055000
METAL FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Shop fabricated steel and aluminum items.

B. Downspout boots.

C. Cast iron trench castings.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.

B. ASTM A48/A48M - Standard Specification for Gray Iron Castings; 2022.

C. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2022.

D. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.

E. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.

F. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications; 2023a.

G. ASTM A283/A283M - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates; 2018.

H. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2021.

I. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2023.

J. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing; 2021.

K. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.

L. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2023.

M. ASTM B210/B210M - Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes; 2019a.

N. ASTM B211/B211M - Standard Specification for Aluminum and Aluminum-Alloy Rolled or Cold Finished Bar, Rod, and Wire; 2019.

O. ASTM B26/B26M - Standard Specification for Aluminum-Alloy Sand Castings; 2018, with Editorial Revision.

P. ASTM B85/B85M - Standard Specification for Aluminum-Alloy Die Castings; 2018, with Editorial Revision.

Q. ASTM B177/B177M - Standard Guide for Engineering Chromium Electroplating; 2011 (Reapproved 2021).

R. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.

S. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.

T. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2021.

U. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel; 2023.

V. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength; 2023.

W. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2020.

X. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2020, with Errata (2023).

Y. AWS D1.2/D1.2M - Structural Welding Code - Aluminum; 2014, with Errata (2020).

Z. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer; 2004.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
   1. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
   2. Design data: Submit drawings and supporting calculations, signed and sealed by a qualified professional structural engineer.

PART 2 PRODUCTS

2.01 MATERIALS - STEEL

A. Steel Sections: ASTM A36/A36M.

B. Steel Tubing: ASTM A501/A501M hot-formed structural tubing.

C. Plates: ASTM A283/A283M.

D. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish.

E. Slotted Channel Framing: ASTM A653/A653M, Grade 33.

F. Slotted Channel Fittings: ASTM A1011/A1011M.

G. Mechanical Fasteners: Same material as or compatible with materials being fastened; type consistent with design and specified quality level.

H. Bolts, Nuts, and Washers: ASTM A307, Grade A, plain.

I. Bolts, Nuts, and Washers: ASTM F3125/F3125M, Type 1, plain.

J. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

2.02 MATERIALS - ALUMINUM

A. Extruded Aluminum: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper.

B. Sheet Aluminum: ASTM B209/B209M, 5052 alloy, H32 or H22 temper.

C. Aluminum-Alloy Drawn Seamless Tubes: ASTM B210/B210M, 6063 alloy, T6 temper.

D. Aluminum-Alloy Bars: ASTM B211/B211M, 6061 alloy, T6 temper.

E. Aluminum-Alloy Sand Castings: ASTM B26/B26M.

F. Aluminum-Alloy Die Castings: ASTM B85/B85M.

G. Bolts, Nuts, and Washers: Stainless steel.

H. Welding Materials: AWS D1.2/D1.2M; type required for materials being welded.

2.03 FABRICATION

A. Fit and shop assemble items in largest practical sections, for delivery to site.

B. Fabricate items with joints tightly fitted and secured.

C. Continuously seal joined members by intermittent welds and plastic filler.

D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.

F. Furnish components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.04 FABRICATED ITEMS

2.05 PER PLANS

A. Lintels: As detailed; prime paint finish.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.02 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

B. Furnish setting templates to the appropriate entities for steel items required to be cast into concrete or embedded in masonry.

3.03 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.

B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

C. Field weld components as indicated on drawings.

D. Perform field welding in accordance with AWS D1.1/D1.1M.

E. Obtain approval prior to site cutting or making adjustments not scheduled.

F. After erection, prime welds, abrasions, and surfaces not shop primed , except surfaces to be in contact with concrete.

3.04 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch.

C. Maximum Out-of-Position: 1/4 inch.

END OF SECTION 055000

SECTION 060573
WOOD TREATMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Site applied termiticide for wood materials.

B. Site applied termiticide for other building materials.

C. Site applied mildewcide for wood materials.

D. Site applied preservative treatment for wood materials.

1.02 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions .

B. Section 033000 - Cast-in-Place Concrete.

C. Section 061000 - Rough Carpentry: Factory treatment for wood products.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide technical data on insulated sheathing, wood preservative materials, and application instructions.

1.04 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.01 SITE-APPLIED WOOD TREATMENT

A. Manufacturers:
   1. Nisus Corporation: www.nisuscorp.com/#sle.

B. Site Applied Termiticide for Wood: Borate mineral salt based, spray applied, penetrating termiticide.
   1. Products:
      a. Nisus Corporation; Bora-Care: www.nisuscorp.com/#sle.

PART 3 EXECUTION

3.01 PREPARATION

A. Remove dust, dirt and other contaminants from treatment surfaces. Remove tarpaulins, dropcloths, strippable protective films, etc., from areas to be treated Move equipment and stored materials that block or prevent product application.

3.02 INSTALLATION - GENERAL

A. Provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03 SITE APPLIED WOOD TREATMENT

A. Comply with manufacturers written mixing and installation instructions.

B. Termiticide: Apply to foundations, structure and other items as listed.
   1. All structural wood and sill plates within 24 inches, minimum, of point of contact with foundation.
   2. All wood, wood based and cellulosic sheathing within 24 inches, minimum, of point of contact with foundation.
   3. Concrete foundations 2 inches, minimum, from sill plate.
   4. Open bath traps and concrete slab within 12 inches, minimum, of bath trap.
   5. All pipe and plumbing penetrations up to 24 inches, minimum, above slab and slab surface within 6 inches, minimum, of pipe or penetration.

6. Six inches, minimum, on either side of control joints and construction joints in slabs and joints between slabs and abutting material.

END OF SECTION 060573

SECTION 061000
ROUGH CARPENTRY

PART 1 GENERAL

4.01 SECTION INCLUDES

A. Rough opening framing for doors, windows, and roof openings.
B. Subflooring.
C. Underlayment.
D. Roof-mounted curbs.
E. Roofing nailers.
F. Roofing cant strips.
G. Preservative treated wood materials.
H. Miscellaneous framing and sheathing.
I. Concealed wood blocking, nailers, and supports.
J. Miscellaneous wood nailers, furring, and grounds.

4.02 RELATED REQUIREMENTS

A. Section 061500 - Wood Decking.
B. Section 061733 - Wood I-Joists.
C. Section 061753 - Shop-Fabricated Wood Trusses.
D. Section 072500 - Weather Barriers: Water-resistive barrier over sheathing.
E. Section 076200 - Sheet Metal Flashing and Trim: Sill flashings.
F. Section 092116 - Gypsum Board Assemblies: Gypsum-based sheathing.

4.03 REFERENCE STANDARDS

A. ANSI A208.1 - American National Standard for Particleboard; 2022.
B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.
C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.
D. ASTM C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus; 2019, with Editorial Revision (2023).
E. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board; 2022.
F. ASTM C557 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing; 2003 (Reapproved 2017).
G. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2017.
H. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2017.
I. ASTM D2898 - Standard Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing; 2010 (Reapproved 2017).
J. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2021.
K. ASTM D3498 - Standard Specification for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor System Framing; 2019a.
L. ASTM E2178 - Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permeance of Building Materials; 2021a.
M. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

N. ASTM E136 - Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750 Degrees C; 2024.

O. ASTM G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi; 2015, with Editorial Revision (2021).

P. AWPA U1 - Use Category System: User Specification for Treated Wood; 2024.

Q. PS 1 - Structural Plywood; 2023.

R. PS 2 - Performance Standard for Wood Structural Panels; 2018.

S. PS 20 - American Softwood Lumber Standard; 2021.

T. SPIB (GR) - Standard Grading Rules; 2021.

U. WCLIB (GR) - Standard Grading Rules for West Coast Lumber No. 17; 2018.

V. WWPA G-5 - Western Lumber Grading Rules; 2021.

4.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide technical data on insulated sheathing, wood preservative materials, and application instructions.

C. Structural Composite Lumber: Submit manufacturer's published structural data including span tables, marked to indicate which sizes and grades are being used; if structural composite lumber is being substituted for dimension lumber or timbers, submit grading agency structural tables marked for comparison.

4.05 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, and installation.

PART 2 PRODUCTS

5.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
   2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

5.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Grading Agency: Southern Pine Inspection Bureau, Inc; SPIB (GR).

B. Grading Agency: West Coast Lumber Inspection Bureau; WCLIB (GR).

C. Grading Agency: Western Wood Products Association; WWPA G-5.

D. Sizes: Nominal sizes as indicated on drawings, S4S.

E. Moisture Content: S-dry or MC19.

F. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, No. 2 or Standard Grade.
   2. Boards: Standard or No. 3.

5.03 TIMBERS FOR CONCEALED APPLICATIONS

A. Grading Agency: Western Wood Products Association; WWPA G-5.

B. Sizes: Nominal sizes as indicated on drawings, S4S.

C. Moisture Content: S-dry (23 percent maximum).

D. Beams and Posts 5 inches and over in thickness:
   1. Grade: per plans.

5.04 STRUCTURAL COMPOSITE LUMBER

A. Structural Composite Lumber: Factory fabricated beams, headers, and columns, of sizes and types indicated on drawings; structural capacity as published by manufacturer.

5.05 CONSTRUCTION PANELS

A. Subfloor/Underlayment Combination: PS 1 or PS 2 type, rated Single Floor.
   1. Bond Classification: Exposure 1.

B. Subflooring: Oriented strand board wood structural panel; PS 2, rated Single Floor.
   1. Bond Classification: Exterior.
   2. Performance Category: 19/32 PERF CAT.
   3. Exposure Time: Sheathing will not delaminate or require sanding due to moisture absorption from exposure to weather for up to 200 days.
   4. Products:
      a. Weyerhaeuser Company; ____: www.weyerhaeuser.com/#sle.
      b.___.
      c. Substitutions: See Section 016000 - Product Requirements.

C. Roof Sheathing: Oriented strand board wood structural panel; PS 2.
   1. Grade: Structural 1 Sheathing.
   2. Bond Classification: Exposure 1.
   3. Edges: Square.
   4. Exposure Time: Sheathing will not delaminate or require sanding due to moisture absorption from exposure to weather for up to 180 days.

D. Roof Sheathing: Oriented strand board structural wood panel, PS 2, with factory laminated roofing underlayment layer.
   1. Sheathing Panel:
      a. Grade: per plans.
   2. Exposure Time: Sheathing undamaged and integral roofing underlayment layer intact after exposure to weather for up to 180 days.

E. Roof Sheathing: Wood structural panels with noncombustible overlayment or coating factory-bonded to interior face of plywood panels.
   1. Plywood Panels:

F. Roof Sheathing: Wood construction panel laminated to insulation board.

G. Wall Sheathing: PS 2 type.
   1. Bond Classification: Exterior.
   2. Grade: Structural I Sheathing.
   3. Span Rating: per plans inch.
   4. Performance Category: 5/16 PERF CAT.
   5. Edge Profile: Square edge.

H. Wall Sheathing: Plywood, PS 1, Grade C-D, Exposure I.

I. Wall Sheathing: Particleboard, ANSI A208.1, Grade M-3 EXTERIOR GLUE.

J. Wall Sheathing: See Section 092116.

K. Wall Sheathing: Gypsum, complying with requirements of ASTM C1396/C1396M for gypsum sheathing, V-shaped long edges, 5/8 inch Type X fire resistant.

L. Wall Sheathing: Glass mat faced gypsum, ASTM C1177/C1177M, 5/8 inch Type X fire resistant.

M. Wall Sheathing: Glass mat faced gypsum with integral water-resistive and air barrier, ASTM C1177/C1177M, 5/8 inch thick.
   1. Water Vapor Permeance: 1 perm, minimum, when tested in accordance with ASTM E96/E96M.
   2. Air Permeance, Sheathing: 0.001 cfm/sq ft, maximum, when tested in accordance with ASTM E2178.

3. Warranty:
    a. Exposure: Manufacturer's standard; 12 months, against exposure damage, and dated from installation of product.
4. Products:
    a. Georgia-Pacific LLC; DensElement Barrier System: www.DensElement.com/#sle.

N. Wall Sheathing: Oriented strand board wood structural panel; PS 2.
1. Grade: Structural 1 Sheathing.
2. Bond Classification: Exposure 1.

O. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

P. Other Applications:
1. Plywood Concealed From View But Located Within Exterior Enclosure: PS 1, C-C Plugged or better, Exterior grade.
2. Other Locations: PS 1, C-D Plugged or better.

5.06 ACCESSORIES

A. Fasteners and Anchors:
1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

B. Die-Stamped Connectors: Hot dipped galvanized steel, sized to suit framing conditions.
1. For contact with preservative treated wood in exposed locations, provide minimum G185 galvanizing complying with ASTM A653/A653M.

C. Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions.
1. For contact with preservative treated wood in exposed locations, provide minimum G185 galvanizing complying with ASTM A653/A653M.

D. Sill Gasket on Top of Foundation Wall: 3/8 inch thick, closed-cell plastic foam.
1. Width: 3-1/2 inches.
2. Ultraviolet (UV) and Weathering Resistance: Approved in writing by manufacturer for up to 30 days of weather exposure.

E. Sill Flashing: See Section 076200.

F. Subfloor Adhesives: Gap-filling construction adhesive for bonding wood structural panels to wood-based floor system framing; complying with ASTM D3498.
1. Products:
    a. Franklin International, Inc; Titebond Subfloor Construction Adhesive: www.titebond.com/#sle.
    b. Huber Engineered Woods, LLC; AdvanTech Subfloor Adhesive: www.huberwood.com/#sle.
    c. Substitutions: See Section 016000 - Product Requirements.

G. General Purpose Construction Adhesives: Comply with ASTM C557.
1. Products:

H. Water-Resistive Barrier: See Section 072500.

5.07 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.

PART 3 EXECUTION

6.01 PREPARATION

A. Install sill gasket under sill plate of framed walls bearing on foundations; puncture gasket cleanly to fit tightly around protruding anchor bolts.

B. Coordinate installation of rough carpentry members specified in other sections.

6.02 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

6.03 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to authorities having jurisdiction may be used in lieu of solid wood blocking.

C. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.

D. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

E. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.

6.04 ROOF-RELATED CARPENTRY

A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.

B. Provide wood curb at each roof opening except where specifically indicated otherwise; form corners by alternating lapping side members.

6.05 INSTALLATION OF CONSTRUCTION PANELS

A. Subflooring/Underlayment Combination: Glue and nail to framing; staples are not permitted.

B. Underlayment: Secure to subflooring with nails and glue.
   1. At locations where resilient flooring will be installed, fill and sand splits, gaps, and rough areas.
   2. Place building paper between floor underlayment and subflooring.

C. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.
   1. Nail panels to framing; staples are not permitted.

D. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails, screws, or staples.
   1. Place water-resistive barrier horizontally over wall sheathing, weather lapping edges and ends.

E. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches on center on all edges and into studs in field of board.
   1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
   2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
   3. Install adjacent boards without gaps.

6.06 SITE APPLIED WOOD TREATMENT

A. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.

B. Allow preservative to dry prior to erecting members.

6.07 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements for additional requirements.

6.08 CLEANING

A. Waste Disposal: See Section 017419 - Construction Waste Management and Disposal.
   1. Comply with applicable regulations.
   2. Do not burn scrap on project site.
   3. Do not burn scraps that have been pressure treated.
   4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

B. Do not leave wood, shavings, sawdust, etc. on the ground or buried in fill.

C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION 061000

SECTION 061053
MISCELLANEOUS ROUGH CARPENTRY

PART 2 PRODUCTS

1.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
   2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

END OF SECTION 061053

SECTION 061500
WOOD DECKING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Plywood structural wood decking.

B. Preservative treatment of wood.

1.02 RELATED REQUIREMENTS

A. Section 061000 - Rough Carpentry: Bearing support.

1.03 REFERENCE STANDARDS

A. AITC 111 - Recommended Practice for Protection of Structural Glued Laminated Timber During Transit, Storage and Erection; 2005.

B. ASTM D143 - Standard Test Methods for Small Clear Specimens of Timber; 2023.

C. ASTM D198 - Standard Test Methods of Static Tests of Lumber in Structural Sizes; 2022a.

D. ASTM D1761 - Standard Test Methods for Mechanical Fasteners in Wood and Wood-Based Materials; 2020.

E. ASTM D2559 - Standard Specification for Adhesives for Bonded Structural Wood Products for Use Under Exterior Exposure Conditions; 2012a (Reapproved 2018).

F. ASTM D2898 - Standard Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing; 2010 (Reapproved 2017).

G. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

H. AWPA U1 - Use Category System: User Specification for Treated Wood; 2024.

I. PS 1 - Structural Plywood; 2023.

1.04 SYSTEM DESCRIPTION

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with at least three years of documented experience and certified by AITC.

B. Installer Qualifications: Company specializing in performing work of the type specified in this section, with at least three years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Protect glue laminated members in accordance with AITC 111 requirements for unwrapped material.

B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, or installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Plywood Decking:
   1. Boise Cascade Company; ____: www.bc.com/#sle.
   2. Georgia-Pacific LLC; ____: www.buildgp.com/#sle.
   3. Weyerhaeuser Company; ____: www.weyerhaeuser.com/#sle.

4. Substitutions: See Section 016000 - Product Requirements.

2.02 WOOD MATERIALS

A. Plywood Decking: PS 1 veneer plywood; APA Rated Sheathing, Span Rating per structural plans; Exterior grade;1 A interior veneer appearance grade; sanded.

2.03 ACCESSORIES

A. Fasteners and Anchors:
   1. Fastener Type and Finish: Hot-dipped galvanized steel for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

2.04 WOOD TREATMENT

A. Factory-Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.

B. Surface-Applied Wood Preservative:

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that support framing is ready to receive decking.

3.02 PREPARATION

A. Coordinate placement of bearing items.

3.03 SITE APPLIED WOOD TREATMENT

A. Apply preservative treatment in accordance with manufacturer's instructions.

B. Allow preservative to dry prior to erecting members.

3.04 INSTALLATION - PLYWOOD DECKING

A. Install decking perpendicular to framing members with ends staggered over firm bearing. On sloped surfaces, lay decking with tongue upward.

B. Engage plywood tongue and groove edges.

C. Allow expansion space at edges and ends.

D. Use sheathing clips at unsupported edges of plywood between supporting framing members.

E. Cut decking to accommodate roof drain and flange.

3.05 TOLERANCES

A. Surface Flatness of Decking Without Load: 1/4 inch in 10 feet maximum, and 1/2 inch in 30 feet maximum.

END OF SECTION 061500

SECTION 061800
GLUED-LAMINATED CONSTRUCTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Glue laminated wood beams and purlins.

B. Steel hardware and attachment brackets.

1.02 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.

1.03 REFERENCE STANDARDS

A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.

B. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.

C. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.

D. ASTM A563 - Standard Specification for Carbon and Alloy Steel Nuts; 2021a.

E. ASTM A563M - Standard Specification for Carbon and Alloy Steel Nuts (Metric); 2021a.

F. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2023.

G. ASTM D2559 - Standard Specification for Adhesives for Bonded Structural Wood Products for Use Under Exterior Exposure Conditions; 2012a (Reapproved 2018).

H. ASTM F3125/F3125M - Standard Specification for High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength; 2023.

I. RIS (GR) - Standard Specifications for Grades of California Redwood Lumber; 2019.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate framing system, sizes and spacing of members, loads and cambers, bearing and anchor details, bridging and bracing, framed openings , and _____.

1.05 QUALITY ASSURANCE

1.06 DELIVERY, STORAGE, AND HANDLING

PART 2 PRODUCTS

2.01 MANUFACTURERS

2.02 GLUED-LAMINATED UNITS

A. Glued-Laminated Units: Fabricate in accordance with AITC 117 Industrial grade.
   1. Verify dimensions and site conditions prior to fabrication.
   2. Cut and fit members accurately to length to achieve tight joint fit.
   3. Fabricate member with camber built in.
   4. Do not splice or join members in locations other than those indicated without permission.
   5. After end trimming, seal with penetrating sealer in accordance with AITC requirements.

2.03 MATERIALS

A. Lumber: Softwood lumber complying with RIS (GR) grading rules with 12 percent maximum moisture content before fabrication. Design for the following values:

B. Steel Connections and Brackets: ASTM A36/A36M weldable quality, galvanize per ASTM A123/A123M.

C. Steel Connections and Brackets: ASTM A666, Type 304 stainless steel.

D. Anchor Bolts: ASTM F3125/F3125M, Type 1 heavy hex high strength bolts and ASTM A563 (ASTM A563M) nuts; hot-dip galvanized to meet requirements of ASTM A153/A153M, matching washers.

E. Laminating Adhesive: Tested for wet/exterior service in accordance with ASTM D2559.

2.04 WOOD TREATMENT

A. Factory-Treated Lumber: Comply with requirements of AWPA U1 - Use Category System for pressure impregnated wood treatments determined by use categories, expected service conditions, and specific applications.

2.05 FABRICATION

A. Fabricate glue laminated structural members in accordance with AITC Industrial grade.

B. Verify dimensions and site conditions prior to fabrication.

C. Cut and fit members accurately to length to achieve tight joint fit.

D. Fabricate member with camber built in.

E. Fabricate steel hardware and connections with joints neatly fitted, welded, and ground smooth.

F. After end trimming, seal with penetrating sealer in accordance with AITC requirements.

G. Field Finishing of Members: Specified in Section 099113 and 099123.

PART 3 EXECUTION

3.01 PREPARATION

A. Coordinate placement of bearing items.

3.02 ERECTION

A. Lift members using protective straps to prevent visible damage.

B. Set structural members level and plumb, in correct positions or sloped where indicated.

C. Provide temporary bracing and anchorage to hold members in place until permanently secured.

D. Fit members together accurately without trimming, cutting, splicing, or other unauthorized modification.

3.03 TOLERANCES

A. Framing Members: 1/4 inch maximum from true position.

END OF SECTION 061800

SECTION 062000
FINISH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Finish carpentry items.

B. Wood door frames, glazed frames.

C. Wood casings and moldings.

D. Hardware and attachment accessories.

1.02 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 061000 - Rough Carpentry: Support framing, grounds, and concealed blocking.

C. Section 064100 - Architectural Wood Casework: Shop fabricated custom cabinet work.

D. Section 064200 - Wood Paneling: Shop fabricated custom paneling.

E. Section 081416 - Flush Wood Doors.

F. Section 081433 - Stile and Rail Wood Doors.

G. Section 099113 - Exterior Painting: Painting of finish carpentry items.

H. Section 099123 - Interior Painting: Painting of finish carpentry items.

I. Section 099300 - Staining and Transparent Finishing: Staining and transparent finishing of finish carpentry items.

1.03 REFERENCE STANDARDS

A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; Current Edition.

B. ANSI A135.4 - Basic Hardboard; 2012 (Reaffirmed 2020).

C. ANSI A208.1 - American National Standard for Particleboard; 2022.

D. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test; 2015 (Reaffirmed 2020).

E. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.

F. ASTM C1036 - Standard Specification for Flat Glass; 2021.

G. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.

H. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

I. AWI (QCP) - Quality Certification Program; Current Edition.

J. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

K. AWMAC (GIS) - Guarantee and Inspection Services Program; Current Edition.

L. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.

M. AWPA U1 - Use Category System: User Specification for Treated Wood; 2024.

N. BHMA A156.9 - Cabinet Hardware; 2020.

O. GSA CID A-A-1936 - Adhesives, Contact, Neoprene Rubber; 1996a (Validated 2013).

P. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood; 2020.

Q. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

R. NHLA G-101 - Rules for the Measurement and Inspection of Hardwood and Cypress; 2023.

S. PS 1 - Structural Plywood; 2023.

T. PS 20 - American Softwood Lumber Standard; 2021.

U. WDMA I.S. 4 - Industry Specification for Preservative Treatment for Millwork; 2019.

V. WI (CCP) - Certified Compliance Program (CCP); Current Edition.

W. WI (CSIP) - Certified Seismic Installation Program (CSIP); Current Edition.

X. WI (MCP) - Monitored Compliance Program (MCP); Current Edition.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data:
   1. Provide manufacturer's product data, storage and handling instructions for factory-fabricated units.

C. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
   1. Provide information as required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).
   2. Include certification program label.

1.05 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.
   1. Company with at least one project within the past 5 years with value of woodwork within 20 percent of cost of woodwork for this project.
   2. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.

B. Quality Certification:
   1. Comply with AWI (QCP) woodwork association quality certification service/program in accordance with requirements for work specified in this section: www.awiqcp.org/#sle.
   2. Provide labels or certificates indicating that work complies with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade or grades specified.
   3. Provide designated labels on shop drawings as required by certification program.
   4. Provide designated labels on installed products as required by certification program.
   5. Submit certifications upon completion of installation that verifies this work is in compliance with specified requirements.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver factory-fabricated units to project site in original packages, containers or bundles bearing brand name and identification.

B. Store finish carpentry items under cover, elevated above grade, and in a dry, well-ventilated area not exposed to heat or sunlight.

C. Protect from moisture damage.

D. Handle materials and products to prevent damage to edges, ends, or surfaces.

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Surface Burning Characteristics: Provide materials having fire and smoke properties as required by applicable code.

C. Interior Woodwork Items:
   1. Moldings, Bases, Casings, and Miscellaneous Trim: Clear white pine; prepare for paint finish.

2.02 LUMBER MATERIALS

A. Softwood Lumber: see plans species, see plans sawn, maximum moisture content of 6 percent; with vertical grain, of quality suitable for transparent finish.

B. Hardwood Lumber: any stable hardwood free of loose knots unless noted otherwise on plans species, see plans sawn, maximum moisture content of 6 percent ; with vertical grain , of quality suitable for transparent finish.

2.03 SHEET MATERIALS

A. Softwood Plywood, Not Exposed to View: Any face species, medium density fiberboard core; PS 1 Grade A-B, glue type as recommended for application.

B. Softwood Plywood, Exposed to View: Face species as indicated, plain sawn, medium density fiberboard core; PS 1 Grade A-B, glue type as recommended for application.
   1. Grading: Certified by the American Plywood Association.

C. Hardwood Plywood: Face species as indicated, plain sawn, book matched, medium density fiberboard core; HPVA HP-1 Front Face Grade AA, Back Face Grade 1, glue type as recommended for application.

D. Prefinished Paneling: see plans face species, see plans cut, see plans grain, V-cut vertical joint scoring; 3/16 inch thick, finished as gloss; _____manufactured by _____.

E. Particleboard: ANSI A208.1 Composed of wood chips, sawdust, or flakes of medium density, made with waterproof resin binders; of grade to suit application; sanded faces.

F. Hardboard: ANSI A135.4 Pressed wood fiber with resin binder, Class 1 - Tempered, 1/4 inch thick, smooth one side (S1S).

G. Pegboard: Pressed wood fiber with resin binder, standard grade; 1/8 inch thick, with holes spaced at 1 inch on center in both directions.

2.04 FASTENINGS

A. Adhesive for Purposes Other Than Laminate Installation: Suitable for the purpose; not containing formaldehyde or other volatile organic compounds.

B. Adhesive for factory-fabricated units: Manufacturer's recommended adhesive for application.

C. Fasteners: Of size and type to suit application; _____finish in concealed locations and _____finish in exposed locations.

D. Fasteners for Exterior Applications: Stainless steel; length required to penetrate wood substrate 1-1/2 inch minimum.

E. Concealed Joint Fasteners: Threaded steel.

2.05 ACCESSORIES

A. Adhesive: Type recommended by fabricator to suit application.

B. Lumber for Shimming, Blocking, and _____: Softwood lumber of _____species.

C. Plastic Edge Trim: Extruded convex shaped; smooth finish; self locking serrated tongue; of width to match component thickness; _____color.

D. Aluminum Edge Trim: Extruded convex shape; smooth surface finish; self locking serrated tongue; of width to match component thickness; natural mill finish.

E. Primer: Alkyd primer sealer.

F. Wood Filler: Solvent base, tinted to match surface finish color.

2.06 SITE FINISHING MATERIALS

A. Stain, Shellac, Varnish, and Finishing Materials: Comply with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Field Finishing: See Section 099123.

2.07 FABRICATION

A. Shop assemble work for delivery to site, permitting passage through building openings.

B. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

2.08 SHOP FINISHING

A. Sand work smooth and set exposed nails and screws.

B. Apply wood filler in exposed nail and screw indentations.

C. Stain, seal, and varnish exposed to view surfaces. Brush apply only.

D. Seal internal surfaces and semi-concealed surfaces. Brush apply only.

E. Back prime woodwork items to be field finished, prior to installation.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

B. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

3.02 INSTALLATION

A. Install custom fabrications in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.

B. Install factory-fabricated units in accordance with manufacturer's printed installation instructions.

C. Set and secure materials and components in place, plumb and level.

D. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.

E. Install prefinished paneling with full bed contact adhesive applied to substrate.

3.03 SITE APPLIED WOOD TREATMENT

A. Apply preservative treatment in accordance with manufacturer's instructions.

B. Brush apply one coats of preservative treatment on wood in contact with cementitious materials. Treat site-sawn cuts.

C. Allow preservative to dry prior to erecting members.

3.04 PREPARATION FOR SITE FINISHING

A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.

B. Site Finishing: See Section 099113 and 099123.

C. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

END OF SECTION 062000

SECTION 064100
ARCHITECTURAL WOOD CASEWORK

PART 2 PRODUCTS

1.01 CABINETS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

1.02 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

1.03 FABRICATION

END OF SECTION 064100

SECTION 072100
THERMAL INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Board insulation and integral vapor retarder at cavity wall construction, perimeter foundation wall, underside of floor slabs, over roof deck, over roof sheathing, exterior wall behind _____wall finish, and interior wall with facer providing exposed finish.

B. Batt insulation and vapor retarder in exterior wall, ceiling, and roof construction.

C. Batt insulation for filling perimeter window and door shim spaces and crevices in exterior wall and roof.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

A. ASTM C557 - Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing; 2003 (Reapproved 2017).

B. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2023.

C. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2023a.

D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

E. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2023.

F. ASTM E136 - Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750 Degrees C; 2024.

G. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components; 2023.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

1.05 QUALITY ASSURANCE

1.06 FIELD CONDITIONS

A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

2.02 APPLICATIONS

A. Insulation in Wood Framed Walls: Batt insulation with separate vapor retarder.

B. Insulation over Roof Deck: Vacuum insulated panel (VIP) board.

2.03 FOAM BOARD INSULATION MATERIALS

A. Polyisocyanurate (ISO) Board Insulation: Rigid cellular foam, comply with ASTM C1289.
   1. Classifications:
      a. Type I: Faced with aluminum foil on both major surfaces of the core foam.
         1) Class 1 - Non-reinforced core foam.
         2) Compressive Strength: 16 psi, minimum.
         3) Thermal Resistance, R-value: At 1-1/2 inch thick; 9.0, minimum, at 75 degrees F.
      b. Type II: Faced with either cellulosic facers or glass fiber mat facers on both major surfaces of the core foam.
         1) Class 1 - Faced with glass fiber reinforced cellulosic facers on both major surfaces of core foam.

2) Compressive Strength: Classes 1-2-3, Grade 1 - 16 psi (110 kPa), minimum.
3) Thermal Resistance, R-value: At 1-1/2 inch thick; Class 1, Grades 1-2-3 - 8.4 (1.48), minimum, at 75 degrees F.

c. Type III: Faced with perlite insulation board on one major surface of core foam and faced on the other major surface with any facer described in this specification.
1) Compressive Strength: 16 psi, minimum.
2) Thermal Resistance, R-value: At 1-1/2 inch thick; 7.0, minimum, at 75 degrees F.

d. Type IV: Faced with a cellulosic fiber insulating board on one major surface of the core foam and faced on the other major surface with any facer described in this specification.
1) Compressive Strength: 16 psi, minimum.
2) Thermal Resistance, R-value: At 1-1/2 inch thick; 6.9, minimum, at 75 degrees F.

e. Type V: Faced with oriented strand board (OSB) or plywood on one major surface of the core foam and faced on the other major surface with any facer described in this specification.
1) Compressive Strength: 16 psi, minimum.
2) Thermal Resistance, R-value: At 1-1/2 inch thick; 6.2, minimum, at 75 degrees F.

f. Type VII: Faced with glass mat faced gypsum board on one major surface of the core foam and faced on the other major surface with any facer described in this specification.
1) Compressive Strength: 16 psi, minimum.
2) Thermal Resistance, R-value: At 1-1/2 inch thick; 7.0, minimum, at 75 degrees F.

2. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
3. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
4. Water Vapor Permeance: 1.2 perm, maximum, at 1 inch thickness, and when tested in accordance with ASTM E96/E96M, desiccant method.
5. Comply with fire resistance requirements indicated on drawings as part of an exterior non-load-bearing exterior wall assembly when tested in accordance with NFPA 285.
6. Board Size: PER PLANS / EFFICIENCY OF INSTALLATION inch by ___inch.
7. Board Thickness: PER PLANS inch.
8. Products:

B. Rigid Cellular Polyisocyanurate (ISO) Thermal Insulation Board with Facers Both Sides: Complying with ASTM C1289.
1. Classifications:
a. Type II: Faced with either cellulosic facers or glass fiber mat facers on both major surfaces of the core foam.
1) Class 1 - Faced with glass fiber reinforced cellulosic facers on both major surfaces of core foam.
2) Compressive Strength: Classes 1-2-3, Grade 1 - 16 psi (110 kPa), minimum.
3) Thermal Resistance, R-value: At 1-1/2 inch thick; Class 1, Grades 1-2-3 - 8.4 (1.48), minimum, at 75 degrees F.

2. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
3. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
4. Board Edges: Square.
5. Products:

2.04 MINERAL FIBER BLANKET INSULATION MATERIALS

A. Flexible Glass Fiber Blanket Thermal Insulation: Preformed insulation, complying with ASTM C665; friction fit.
1. Flame Spread Index: 75 or less, when tested in accordance with ASTM E84.
2. Combustibility: Non-combustible, when tested in accordance with ASTM E136, except for facing, if any.

B. Mineral Wool Blanket Thermal Insulation: Flexible or semi-rigid preformed insulation, complying with ASTM C665.
1. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84.

2.05 ACCESSORIES

A. Flashing Tape: Special reinforced film with high performance adhesive.
   1. Application: Window and door opening flashing tape.
   2. Width: As required for application.
   3. Primer: Tape manufacturer's recommended product.

B. Tape: Bright aluminum self-adhering type, mesh reinforced, 2 inch wide.
   1. Products:

C. Tape joints of rigid insulation in accordance with roofing and insulation manufacturers' instructions.

D. Insulation Fasteners: Lengths of unfinished, 13-gauge, 0.072-inch high carbon spring steel with chisel or mitered tips, held in place by tension, length to suit insulation thickness and substrate, capable of securely and rigidly fastening insulation in place.

E. Nails or Staples: Steel wire; electroplated or galvanized; type and size to suit application.

F. Wire Mesh: Galvanized steel, hexagonal wire mesh.

G. Adhesive: Type recommended by insulation manufacturer for application.

H. Adhesive: Gun grade, interior and exterior, and compatible with insulation and substrates; complies with ASTM C557.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.

B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.02 BOARD INSTALLATION USING CLADDING AND CONTINUOUS INSULATION SUPPORTS

A. Install supports in accordance with manufacturer's installation instructions.

B. Install supports in compliance with system orientation, sizes, and locations as indicated on drawings and in accordance with approved shop drawings.

C. Install supports to fill in exterior wall spaces without gaps or voids in insulation.

D. Trim insulation neatly to fit spaces and provide a continuous thermal layer.

3.03 BOARD INSTALLATION OVER LOW SLOPE ROOF DECK

A. Installation of board insulation over low slope roof deck as specified in Section 7535 AND/OR ROOFING SPECIFICATIONS.

B. Board Installation Over Roof Deck, General:
   1. See applicable roofing specification section for specific board installation requirements.
   2. Ensure vapor retarder is clean and dry, continuous, and ready for application of roofing system.
   3. Fasten insulation to deck in accordance with roofing manufacturer's written instructions and applicable Factory Mutual requirements.
   4. Do not apply more insulation than can be covered with roofing on the same day.

3.04 BATT INSTALLATION

A. Install insulation and vapor retarder in accordance with manufacturer's instructions.

B. Install in exterior wall and roof spaces without gaps or voids. Do not compress insulation.

C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.

D. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.

E. Staple or nail facing flanges in place at maximum 6 inches on center.

F. Retain insulation batts in place with spindle fasteners at 12 inches on center.

G. Retain insulation batts in place with wire mesh secured to framing members.

H. Tape seal butt ends, lapped flanges, and tears or cuts in membrane.

I. At wood framing, place vapor retarder on warm side of insulation by stapling at 6 inches on center. Lap and seal sheet retarder joints over face of member.

J. Tape seal tears or cuts in vapor retarder.

K. Extend vapor retarder tightly to full perimeter of adjacent window and door frames and other items interrupting the plane of the membrane; tape seal in place.

3.05 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements for additional requirements.

3.06 PROTECTION

A. Do not permit installed insulation to be damaged prior to its concealment.

END OF SECTION 072100

SECTION 072500
WEATHER BARRIERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Water-resistive barriers.

1.02 RELATED REQUIREMENTS

1.03 DEFINITIONS

A. Weather Barriers: Materials or assemblies forming water-resistive barriers, air barriers, vapor retarders, or combination of one or more assemblies.

B. Water-Resistive Barriers: Materials or assemblies installed behind exterior wall coverings; designed to prevent liquid water from further penetration into exterior wall assembly.

1.04 REFERENCE STANDARDS

A. ASTM D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers--Tension; 2016 (Reapproved 2021).

B. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection; 2021.

C. ASTM D5590 - Standard Test Method for Determining the Resistance of Paint Films and Related Coatings to Fungal Defacement by Accelerated Four-Week Agar Plate Assay; 2017 (Reapproved 2021).

D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

E. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2023.

F. ASTM E2178 - Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permeance of Building Materials; 2021a.

G. ICC-ES AC148 - Acceptance Criteria for Flexible Flashing Materials; 2017, with Editorial Revision (2021).

H. ICC-ES AC212 - Acceptance Criteria for Water-Resistive Coatings Used as Water-Resistive Barriers over Exterior Sheathing; 2015, with Editorial Revision (2020).

I. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components; 2023.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data on material characteristics.

1.06 FIELD CONDITIONS

A. Maintain temperature and humidity recommended by materials manufacturers before, during, and after installation.

PART 2 PRODUCTS

2.01 WATER-RESISTIVE BARRIERS

2.02 AIR BARRIER MATERIALS (WATER VAPOR PERMEABLE AND WATER-RESISTIVE)

A. Air Barrier Sheet, Mechanically Fastened:
   1. Air Permeance: 0.004 cfm/sq ft, maximum, when tested in accordance with ASTM E2178.
   2. Water Vapor Permeance: 5 perms, minimum, when tested in accordance with ASTM E96/E96M Procedure A (Desiccant Method) at 73.4 degrees F.
   3. Ultraviolet (UV) and Weathering Resistance: Approved in writing by manufacturer for up to 180 days of weather exposure.
   4. Surface Burning Characteristics: Flame spread index of 25 or less, and smoke developed index of 50 or less, when tested in accordance with ASTM E84.

5. Seam and Perimeter Tape: Polyethylene self adhering type, mesh reinforced, 2 inches wide, compatible with sheet material; unless otherwise specified.
6. Manufacturers:
   a. WEATHER BARRIER PER ELEVATION PLANS - IF NOT NOTED - TYVEK COMMERCIAL WRAP.

2.03 ACCESSORIES

A. Flexible Flashing: Self-adhering sheet flashing complying with ASTM D1970/D1970M; waive slip resistance requirement if not installed on roof.
   1. Width: 3 inches.

B. Flexible Flashing: Self-adhering or mechanically attached flashing used for wall penetrations in accordance with ICC-ES AC148 requirements.

C. Threshold Flashing: Closed-cell foam tape with rubberized adhesive membrane; seals subfloor under threshold.
   1. Width: 5-1/2 inches.
   2. Ultraviolet (UV) and Weathering Resistance: Approved by manufacturer for up to 30 days of weather exposure.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces and conditions comply with requirements of this section.

3.02 PREPARATION

A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.

B. Clean and prime substrate surfaces to receive adhesives and sealants in accordance with manufacturer's installation instructions.

3.03 INSTALLATION

A. Install materials in accordance with manufacturer's installation instructions.

B. Mechanically Fastened Sheets:
   1. Install sheets in shingle fashion to shed water; align horizontally.
   2. Overlap seams as recommended by manufacturer, 6 inches, minimum.
   3. Overlap at outside and inside corners as recommended by manufacturer, 12 inches, minimum.
   4. For applications indicated to be airtight, seal seams, laps, penetrations, tears, and cuts with self-adhesive tape; use only large-headed, gasketed fasteners as recommended by manufacturer.
   5. Install water-resistive barrier over jamb flashings.
   6. Install head flashings under water-resistive barrier.
   7. At framed openings with frames having nailing flanges, extend sheet into opening and over flanges; at head of opening, seal sheet over flange and flashing.

C. Openings and Penetrations in Exterior Water-Resistive Barriers:
   1. Install flashing over sills, covering entire sill framing member, and extend at least 5 inches onto water-resistive barrier and at least 6 inches up jambs; mechanically fasten stretched edges.
   2. At openings filled with frames having nailing flanges, seal head and jamb flanges using a continuous bead of sealant compressed by flange and cover flanges with sealing tape at least 4 inches wide; do not seal sill flange.
   3. At openings filled with nonflanged frames, seal water-resistive barrier to each side of framing at opening using flashing at least 9 inches wide, and covering entire depth of framing.
   4. At head of openings, install flashing under water-resistive barrier extending at least 2 inches beyond face of jambs; seal water-resistive barrier to flashing.
   5. At interior face of openings, seal gaps between window and door frames and rough framing using appropriate joint sealant over backer rod.

6. Service and Other Penetrations: Form flashing around penetrating items and seal to surface of water-resistive barrier.

3.04 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements for additional requirements.

B. Owner's Inspection and Testing: Cooperate with Owner's testing agency.
   1. Allow access to work areas and staging.
   2. Notify Owner's testing agency in writing of schedule for work of this section to allow sufficient time for testing and inspection.
   3. Do not cover work of this section until testing and inspection is accepted.

C. Do not cover installed water-resistive barriers until required inspections have been completed.

D. Take digital photographs of each portion of installation prior to covering up weather barriers.

3.05 PROTECTION

A. Do not leave materials exposed to weather longer than recommended by manufacturer.

B. Do not leave paper- or felt-based barriers exposed to weather for longer than one week.

END OF SECTION 072500

SECTION 079200
JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Nonsag gunnable joint sealants.

B. Self-leveling pourable joint sealants.

C. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions: Additional requirements for sealants and primers.

B. Section 079100 - Preformed Joint Seals: Precompressed foam, gaskets, and strip seals.

C. Section 092116 - Gypsum Board Assemblies: Sealing acoustical and sound-rated walls and ceilings.

D. Section 093000 - Tiling: Sealant between tile and plumbing fixtures and at junctions with other materials and changes in plane.

1.03 REFERENCE STANDARDS

A. ASTM C661 - Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer; 2015 (Reapproved 2022).

B. ASTM C794 - Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants; 2018 (Reapproved 2022).

C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.

D. ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems; 2023.

E. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016 (Reapproved 2023).

F. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2022.

G. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2023.

H. ASTM C1521 - Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints; 2019 (Reapproved 2020).

I. SCAQMD 1168 - Adhesive and Sealant Applications; 1989, with Amendment (2022).

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Submit manufacturer's technical datasheets for each product to be used; include the following:

1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
2. List of backing materials approved for use with the specific product.
3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
4. Substrates the product should not be used on.

C. Preconstruction Laboratory Test Reports: Submit at least four weeks prior to start of installation.

D. Preinstallation Field Adhesion Test Plan: Submit at least two weeks prior to start of installation.

E. Preinstallation Field Adhesion Test Reports: Submit filled out Preinstallation Field Adhesion Test Reports log within 10 days after completion of tests; include bagged test samples and photographic records.

1.05 QUALITY ASSURANCE

A. Maintain one copy of each referenced document covering installation requirements on site.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

C. Preconstruction Laboratory Testing: Arrange for sealant manufacturer(s) to test each combination of sealant, substrate, backing, and accessories.
   1. Adhesion Testing: In accordance with ASTM C794.
   2. Compatibility Testing: In accordance with ASTM C1087.
   3. Allow sufficient time for testing to avoid delaying the work.
   4. Deliver sufficient samples to manufacturer for testing.
   5. Report manufacturer's recommended corrective measures, if any, including primers or techniques not indicated in product data submittals.

D. Preinstallation Field Adhesion Test Plan: Include destructive field adhesion testing of one sample of each combination of sealant type and substrate, except interior acrylic latex sealants, and include the following for each tested sample.

E. Field Adhesion Test Procedures:
   1. Allow sealants to fully cure as recommended by manufacturer before testing.
   2. Have a copy of the test method document available during tests.
   3. Record the type of failure that occurred, other information required by test method, and the information required on the Field Quality Control Log.
   4. When performing destructive tests, also inspect the opened joint for proper installation characteristics recommended by manufacturer, and report any deficiencies.
   5. Deliver the samples removed during destructive tests in separate sealed plastic bags, identified with project, location, test date, and test results, to Owner.
   6. If any combination of sealant type and substrate does not show evidence of minimum adhesion or shows cohesion failure before minimum adhesion, report results to Architect.

F. Destructive Field Adhesion Test: Test for adhesion in accordance with ASTM C1521, using Destructive Tail Procedure.
   1. Sample: At least 18 inches long.
   2. Minimum Elongation Without Adhesive Failure: Consider the tail at rest, not under any elongation stress; multiply the stated movement capability of the sealant in percent by two; then multiply 1 inch by that percentage; if adhesion failure occurs before the 1-inch mark is that distance from the substrate, the test has failed.
   3. If either adhesive or cohesive failure occurs before minimum elongation, take necessary measures to correct conditions and retest; record each modification to products or installation procedures.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Nonsag Sealants:
   1. Adfast USA Inc; ____: www.adfastcorp.com/#sle.
   2. Adhesives Technology Corporation; _____: www.atcepoxy.com/#sle.
   3. Bostik Inc; _____: www.bostik-us.com/#sle.
   4. Dow; _____: www.dow.com/#sle.
   5. Franklin International, Inc; ____: www.titebond.com/#sle.
   6. Pecora Corporation; _____: www.pecora.com/#sle.
   7. QUIKRETE Companies; _____: www.quikrete.com/#sle.
   8. Sherwin-Williams Company; _____: www.sherwin-williams.com/#sle.
   9. Specified Technologies Inc; _____: www.stifirestop.com/#sle.
   10. W. R. Meadows, Inc; _____: www.wrmeadows.com/#sle.
   11. Substitutions: See Section 016000 - Product Requirements.

B. Self-Leveling Sealants:
   1. Adhesives Technology Corporation; _____: www.atcepoxy.com/#sle.
   2. Bostik Inc; _____: www.bostik-us.com/#sle.
   3. Dow; _____: www.dow.com/#sle.
   4. Pecora Corporation; _____: www.pecora.com/#sle.

5. QUIKRETE Companies; _____: www.quikrete.com/#sle.
6. Sherwin-Williams Company; _____: www.sherwin-williams.com/#sle.
7. Sika Corporation; _____: usa.sika.com/#sle.
8. Tremco Commercial Sealants & Waterproofing; ____: www.tremcosealants.com/#sle.
9. W. R. Meadows, Inc; _____: www.wrmeadows.com/#sle.
10. Substitutions: See Section 016000 - Product Requirements.

2.02 JOINT SEALANT APPLICATIONS

A. Scope:
   1. Do Not Seal:
      a. Intentional weep holes in masonry.
      b. Joints indicated to be covered with expansion joint cover assemblies.
      c. Joints where sealant is specified to be furnished and installed by manufacturer of product to be sealed.
      d. Joints where sealant installation is specified in other sections.
      e. Joints between suspended ceilings and walls.

2.03 JOINT SEALANTS - GENERAL

A. Sealants and Primers: Provide products with acceptable levels of volatile organic compound (VOC) content; see Section 016116.

B. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

C. Colors: As indicated on drawings.

2.04 NONSAG JOINT SEALANTS

A. Type ____- Nonstaining Silicone Sealant: ASTM C920, Grade NS, Uses M, A, G, and O; not expected to withstand continuous water immersion or traffic.
   1. Movement Capability: Plus and minus _____percent, minimum.
   2. Nonstaining to Porous Stone: Nonstaining to light-colored natural stone when tested in accordance with ASTM C1248.
   3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
   4. Service Temperature Range: Minus 20 to 180 degrees F.
   5. Products:
      a. Dow; DOWSIL 756 SMS Building Sealant: www.dow.com/#sle.
      b. Dow; DOWSIL 790 Silicone Building Sealant: www.dow.com/#sle.
      c. Dow; DOWSIL 791 Silicone Weatherproofing Sealant: www.dow.com/#sle.
      d. Dow; DOWSIL 795 Silicone Building Sealant: www.dow.com/#sle.
      e. Pecora Corporation; Pecora 890 NST (Non-Staining Technology): www.pecora.com/#sle.
      f. Pecora Corporation; Pecora 864 NST (Non-Staining Technology): www.pecora.com/#sle.
      g. Sika Corporation; Sikasil WS-290: usa.sika.com/#sle.
      h. Sika Corporation; Sikasil WS-295: usa.sika.com/#sle.
      i. Tremco Commercial Sealants & Waterproofing; Spectrem 1: www.tremcosealants.com/#sle.

B. Type ____- Silicone Sealant: ASTM C920, Grade NS, Uses M, A, G, and O; not expected to withstand continuous water immersion or traffic.
   1. Movement Capability: Plus and minus 25 percent, minimum.
   2. Hardness Range: 15 to 35, Shore A, when tested in accordance with ASTM C661.
   3. Color: Match adjacent finished surfaces.
   4. Service Temperature Range: Minus 65 to 180 degrees F.

C. ---- Hybrid Silane Polyether for Interior and Exterior Horizontal, Vertical and Overhead Use -----

D. ---- Unique Water-Based Elastomeric Acrylic Latex, Interior and Exterior Use ----

2.05 ACCESSORIES

A. Overlay Extrusion for Glazing System Joint Protection: Rubber profiled extrusions placed over joints in glazing system and provided with watertight seal.
   1. Profile: As required to match existing metal glazing cap requirements.

B. Preformed Extruded Silicone Joint Seal: Pre-cured low-modulus silicone extrusion, in sizes to fit applications indicated on drawings, combined with a neutral-curing liquid silicone sealant for bonding joint seal to substrates.
   1. Size: 1 inch wide, in rolls 100 feet long.
   2. Thickness: 0.78 inch, with ridges along outside bottom edges for bonding area.

C. Preformed Extruded Polyurethane Joint Seal: Medium-modulus, preformed polyurethane extrusion used to bridge joints under elastomeric wall coatings, in sizes to fit applications indicated on drawings, combined with polyurethane sealant for bonding joint seal to substrates.
   1. Size: 1-1/2 inch wide, in rolls 100 feet long.
   2. Thickness: 0.051 inch, with ridges along outside bottom edges for bonding area.

D. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

E. Masking Tape: Self-adhesive, nonabsorbent, nonstaining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.

F. Joint Cleaner: Noncorrosive and nonstaining type, type recommended by sealant manufacturer; compatible with joint forming materials.

G. Primers: Type recommended by sealant manufacturer to suit application; nonstaining.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION

A. Install this work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Provide joint sealant installations complying with ASTM C1193.

C. Install bond breaker backing tape where backer rod cannot be used.

D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

E. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

F. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

3.04 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements for additional requirements.

B. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.

C. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

3.05 POST-OCCUPANCY

A. Post-Occupancy Inspection: Perform visual inspection of entire length of project sealant joints at a time that joints have opened to their greatest width, i.e., at low temperature in thermal cycle. Report failures immediately and repair them.

END OF SECTION 079200

SECTION 080671
DOOR HARDWARE SCHEDULE

PART 2 PRODUCTS

1.01 FINISHES

A. Finishes: Complying with BHMA A156.18.

END OF SECTION 080671

SECTION 081113
HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

2.01 SECTION INCLUDES

A. Non-fire-rated hollow metal doors and frames.

B. Hollow metal frames for wood doors.

C. Fire-rated hollow metal doors and frames.

D. Hollow metal borrowed lites glazing frames.

2.02 RELATED REQUIREMENTS

A. Section 087100 - Door Hardware.

B. Section 088000 - Glazing: Glass for doors and borrowed lites.

C. Section 099113 - Exterior Painting: Field painting.

D. Section 099123 - Interior Painting: Field painting.

2.03 ABBREVIATIONS AND ACRONYMS

A. ANSI: American National Standards Institute.

B. ASCE: American Society of Civil Engineers.

C. HMMA: Hollow Metal Manufacturers Association.

D. NAAMM: National Association of Architectural Metal Manufacturers.

E. NFPA: National Fire Protection Association.

F. SDI: Steel Door Institute.

2.04 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. ANSI/SDI A250.3 - Test Procedure and Acceptance Criteria for Factory Applied Finish Coatings for Steel Doors and Frames; 2019.

C. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2024.

D. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2023.

E. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2020.

F. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.

G. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable; 2023, with Editorial Revision.

H. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2023.

I. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

J. ITS (DIR) - Directory of Listed Products; Current Edition.

K. NAAMM HMMA 840 - Guide Specifications for Receipt, Storage and Installation of Hollow Metal Doors and Frames; 2024.

L. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2025.

M. NFPA 105 - Standard for Smoke Door Assemblies and Other Opening Protectives; 2025.

N. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2022.

O. UL (DIR) - Online Certifications Directory; Current Edition.

P. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

Q. UL 1784 - Standard for Air Leakage Tests of Door Assemblies; Current Edition, Including All Revisions.

2.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced standards/guidelines.

C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and any indicated finish requirements.

2.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years documented experience.

B. Manufacturer Qualifications: Provide hollow metal doors and frames from SDI Certified manufacturer: https://steeldoor.org/sdi-certified/#sle.

C. Maintain at project site copies of reference standards relating to installation of products specified.

2.07 DELIVERY, STORAGE, AND HANDLING

A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion and adverse effects on factory applied painted finish.

PART 2 PRODUCTS

3.01 MANUFACTURERS

A. Hollow Metal Doors and Frames:
1. Ceco Door, an Assa Abloy Group company; _____: www.assaabloydss.com/#sle.
2. Curries, an Assa Abloy Group company; _____: www.assaabloydss.com/#sle.
3. Fleming Door Products, an Assa Abloy Group company; _____: www.assaabloydss.com/#sle.
4. Krieger Specialty Products; _____: www.kriegerproducts.com/#sle.
5. Mesker, dormakaba Group; FDJ Series Drywall Frames: www.meskeropeningsgroup.com/#sle.
6. Republic Doors, an Allegion brand; ____: www.republicdoor.com/#sle.
7. Steelcraft, an Allegion brand; ____: www.allegion.com/#sle.
8. Technical Glass Products; SteelBuilt Window & Door Systems: www.tgpamerica.com/#sle.
9. Substitutions: See Section 016000 - Product Requirements.

3.02 PERFORMANCE REQUIREMENTS

A. Requirements for Hollow Metal Doors and Frames:
1. Steel Sheet: Comply with one or more of the following requirements; galvannealed steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.
2. Accessibility: Comply with ICC A117.1 and ADA Standards.

B. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

3.03 HOLLOW METAL DOORS

A. Door Finish: Factory primed and field finished.

B. Type ____, Interior Doors, Non-Fire-Rated:
   1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
      a. Level 1 - Standard-duty.
      b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
      c. Model 1 - Full Flush.
      d. Door Face Metal Thickness: 20 gauge, 0.032 inch, minimum.
   2. Door Thickness: 1-3/4 inches, nominal.

C. Type ____, Fire-Rated Doors:
   1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
      a. Level 1 - Standard-duty.
      b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
      c. Model 1 - Full Flush.
      d. Door Face Metal Thickness: 20 gauge, 0.032 inch, minimum.
   2. Fire Rating: As indicated on Door Schedule, tested in accordance with UL 10C and NFPA 252 ("positive pressure fire tests").
   3. Provide units listed and labeled by UL (DIR) or ITS (DIR).
      a. Attach fire rating label to each fire rated unit.
   4. Smoke and Draft Control Doors (Indicated with letter "S" on Drawings and/or Door Schedule): Self-closing or automatic closing doors in accordance with NFPA 80 and NFPA 105, with fire-resistance-rated wall construction rated the same or greater than the fire-rated doors, and the following;
      a. Maximum Air Leakage: 3.0 cfm/sq ft of door opening at 0.10 inch w.g. pressure, when tested in accordance with UL 1784 at both ambient and elevated temperatures.
      b. Gasketing: Provide gasketing or edge sealing as necessary to achieve leakage limit.
      c. Label: Include the "S" label on fire-rating label of door.
   5. Door Thickness: 1-3/4 inches, nominal.

3.04 HOLLOW METAL FRAMES

A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.

B. Interior Door Frames, Non-Fire Rated: Full profile/continuously welded type.
   1. Terminated Stops: Provide at interior doors; closed end stop terminated 6 inch, maximum, above floor at 45 degree angle.
   2. Frame Metal Thickness: 18 gauge, 0.042 inch, minimum.
   3. Frame Finish: Factory primed and field finished.

C. Door Frames, Fire-Rated: Knock-down type.
   1. Fire Rating: Same as door, labeled.

D. Frames for Wood Doors: Comply with frame requirements in accordance with corresponding door.

E. Borrowed Lites Glazing Frames: Construction and face dimensions to match door frames, and as indicated on drawings.

3.05 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

B. Factory Finish: Complying with ANSI/SDI A250.3, manufacturer's standard coating.
   1. Color: As selected by Architect from manufacturer's standard range.
   2. Color: As indicated on drawings.

3.06 ACCESSORIES

A. Glazing: As specified in Section 088000, factory installed.

B. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.

C. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

PART 3 EXECUTION

4.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Verify that finished walls are in plane to ensure proper door alignment.

4.02 PREPARATION

4.03 INSTALLATION

A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.

B. Install fire rated units in accordance with NFPA 80.

C. Coordinate frame anchor placement with wall construction.

D. Install door hardware as specified in Section 087100.

E. Touch up damaged factory finishes.

4.04 TOLERANCES

A. Maximum Diagonal Distortion: 1/16 inch measured with straight edge, corner to corner.

4.05 ADJUSTING

A. Adjust for smooth and balanced door movement.

4.06 SCHEDULE

A. Refer to Door and Frame Schedule on the drawings.

END OF SECTION 081113

SECTION 081213
HOLLOW METAL FRAMES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Non-fire-rated hollow metal frames for non-hollow metal doors.

B. Fire-rated hollow metal frames for non-hollow metal doors.

1.02 RELATED REQUIREMENTS

A. Section _____: Masonry grout fill of hollow metal frames.

B. Section _____: Non-hollow metal door for hollow metal frames.

C. Section 087100 - Door Hardware: Hardware, silencers, and weatherstripping.

D. Section 099123 - Interior Painting: Field painting.

1.03 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2024.

C. ANSI/SDI A250.6 - Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames; 2024.

D. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2023.

E. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2020.

F. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.

G. ASTM A879/A879M - Standard Specification for Steel Sheet, Zinc Coated by the Electrolytic Process for Applications Requiring Designation of the Coating Mass on Each Surface; 2022.

H. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable; 2023, with Editorial Revision.

I. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2023.

J. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2020.

K. ASTM C476 - Standard Specification for Grout for Masonry; 2023.

L. BHMA A156.115 - Hardware Preparation in Steel Doors and Frames; 2016.

M. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

N. ITS (DIR) - Directory of Listed Products; Current Edition.

O. NAAMM HMMA 805 - Recommended Selection and Usage Guide for Hollow Metal Doors and Frames; 2012.

P. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames; 2002.

Q. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames; 2011.

R. NAAMM HMMA 840 - Guide Specifications for Receipt, Storage and Installation of Hollow Metal Doors and Frames; 2024.

S. NAAMM HMMA 850 - Fire-Rated Hollow Metal Doors and Frames; 2014.

T. NAAMM HMMA 860 - Guide Specifications for Hollow Metal Doors and Frames; 2018.

U. NAAMM HMMA 861 - Guide Specifications for Commercial Hollow Metal Doors and Frames; 2014.

V. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2025.

W. NFPA 105 - Standard for Smoke Door Assemblies and Other Opening Protectives; 2025.

X. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2022.

Y. SDI 117 - Manufacturing Tolerances for Standard Steel Doors and Frames; 2023.

Z. UL (DIR) - Online Certifications Directory; Current Edition.

AA. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

BB. UL 1784 - Standard for Air Leakage Tests of Door Assemblies; Current Edition, Including All Revisions.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced grade standard.

C. Samples: Submit one sample of frame metal, 2 by 2 inches, showing factory finishes, colors, and surface textures.

D. Manufacturer's qualification statement.

E. Installer's qualification statement.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

B. Manufacturer Qualifications: Provide hollow metal frames from SDI Certified manufacturer: https://steeldoor.org/sdi-certified/#sle.

C. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store in accordance with applicable requirements and in compliance with standards and/or custom guidelines as indicated.

B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Hollow Metal Frames with Integral Casings:
   1. Ceco Door, an Assa Abloy Group company; _____: www.assaabloydss.com/#sle.
   2. Curries, an Assa Abloy Group company; _____: www.assaabloydss.com/#sle.
   3. Fleming Door Products, an Assa Abloy Group company; _____: www.assaabloydss.com/#sle.
   4. Republic Doors, an Allegion brand; ____: www.republicdoor.com/#sle.
   5. Steelcraft, an Allegion brand; ____: www.allegion.com/#sle.
   6. Substitutions: See Section 016000 - Product Requirements.

B. Hollow Metal Frames with Applied Casings, Prefinished:
   1. IDP - International Door Products Corp; F Series Standard Steel Door Frame: www.idpframes.com/#sle.
   2. Substitutions: See Section 016000 - Product Requirements.

C. Hollow Metal Frames for Doors Set Flush with Wall Finish:
   1. Studco Building Systems; EzyJamb Classic Adjust (EZC) Door Jamb System: www.studcosystems.com/#sle.
   2.___.

2.02 PERFORMANCE REQUIREMENTS

A. Door Frame Type: Provide hollow metal door frames with _____.

B. Steel Sheet: Comply with one or more of the following requirements; galvannealed steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.

C. Accessibility: Comply with ICC A117.1 and ADA Standards.

D. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior frame that is also indicated as being sound-rated must comply with the requirements specified for exterior frames and for sound-rated frames; where two requirements conflict, comply with the most stringent.

E. Hardware Preparations, Selections and Locations: Comply with BHMA A156.115, NAAMM HMMA 830, NAAMM HMMA 831 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

2.03 HOLLOW METAL DOOR FRAMES WITH INTEGRAL CASINGS

A. Frame Finish: Factory finished.

B. Type ____, Fire-Rated Door Frames: Knock-down type.
   1. Based on NAAMM HMMA Custom Guidelines: Comply with NAAMM HMMA 850 requirements for fire-rated frames.
      a. Comply with guidelines of NAAMM HMMA 860 for Hollow Metal Doors and Frames.
      b. Performance Level 1 - Light Duty, in accordance with NAAMM HMMA 805.
      c. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
      d. Frame Metal Thickness: 18 gauge, 0.042 inch, minimum.
   2. Fire Rating: As indicated on Door and Frame Schedule, tested in accordance with UL 10C or NFPA 252 ("positive pressure fire tests").
   3. Provide units listed and labeled by ITS (DIR) or UL (DIR).
      a. Attach fire rating label to each fire rated unit.
   4. Smoke and Draft Control Doors (Indicated with letter "S" on Drawings and/or Door Schedule): Self-closing or automatic closing framed doors in accordance with NFPA 80 and NFPA 105, with fire-resistance-rated wall construction rated the same or greater than the fire-rated doors, and the following;
      a. Maximum Air Leakage: 3.0 cfm/sq ft of framed door opening at 0.10 inch w.g. pressure, when tested in accordance with UL 1784 at both ambient and elevated temperatures.
      b. Gasketing: Provide gasketing or edge sealing as necessary to achieve leakage limit.
      c. Label: Include the "S" label on fire-rating label of door.
   5. Frame Finish: Factory finished.

2.04 HOLLOW METAL DOOR FRAMES WITH APPLIED CASINGS

A. Frame Type: Knockdown, slip-on drywall frames; separate jambs and head with separate snap-on casings both sides; factory-applied finish on exposed surfaces.
   1. Frame Material: Cold-rolled steel complying with ASTM A1008/A1008M.
   2. Casing Material: Formed steel.
   3. Casing Profile: As indicated.
   4. Finish: Factory-applied baked enamel finish, or electrostatically applied water-based paint.
      a. Color: As selected from manufacturer's full line.

B. Exterior Door Frames:
   1. Electro-galvanize components prior to finishing in accordance with ASTM A879/A879M, with manufacturer's standard coating thickness.
   2. Weatherstripping: Integral, recessed into frame.

C. Interior Door Frames, Non-Fire-Rated:

D. Interior Door Frames, Fire-Rated: Provide smoke gaskets.
   1. Fire Rating: As indicated on Door and Frame Schedule, tested in accordance with UL 10C or NFPA 252 ("positive pressure fire tests").

a. Provide units listed and labeled by testing agency acceptable to authorities having jurisdiction, ITS (DIR), or UL (DIR).
b. Attach fire rating label to each fire rated unit.

2.05 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

2.06 ACCESSORIES

A. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.

B. Grout for Frames: Mortar grout complying with ASTM C476 with maximum slump of 4 inches as measured in accordance with ASTM C143/C143M for hand troweling in place; plaster grout and thinner pumpable grout are prohibited.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Verify that finished walls are in plane to ensure proper door alignment.

3.02 PREPARATION

A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

3.03 INSTALLATION

A. Install frames in accordance with manufacturer's instructions and related requirements of specified frame standards or custom guidelines indicated.

B. Install fire rated units in accordance with NFPA 80.

C. Coordinate frame anchor placement with wall construction.

D. Grout frames in masonry construction, using hand trowel methods; brace frames so that pressure of grout before setting will not deform frames.

E. Install door hardware as specified in Section 087100.
1. Comply with recommended practice for hardware placement of doors and frames in accordance with ANSI/SDI A250.6 or NAAMM HMMA 861.

F. Coordinate installation of electrical connections to electrical hardware items.

G. Touch up damaged factory finishes.

3.04 TOLERANCES

A. Clearances Between Door and Frame: Comply with related requirements of specified frame standards or custom guidelines indicated in accordance with SDI 117 or NAAMM HMMA 861.

B. Maximum Diagonal Distortion: 1/16 inch measured with straight edges, crossed corner to corner.

END OF SECTION 081213

SECTION 083100
ACCESS DOORS AND PANELS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wall-mounted access units.

B. Ceiling-mounted access units.

1.02 RELATED REQUIREMENTS

A. Section 099123 - Interior Painting: Field paint finish.

B. Section 233300 - Air Duct Accessories: Access doors in ductwork.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide sizes, types, finishes, hardware, scheduled locations, and details of adjoining work.

C. Shop Drawings: Indicate exact position of each access door and/or panel unit.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

PART 2 PRODUCTS

2.01 ACCESS DOORS AND PANELS ASSEMBLIES

A. Wall-Mounted Units with Return Air Grille:
   1. Location: As indicated on drawings and as needed for access
   2. Size: 12 by 12 inches.

B. Wall-Mounted Units in Wet Areas:
   1. Location: As indicated on drawings or needed for access
   2. Size: 12 by 12 inches.

C. Fire-Rated Wall-Mounted Units:
   1. Wall Fire-Rating: As indicated on drawings.
   2. Size: as needed for access throughout by ____inches.

D. Ceiling-Mounted Units with Return Air Grille:
   1. Size - Lay-In Grid Ceilings: To match module of ceiling grid.
   2. Size - Other Ceilings: 12 by 12 inches.

E. Fire-Rated Ceiling-Mounted Units:
   1. Ceiling Fire-Rating: As indicated on drawings.
   2. Size: 12 by 12 inches.

2.02 WALL- AND CEILING-MOUNTED ACCESS UNITS

A. Manufacturers:
   1. Activar Construction Products Group, Inc. - JL Industries; _____: www.activarcpg.com/#sle.
   2. ACUDOR Products Inc: www.acudor.com/#sle.
      a. Airtight, Watertight, Wall and Ceiling Mounted Units: ACUDOR ADWT.
      b. Fire-Rated Wall-Mounted Units - 2 Hours or Less: ACUDOR FW-5015.
      c. Ceiling-Mounted Units: ACUDOR GFRG - R.
      d. Wall- and Ceiling-Mounted Units: ACUDOR DW-5058.
   3. Cendrex, Inc: www.cendrex.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Wall- and Ceiling-Mounted Units: Factory-fabricated door and frame, fully assembled units with corner joints welded, filled and ground flush; square and without rack or warp; coordinate

requirements with type of installation assembly being used for each unit.

1. Material: Steel.
2. Style: As indicated on drawings.
3. Style: Exposed frame with door surface flush with frame surface.
4. Door Style: Single thickness with rolled or turned in edges.
5. Frames: 16-gauge, 0.0598-inch minimum thickness.
6. Units in Fire-Rated Assemblies: Fire rating as required by applicable code for fire-rated assembly that access doors are being installed.
7. Steel Finish: Primed.
8. Primed and Factory Finish: Polyester powder coat; color _____.
9. Hardware:
    a. Hardware for Fire-Rated Units: As required for listing.
    b. Hinges for Non-Fire-Rated Units: Concealed, constant force closure spring type.

2.03 WALL-MOUNTED ACCESS UNITS WITH RETURN AIR GRILLES

A. Manufacturers:
    1. BAUCO Access Panel Solutions Inc; BAUCO Air - Access Panel with Air Return: www.bauco.com/#sle.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that rough openings are correctly sized and located.

B. Begin installation only after substrates have been properly prepared, and if the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to proceeding with this work.

B. Prepare surfaces using methods recommended by manufacturer for applicable substrates in accordance with project conditions.

3.03 INSTALLATION

A. Install units in accordance with manufacturer's instructions.

B. Install frames plumb and level in openings, and secure units rigidly in place.

C. Position units to provide convenient access to concealed equipment when necessary.

END OF SECTION 083100

SECTION 088300
MIRRORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Glass mirrors.
   1. Annealed float glass.
   2. Tempered safety glass.

B. Acrylic plastic mirrors.

C. Polycarbonate mirrors.

1.02 RELATED REQUIREMENTS

A. Section 062000 - Finish Carpentry: Wood mirror frames.

B. Section 102800 - Toilet, Bath, and Laundry Accessories: Metal mirror frames.

1.03 REFERENCE STANDARDS

A. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.

B. ASTM C1036 - Standard Specification for Flat Glass; 2021.

C. ASTM C1503 - Standard Specification for Silvered Flat Glass Mirror; 2024.

D. GANA (GM) - GANA Glazing Manual; 2022.

E. GANA (SM) - GANA Sealant Manual; 2008.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data on Mirror Types: Submit structural, physical and environmental characteristics, size limitations, special handling and installation requirements.

C. Product Data on Glazing Compounds: Submit chemical, functional, and environmental characteristics, limitations, special application requirements, and identify available colors.

D. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

A. Perform Work in accordance with GANA (GM), GANA (SM), and _____for glazing installation methods.

B. Fabricate, store, transport, receive, install, and clean mirrors in accordance with manufacturer's recommendations.

1.06 WARRANTY

A. See Section 017800 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Mirrors:
   1. Binswanger Mirror/ACI Distribution; ____: www.binswangerglass.com/#sle.
   2. Lenoir Mirror Co; ____: www.lenoirmirror.com/#sle.
   3. Trulite Glass and Aluminum Solutions; _____: www.trulite.com/#sle.
   4. Walker Glass Company Ltd; Walker Glass Mirrors: www.walkerglass.com/#sle.
   5. Substitutions: See Section 016000 - Product Requirements.

2.02 MATERIALS

A. Mirror Design Criteria: Select materials and/or provide supports as required to limit mirror material deflection to 1/200, or to the flexure limit of glass, with full recovery of glazing materials, whichever is less.

B. Mirror Glass; Type ____: Clear, annealed float glass; ASTM C1036, with copper and silver coatings, and protective overcoating.

1. Thickness: 1/4 inch.
2. Size: As indicated on drawings.

C. Mirror Glass; Type ____: ASTM C1036, Type 1 - Transparent Flat, Class 1 - Clear, Quality - Q1 (high-quality mirrors); silvering, protective coating, and quality requirements in compliance with ASTM C1503.
1. Thickness: 1/4 inch.

D. Acrylic Plastic Mirror; Type ____: Abrasive resistant; clear; mirrored coating; single layer.
1. Thickness: 0.060 inch.
2. Size: As indicated on drawings.

2.03 GLAZING COMPOUNDS

A. Acrylic Sealant; Type ____: ASTM C920, Type S, Grade NS, Class 12-1/2, Uses M and A; single component, solvent curing, non-bleeding; cured Shore A hardness of 15 to 25; clear color.

B. Polysulfide Sealant; Type ____: ASTM C920, Type M, Grade NS, Class 25, Uses M and A ; two component; chemical curing, non-sagging type; cured Shore A hardness of 15 to 25; _____ color.

C. Polyurethane Sealant; Type ____: ASTM C920, Type S, Grade NS, Class 25, Uses M and A; single component, chemical curing, non-staining, non-bleeding, Shore A Hardness Range 20 to 35; _____color.

D. Silicone Sealant; Type ___: ASTM C920, Type S, Grade NS, Class 25, Uses M and A; single component; chemical or solvent curing; non-bleeding, non-staining, cured Shore A hardness of 15 to 25; _____color.

2.04 ACCESSORIES

A. Setting Blocks: Neoprene, 80 to 90 Shore A durometer hardness.

B. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness.

C. Glazing Tape: Preformed butyl compound; 10 to 15 Shore A durometer hardness; on release paper.

D. Glazing Clips: Manufacturer's standard type.

E. Rolled Formed Frame: One piece, roll-formed angle frame, stainless steel, Type 430, satin finish, with welded frame corners, ground and polished smooth.

F. Channel Frame: One piece, channel frame, stainless steel, Type 430, satin finish, 1/2 inch by 1/2 inch by 3/8 inch deep with 90 degree mitered corners.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that openings for mirrored glazing are correctly sized and within tolerance.

B. Verify that surfaces of mirror frames or recesses are clean, free of obstructions, and ready for installation of mirrors.

3.02 PREPARATION

A. Clean contact surfaces with solvent and wipe dry.

B. Seal porous mirror frames or recesses with substrate compatible primer or sealer. Prime surfaces scheduled to receive sealant.

3.03 INSTALLATION

A. Install mirrors in accordance with manufacturer's recommendations.

B. Set mirrors plumb and level, and free of optical distortion.

C. Set mirrors with edge clearance free of surrounding construction including countertops or backsplashes.

D. Installation in Frames:
1. Cut glazing tape to length and set against permanent stops, projecting 1/16 inch above sight line.

2. Place setting blocks at one-quarter points with edge block no more than 6 inches from corners.

E. Installation in Frames:
1. Cut glazing tape to length and install against permanent stops, projecting 1/16 inch above sight line.

F. Installation in Frames:
1. Install mirrors resting on setting blocks. Install applied stop and center mirror by use of spacer shims at 24 inches on center and at 1/4 inch below sight line.

G. Frameless Mirrors: Set mirrors in proper place with adhesive, applied in accordance with adhesive manufacturer's instructions.

H. Frameless Mirrors: Set mirrors with clips, and anchor rigidly to wall construction.

3.04 CLEANING

A. Remove wet glazing materials from finish surfaces.

B. Remove labels after work is complete.

C. Clean mirrors and adjacent surfaces.

END OF SECTION 088300

SECTION 090561
COMMON WORK RESULTS FOR FLOORING PREPARATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. This section applies to floors identified in Contract Documents that are receiving the following types of floor coverings:
   1. Resilient tile and sheet.
   2. Broadloom carpet.
   3. Carpet tile.
   4. Thin-set ceramic tile and stone tile.

B. Removal of existing floor coverings.

C. Preparation of new and existing concrete floor slabs for installation of floor coverings.

D. Testing of concrete floor slabs for moisture and alkalinity (pH).

E. Remediation of concrete floor slabs due to unsatisfactory moisture or alkalinity (pH) conditions.
   1. Contractor shall perform all specified remediation of concrete floor slabs. If such remediation is indicated by testing agency's report and is due to a condition not under Contractor's control or could not have been predicted by examination prior to entering into the contract, a contract modification will be issued.

F. Patching compound.

1.02 RELATED REQUIREMENTS

A. Section 014000 - Quality Requirements: Additional requirements relating to testing agencies and testing.

B. Section 017419 - Construction Waste Management and Disposal: Handling of existing floor coverings removed.

C. Section 033000 - Cast-in-Place Concrete: Moisture emission reducing curing and sealing compound for slabs to receive adhered flooring, to prevent moisture content-related flooring failures; to remain in place, not to be removed.

D. Section 033000 - Cast-in-Place Concrete: Concrete admixture for slabs to receive adhered flooring, to prevent moisture content-related flooring failures.

E. Section 033000 - Cast-in-Place Concrete: Limitations on curing requirements for new concrete floor slabs.

F. Section 035400 - Cast Underlayment: Self-leveling underlayment applied as remediation treatment.

1.03 REFERENCE STANDARDS

A. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 50 mm [2 in.] Cube Specimens); 2023.

B. ASTM C472 - Standard Test Methods for Physical Testing of Gypsum, Gypsum Plasters, and Gypsum Concrete; 2020.

C. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2022.

D. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2023.

E. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes; 2019a.

F. RFCI (RWP) - Recommended Work Practices for Removal of Resilient Floor Coverings; 2018.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate scheduling of cleaning and testing, so that preliminary cleaning has been completed for at least 24 hours prior to testing.

1.05 SUBMITTALS

A. Visual Observation Report: For existing floor coverings to be removed.

B. Floor Covering and Adhesive Manufacturers' Product Literature: For each specific combination of substrate, floor covering, and adhesive to be used; showing:
   1. Moisture and alkalinity (pH) limits and test methods.
   2. Manufacturer's required bond/compatibility test procedure.

C. Remedial Materials Product Data: Manufacturer's published data on each product to be used for remediation.
   1. Manufacturer's qualification statement.
   2. Test reports indicating compliance with specified performance requirements, performed by nationally recognized independent testing agency.
   3. Manufacturer's installation instructions.
   4. Specimen Warranty: Copy of warranty to be issued by coating manufacturer and certificate of underwriter's coverage of warranty.

D. Testing Agency's Report:
   1. Description of areas tested; include floor plans and photographs if helpful.
   2. Summary of conditions encountered.
   3. Moisture and alkalinity (pH) test reports.
   4. Copies of specified test methods.
   5. Recommendations for remediation of unsatisfactory surfaces.
   6. Submit report to Architect.
   7. Submit report not more than two business days after conclusion of testing.

E. Adhesive Bond and Compatibility Test Report.

F. Floor Moisture Testing Technician Certificate: International Concrete Repair Institute (ICRI) Concrete Slab Moisture Testing Technician- Grade I certificate.

G. Copy of RFCI (RWP).

1.06 QUALITY ASSURANCE

A. Moisture and alkalinity (pH) testing shall be performed by an independent testing agency employed and paid by Contractor.

B. Contractor may perform adhesive and bond test with Contractor's own personnel or hire a testing agency.

C. Testing Agency Qualifications: Independent testing agency experienced in the types of testing specified.
   1. Submit evidence of experience consisting of at least 3 test reports of the type required, with project Owner's project contact information.

D. Contractor's Responsibility Relating to Independent Agency Testing:
   1. Provide access for and cooperate with testing agency.
   2. Confirm date of start of testing at least 10 days prior to actual start.
   3. Allow at least 4 business days on site for testing agency activities.
   4. Achieve and maintain specified ambient conditions.
   5. Notify Architect when specified ambient conditions have been achieved and when testing will start.

E. Floor Moisture Testing Technician Qualifications: International Concrete Repair Institute (ICRI) Concrete Slab Moisture Testing Technician Certification- Grade I.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, handle, and protect products in accordance with manufacturer’s instructions and recommendations.

B. Deliver materials in manufacturer’s packaging; include installation instructions.

C. Keep materials from freezing.

1.08 FIELD CONDITIONS

A. Maintain ambient temperature in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 65 degrees F or more than 85 degrees F.

B. Maintain relative humidity in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 40 percent and not more than 60 percent.

PART 2 PRODUCTS

2.01 MATERIALS

A. Patching Compound: Floor covering manufacturer's recommended product, suitable for conditions, and compatible with adhesive and floor covering. In the absence of any recommendation from flooring manufacturer, provide a product with the following characteristics:
   1. Cementitious moisture-, mildew-, and alkali-resistant compound, compatible with floor, floor covering, and floor covering adhesive, and capable of being feathered to nothing at edges.
   2. Compressive Strength: 3000 psi, minimum, after 28 days, when tested in accordance with ASTM C109/C109M or ASTM C472, whichever is appropriate.

B. Alternate Flooring Adhesive: Floor covering manufacturer's recommended product, suitable for the moisture and pH conditions present; low-VOC. In the absence of any recommendation from flooring manufacturer, provide a product recommended by adhesive manufacturer as suitable for substrate and floor covering and for conditions present.

PART 3 EXECUTION

3.01 CONCRETE SLAB PREPARATION

A. Perform following operations in the order indicated:
   1. Existing concrete slabs (on-grade and elevated) with existing floor coverings:
      a. Visual observation of existing floor covering, for adhesion, water damage, alkaline deposits, and other defects.
      b. Removal of existing floor covering.
   2. Existing concrete slabs with coatings or penetrating sealers/hardeners/dustproofers:
      a. Do not attempt to remove coating or penetrating material.
      b. Do not abrade surface.
   3. Preliminary cleaning.
   4. Moisture vapor emission tests; 3 tests in the first 1000 square feet and one test in each additional 1000 square feet, unless otherwise indicated or required by flooring manufacturer.
   5. Internal relative humidity tests; in same locations as moisture vapor emission tests, unless otherwise indicated.
   6. Alkalinity (pH) tests; in same locations as moisture vapor emission tests, unless otherwise indicated.
   7. Specified remediation, if required.
   8. Patching, smoothing, and leveling, as required.
   9. Other preparation specified.
   10. Adhesive bond and compatibility test.
   11. Protection.

B. Remediations:
   1. Active Water Leaks or Continuing Moisture Migration to Surface of Slab: Correct this condition before doing any other remediation; re-test after correction.
   2. Excessive Moisture Emission or Relative Humidity: If an adhesive that is resistant to the level of moisture present is available and acceptable to flooring manufacturer, use that adhesive for installation of the flooring; if not, apply remedial floor coating or remedial sheet membrane over entire suspect floor area.
   3. Excessive Alkalinity (pH): If remedial floor coating is necessary to address excessive moisture, no additional remediation is required; if not, if an adhesive that is resistant to the level present is available and acceptable to the flooring manufacturer, use that adhesive for installation of the flooring; otherwise, apply a skim coat of specified patching compound over entire suspect floor area.

3.02 REMOVAL OF EXISTING FLOOR COVERINGS

A. Comply with local, State, and federal regulations and recommendations of RFCI (RWP), as applicable to floor covering being removed.

B. Dispose of removed materials in accordance with local, State, and federal regulations and as specified.

3.03 PRELIMINARY CLEANING

A. Clean floors of dust, solvents, paint, wax, oil, grease, asphalt, residual adhesive, adhesive removers, film-forming curing compounds, sealing compounds, alkaline salts, excessive laitance, mold, mildew, and other materials that might prevent adhesive bond.

B. Do not use solvents or other chemicals for cleaning.

3.04 MOISTURE VAPOR EMISSION TESTING

A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.

B. Where this specification conflicts with the referenced test method, comply with the requirements of this section.

C. Test in accordance with ASTM F1869 and as follows.

D. Plastic sheet test and mat bond test may not be substituted for the specified ASTM test method, as those methods do not quantify the moisture content sufficiently.

E. In the event that test values exceed floor covering manufacturer's limits, perform remediation as indicated. In the absence of manufacturer limits, perform remediation if test values exceed 3 pounds per 1000 square feet per 24 hours.

F. Report: Report the information required by the test method.

3.05 ALKALINITY TESTING

A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.

B. In the event that test values exceed floor covering manufacturer's limits, perform remediation as indicated. In the absence of manufacturer limits, perform remediation if alkalinity (pH) test value is over 10.

3.06 PREPARATION

A. See individual floor covering section(s) for additional requirements.

B. Comply with requirements and recommendations of floor covering manufacturer.

C. Fill and smooth surface cracks, grooves, depressions, control joints and other non-moving joints, and other irregularities with patching compound.

D. Do not fill expansion joints, isolation joints, or other moving joints.

3.07 ADHESIVE BOND AND COMPATIBILITY TESTING

A. Comply with requirements and recommendations of floor covering manufacturer.

3.08 APPLICATION OF REMEDIAL FLOOR COATING

A. Comply with requirements and recommendations of coating manufacturer.

3.09 INSTALLATION OF REMEDIAL FLOOR SHEET MEMBRANE

A. Install in accordance with sheet membrane manufacturer's instructions.

3.10 PROTECTION

A. Cover prepared floors with building paper or other durable covering.

END OF SECTION 090561

SECTION 092116
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Metal stud wall framing.

C. Acoustic insulation.

D. Gypsum sheathing.

E. Cementitious backing board.

F. Gypsum wallboard.

G. Joint treatment and accessories.

H. Textured finish system.

1.02 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 054000 - Cold-Formed Metal Framing: Structural steel stud framing.

C. Section 061000 - Rough Carpentry: Building framing and sheathing.

D. Section 061000 - Rough Carpentry: Wood blocking product and execution requirements.

E. Section 072100 - Thermal Insulation: Acoustic insulation.

F. Section 072500 - Weather Barriers: Water-resistive barrier over sheathing.

1.03 REFERENCE STANDARDS

A. ASTM C514 - Standard Specification for Nails for the Application of Gypsum Board; 2004 (Reapproved 2020).

B. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2023.

C. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel; 2018.

D. ASTM C1280 - Standard Specification for Application of Exterior Gypsum Panel Products for Use as Sheathing; 2018 (Reapproved 2023).

E. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2017.

F. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2021.

G. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

H. GA-216 - Application and Finishing of Gypsum Panel Products; 2024.

I. GA-600 - Fire Resistance and Sound Control Design Manual; 2024.

J. UL (FRD) - Fire Resistance Directory; Current Edition.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data:

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

B. Fire-Resistance-Rated Assemblies: Provide completed assemblies with the following characteristics:

1. Head of Fire-Resistance-Rated Partitions: UL listed assembly No. _____; ___hour rating.

2. Gypsum Association File Numbers: Comply with requirements of GA-600 for the particular assembly.
3. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.02 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:
   1. Georgia-Pacific Gypsum; ____: www.gpgypsum.com/#sle.
   2. Substitutions: See Section 016000 - Product Requirements.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
   2. Thickness:
   3. Paper-Faced Products:
      a. Substitutions: See Section 016000 - Product Requirements.
   4. Mold-Resistant, Paper-Faced Products:
   5. Glass Mat Faced Products:
      a. Georgia-Pacific Gypsum; DensArmor Plus: www.gpgypsum.com/#sle.

C. Impact Resistant Wallboard:
   1. Application: High-traffic areas indicated.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   3. Type: Fire-resistance-rated Type X, UL or WH listed.
   4. Thickness: 5/8 inch.
   5. Edges: Tapered.
   6. Glass Mat Faced Products: Noncombustible, moisture-resistant gypsum core encased in a fiberglass face and back that shed water. Provide minimum 20-gauge (0.0296 inch) (0.752 mm) steel studs, as defined by the Steel Stud Manufacturers Association (SSMA). Non intended for exterior applications or constant exposure to water. Protect from immersion in water and the eroding effects of cascading water. Product is not suitable for use as a substrate for tile in wet areas such as tubs, showers, gang shower and other areas subject to direct water exposure. Refer to Gypsum Association's GA-216 reference guide, or ASTM C840 reference standard for additional installation requirements.
      a. Substitutions: See Section 016000 - Product Requirements.

D. Backing Board For Wet Areas: One of the following products:
   1. Application: Surfaces behind tile in wet areas, including manufactured housing, tub and shower surrounds, and shower ceilings.
   2. Application: Horizontal surfaces behind tile in wet areas including countertops and _____.
   3. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   4. Glass Mat Faced Board: Coated glass mat water-resistant gypsum backing panel as defined in ASTM C1178/C1178M.
      a. Regular Type: Thickness per plans inch.
      b. Fire-Resistance-Rated Type: Type X core, thickness 5/8 inch.
      c. Products:
         1) Georgia-Pacific Gypsum; DensShield Tile Backer: www.gpgypsum.com/#sle.

E. Backing Board For Non-Wet Areas: Water-resistant gypsum backing board as defined in ASTM C1396/C1396M; sizes to minimum joints in place; ends square cut.
   1. Application: Vertical surfaces behind thinset tile, except in wet areas.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   3. Type: Regular and Type X, in locations indicated.
   4. Type X Thickness: 5/8 inch.
   5. Regular Board Thickness: 1/2 inch.
   6. Edges: Tapered.

F. Ceiling Board: Special sag resistant gypsum ceiling board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Ceilings, unless otherwise indicated.

2. Thickness: 5/8 inch.
3. Edges: Tapered.

G. Exterior Sheathing Board: See Section 061000.

H. Exterior Sheathing Board: See Section 054000.

I. Exterior Sheathing Board: Sizes to minimize joints in place; ends square cut.
1. Application: Exterior sheathing, unless otherwise indicated.
2. Edges: Square.
3. Glass Mat Faced Products:
a. Georgia-Pacific Gypsum; DensGlass Sheathing: www.gpgypsum.com/#sle.

2.03 GYPSUM BOARD ACCESSORIES

A. Acoustic Insulation: See Section 072100.

B. Water-Resistive Barrier: See Section 072500.

C. Finishing Compound: Surface coat and primer, takes the place of skim coating.
1. Products:
a. westpac.
b. Substitutions: See Section 016000 - Product Requirements.

D. Textured Finish Materials: Latex-based compound; plain.

E. Abuse Resistant Finishes:
1. Acrylic, water-based, non-textured, high build, tintable primer and surfacer.

F. Glass-Fiber-Reinforced Gypsum Access Panels: Wall- and ceiling-mounted; natural white color, smooth finish, square corners.
1. Material: Glass-fiber-reinforced gypsum cement.
2. Exposed fasteners: Stainless steel.
3. Class A flame spread rating in accordance with ASTM E84.

G. Nails for Attachment to Wood Members: ASTM C514.

H. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

A. Studs: Space studs at 16 inches on center.
1. Extend partition framing to structure where indicated and to ceiling in other locations.
2. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.
3. Partitions Terminating at Structure: Attach extended leg top runner to structure, maintain clearance between top of studs and structure, and brace both flanges of studs with continuous bridging.
4. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.

B. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.

C. Blocking: Install wood blocking (WOOD BLOCKING FOR TOILET PARTITIONS TO BE 4X MINIMUM. for support of:
1. Framed openings.
2. Wall-mounted cabinets.
3. Plumbing fixtures.
4. Toilet partitions.

5. Toilet accessories.
6. Wall-mounted door hardware.

3.03 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

C. Fire-Resistance-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

D. Exposed Gypsum Board in Interior Wet Areas: Seal joints, cut edges, and holes with water-resistant sealant.

E. Exterior Sheathing: Comply with ASTM C1280. Install sheathing vertically, with edges butted tight and ends occurring over firm bearing.
   1. Seal joints, cut edges, and holes with water-resistant sealant.
   2. Paper-Faced Sheathing: Immediately after installation, protect from weather by application of water-resistive barrier.

F. Installation on Wood Framing: For rated assemblies, comply with requirements of listing authority. For nonrated assemblies, install as follows:
   1. Single-Layer Applications: Screw attachment.

3.04 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
   1. Not more than 30 feet apart on walls and ceilings over 50 feet long.
   2. At exterior soffits, not more than 30 feet apart in both directions.

B. Corner Beads: Install at external corners, using longest practical lengths.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.05 JOINT TREATMENT

A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicatedTEXTURE TO BE LIGHT SKIP TROWEL THROUGHOUT AT EXPOSED WALLBOARD AREAS UNLESS NOTED OTHERWISE
   2. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.

B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.

C. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.

3.06 TEXTURE FINISH

A. Apply finish texture coating by means of spraying apparatus in accordance with manufacturer's instructions and to match approved sample.

3.07 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION 092116

SECTION 095100
ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Suspended metal grid ceiling system.

B. Suspended plastic grid ceiling system.

C. Acoustical units.

1.02 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 072100 - Thermal Insulation: Acoustical insulation.

C. Section 095153 - Direct-Applied Acoustical Ceilings.

1.03 REFERENCE STANDARDS

A. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.

C. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2023.

D. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2021.

E. ASTM C635/C635M - Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2022.

F. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels; 2019.

G. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2023.

H. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

I. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2022.

J. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions; 2022.

K. ASTM E795 - Standard Practices for Mounting Test Specimens during Sound Absorption Tests; 2023.

L. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2023.

M. ASTM E1414/E1414M - Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum; 2021a.

N. CHPS (HPPD) - High Performance Products Database; Current Edition.

O. ISO 14644-1 - Cleanrooms and Associated Controlled Environments - Part 1: Classification of Air Cleanliness by Particle Concentration; 2015.

P. ITS (DIR) - Directory of Listed Products; Current Edition.

Q. NFPA 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth; 2024.

R. UL (FRD) - Fire Resistance Directory; Current Edition.

S. UL (GGG) - GREENGUARD Gold Certified Products; Current Edition.

T. UL 325 - Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems;Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.

B. Do not install acoustical units until after interior wet work is dry.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acoustic Tiles/Panels:
   1. Armstrong World Industries, Inc; ____: www.armstrongceilings.com/#sle.
   2. Acoustic Ceiling Products, Inc; ____: www.acpideas.com/#sle.
   3. Certainteed Architectural; ____: www.certainteed.com/ceilings-and-walls/#sle.
   4. USG Corporation; ____: www.usg.com/ceilings/#sle.

B. Suspension Systems:
   1. Same as for acoustical units.

2.02 PERFORMANCE REQUIREMENTS

2.03 ACOUSTICAL UNITS

2.04 SUSPENSION SYSTEM(S)

A. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with perimeter moldings, hold down clips, stabilizer bars, clips, and splices as required.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that layout of hangers will not interfere with other work.

3.02 PREPARATION

A. Install after major above-ceiling work is complete.

B. Coordinate the location of hangers with other work.

3.03 INSTALLATION - SUSPENSION SYSTEM

A. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

B. Suspension System, Non-Seismic: Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.

C. Seismic Suspension System, Seismic Design Categories D, E, F: Hang suspension system with grid ends attached to the perimeter molding on two adjacent walls; on opposite walls, maintain a 3/4 inch clearance between grid ends and wall.

D. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

E. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

F. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.

G. Do not eccentrically load system or induce rotation of runners.

3.04 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Fit border trim neatly against abutting surfaces.

D. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.

E. Cutting Acoustical Units:
   1. Make field cut edges of same profile as factory edges.

3.05 TOLERANCES

A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.

B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION 095100

SECTION 096500
RESILIENT FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Resilient sheet flooring.

B. Resilient tile flooring.

C. Resilient base.

D. Installation accessories.

1.02 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 033000 - Cast-in-Place Concrete: Restrictions on curing compounds for concrete slabs and floors to receive adhesive-applied resilient flooring.

C. Section 090561 - Common Work Results for Flooring Preparation: Removal of existing floor coverings, cleaning, and preparation.

D. Section 090561 - Common Work Results for Flooring Preparation: Concrete slab moisture and alkalinity testing and remediation procedures.

E. Section 260526 - Grounding and Bonding for Electrical Systems: Grounding and bonding of static control flooring to building grounding system.

F. Section 260539 - Underfloor Raceways for Electrical Systems: Electrical floor cover plates for installation of resilient flooring specified in this section.

1.03 REFERENCE STANDARDS

A. ASTM D6329 - Standard Guide for Developing Methodology for Evaluating the Ability of Indoor Materials to Support Microbial Growth Using Static Environmental Chambers; 1998 (Reapproved 2023).

B. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2023.

C. ASTM E492 - Standard Test Method for Laboratory Measurement of Impact Sound Transmission through Floor-Ceiling Assemblies Using the Tapping Machine; 2022.

D. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source; 2023.

E. ASTM E2179 - Standard Test Method for Laboratory Measurement of the Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors; 2021.

F. ASTM F150 - Standard Test Method for Electrical Resistance of Conductive and Static Dissipative Resilient Flooring; 2006 (Reapproved 2018).

G. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2022.

H. ASTM F970 - Standard Test Method for Measuring Recovery Properties of Floor Coverings after Static Loading; 2022.

I. ASTM F1066 - Standard Specification for Vinyl Composition Floor Tile; 2023.

J. ASTM F1303 - Standard Specification for Sheet Vinyl Floor Covering with Backing; 2004 (Reapproved 2021).

K. ASTM F1344 - Standard Specification for Rubber Floor Tile; 2021a.

L. ASTM F1700 - Standard Specification for Solid Vinyl Floor Tile; 2020.

M. ASTM F1859 - Standard Specification for Rubber Sheet Floor Covering Without Backing; 2021a.

N. ASTM F1861 - Standard Specification for Resilient Wall Base; 2021.

O. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2023.

P. ASTM F1913 - Standard Specification for Vinyl Sheet Floor Covering Without Backing; 2019.

Q. ASTM F2034 - Standard Specification for Sheet Linoleum Floor Covering; 2018.

R. ASTM F2169 - Standard Specification for Resilient Stair Treads; 2015 (Reapproved 2020).

S. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes; 2019a.

T. ASTM F2195 - Standard Specification for Linoleum Floor Tile; 2018 (Reapproved 2023).

U. ASTM F2982 - Standard Specification for Polyester Composition Floor Tile; 2018.

V. ASTM F3261 - Standard Specification for Resilient Flooring in Modular Format with Rigid Polymeric Core; 2020.

W. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; 2023.

X. NSF 332 - Sustainability Assessment for Resilient Floor Coverings; 2022.

Y. RFCI (RWP) - Recommended Work Practices for Removal of Resilient Floor Coverings; 2018.

Z. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2024.

AA. UL 2824 - GREENGUARD Certification Program Method for Measuring Microbial Resistance from Various Sources Using Static Environmental Chambers; Current Edition, Including All Revisions.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing specified flooring with minimum three years documented experience.

B. Installer Qualifications: Company specializing in installing specified flooring with minimum three years documented experience.

C. Testing Agency Qualifications: Independent firm specializing in performing concrete slab moisture testing and inspections of the type specified in this section.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.

B. Store all materials off of the floor in an acclimatized, weather-tight space.

C. Maintain temperature in storage area between 55 degrees F and 90 degrees F.

D. Protect roll materials from damage by storing on end.

E. Do not double stack pallets.

1.07 FIELD CONDITIONS

A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS

2.01 SHEET FLOORING

2.02 TILE FLOORING

A. Vinyl Composition Tile - Type ____: Homogeneous, with color extending throughout thickness.
   1. Minimum Requirements: Comply with ASTM F1066, of Class corresponding to type specified.
   2. Size: 12 by 12 inch.
   3. Thickness: 0.125 inch.

B. Resilient Tile with Rigid Polymeric Core - Type ____: Printed film type, with transparent or translucent wear layer; polymeric rigid core with or without backing.

1. Minimum Requirements: Comply with ASTM F3261, Class I; Type A - Smooth; Grade 1 - Commercial.
2. Wear Layer Thickness: 0.020 inch.
3. Total Thickness: 0.26 inch.

C. Stone Polymer Composite Tile - Type ____: Luxury vinyl flooring with core consisting of limestone, polyvinyl chloride, and plasticizers, with transparent or translucent wear layer; acoustic interlayer, or backing.
1. Manufacturers:
2. Wear Layer Thickness: 0.020 inch.
3. Total Thickness: 0.24 inch nominal.

D. PVC-Free Resilient Tile - Type ____: Mineral and thermoplastic polymer construction; ionomer-impregnated wear surface.
1. Thickness: 0.080 inch nominal.

E. Feature Strips: Of same material as tile, _____inch wide.

2.03 RESILIENT BASE

A. Resilient Base - Type ____: ASTM F1861, Type TS, rubber, vulcanized thermoset; style as scheduled.
1. Height: 4 inches.
2. Thickness: 0.125 inch.
3. Finish: Satin.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.

C. Cementitious Subfloor Surfaces: Verify that substrates are ready for resilient flooring installation by testing for moisture and alkalinity (pH).
1. Test in accordance with Section 090561.
2. Test as Follows:
   a. Alkalinity (pH): ASTM F710.
   b. Internal Relative Humidity: ASTM F2170.
   c. Moisture Vapor Emission: ASTM F1869.
3. Conduct tests by an independent testing agency acceptable to Owner.
   a. See Section 090561.
4. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.
5. Follow moisture and alkalinity remediation procedures in Section 090561.

3.02 PREPARATION

A. Remove existing resilient flooring and flooring adhesives; follow the recommendations of RFCI (RWP).

B. Prepare floor substrates for installation of flooring in accordance with Section 090561.

C. Prepare floor substrates as recommended by flooring and adhesive manufacturers.

D. Remove subfloor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with subfloor filler to achieve smooth, flat, hard surface.

E. Prohibit traffic until filler is fully cured.

F. Apply primer as required to prevent "bleed-through" or interference with adhesion by substances that cannot be removed. Apply primer to _____surfaces.

3.03 INSTALLATION - GENERAL

A. Starting installation constitutes acceptance of subfloor conditions.

B. Install in accordance with manufacturer's written instructions.

C. Adhesive-Applied Installation:
   1. Spread only enough adhesive to permit installation of materials before initial set.
   2. Place copper grounding strip in conductive adhesive and apply additional adhesive to top side of strip before installing static control flooring. Allow strip to extend beyond flooring in accordance with static control flooring manufacturer's instructions. Refer to Section 260526 for grounding and bonding to building grounding system.
   3. Fit joints and butt seams tightly.
   4. Set flooring in place, press with heavy roller to attain full adhesion.

D. Loose-Laid Installation: Set flooring in place in accordance with manufacturer's instructions.

E. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.

F. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.
   1. Metal Strips: Attach to substrate before installation of flooring using stainless steel screws.
   2. Resilient Strips: Attach to substrate using adhesive.

G. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

H. Install flooring in recessed floor access covers, maintaining floor pattern.

I. At movable partitions, install flooring under partitions without interrupting floor pattern.

J. Install feature strips where indicated.

3.04 INSTALLATION - SOUND CONTROL UNDERLAYMENT

A. Install in accordance with underlayment manufacturer's instructions.

3.05 INSTALLATION - SHEET FLOORING

A. Lay flooring with joints and seams parallel to longer room dimensions, to produce minimum number of seams. Lay out seams to avoid widths less than 1/3 of roll width; match patterns at seams.

3.06 INSTALLATION - TILE FLOORING

A. Mix tile from container to ensure shade variations are consistent when tile is placed, unless otherwise indicated in manufacturer's installation instructions.

B. Lay flooring with joints and seams parallel to building lines to produce symmetrical pattern.

C. Install loose-laid tile, fit interlocking edges tightly.

D. Install loose-laid tile using interlocking pins to secure tiles to each other.

3.07 INSTALLATION - RESILIENT BASE

A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.

B. Install base on solid backing. Bond tightly to wall and floor surfaces.

3.08 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean in accordance with manufacturer's written instructions.

3.09 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION 096500

SECTION 099123
INTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.

D. Do Not Paint or Finish the Following Items:
   1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
   5. Floors, unless specifically indicated.
   6. Glass.
   7. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 055000 - Metal Fabrications: Shop-primed items.

C. Section 055100 - Metal Stairs: Shop-primed items.

D. Section 099113 - Exterior Painting.

E. Section 099600 - High-Performance Coatings.

F. Section 210553 - Identification for Fire Suppression Piping and Equipment: Painted identification.

1.03 REFERENCE STANDARDS

A. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials; 2020.

B. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition.

C. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).

D. SSPC-SP 6/NACE No.3 - Commercial Blast Cleaning; 2006.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
   2. MPI product number (e.g., MPI #47).
   3. Cross-reference to specified paint system products to be used in project; include description of each system.
   4. Manufacturer's installation instructions.
   5. If proposal of substitutions is allowed under submittal procedures, explanation of substitutions proposed.

C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
   1. Where sheen is specified, submit samples in only that sheen.

2. Where sheen is not specified, discuss sheen options with Architect before preparing samples, to eliminate sheens not required.

D. Samples: Submit two painted samples, illustrating selected colors and textures for each color and system selected with specified coats cascaded. Submit on aluminum sheet, ____x____inch in size.

E. Certification: By manufacturer that paints and finishes comply with VOC limits specified.

F. Manufacturer's Instructions: Indicate special surface preparation procedures.

G. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 7 years experience and approved by manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.07 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Provide lighting level of 80 fc measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes from the same manufacturer to the greatest extent possible.

B. Paints:
1. Sherwin-Williams Company: www.sherwin-williams.com/#sle.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.
1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
2. Supply each paint material in quantity required to complete entire project's work from a single production run.
3. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

2.03 PAINT SYSTEMS - INTERIOR

A. Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, concrete, concrete masonry units, brick, wood, plaster, uncoated steel, shop primed steel, galvanized steel, aluminum, and acoustical ceilings.
1. Two top coats and one coat primer.
2. Top Coat(s): High Performance Architectural Interior Latex; MPI #138, 139, 140, 141, or 142.

2.04 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.
   1. Alkali Resistant Water Based Primer; MPI #3.

2.05 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

C. Test shop-applied primer for compatibility with subsequent cover materials.

D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
   1. Gypsum Wallboard: 12 percent.
   2. Plaster and Stucco: 12 percent.
   3. Masonry, Concrete, and Concrete Masonry Units: 12 percent.
   4. Interior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Concrete:

F. Masonry:

G. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.

H. Plaster: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high-alkali surfaces.

I. Aluminum: Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.

J. Galvanized Surfaces:

K. Ferrous Metal:
   1. Solvent clean according to SSPC-SP 1.
   2. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
   3. Remove rust, loose mill scale, and other foreign substances using methods recommended in writing by paint manufacturer and blast cleaning in accordance with SSPC-SP 6/NACE No.3. Protect from corrosion until coated.

L. Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.

3.03 APPLICATION

A. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".

B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

C. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

D. Sand wood and metal surfaces lightly between coats to achieve required finish.

E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

F. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.05 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION 099123

SECTION 099600
HIGH-PERFORMANCE COATINGS

PART 1 GENERAL

1.01 RELATED REQUIREMENTS

A. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 099113 - Exterior Painting.

C. Section 099123 - Interior Painting: Requirements for mechanical and electrical equipment surfaces.

1.02 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; Current Edition.

B. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating; 2023.

C. ASTM D4259 - Standard Practice for Preparation of Concrete by Abrasion Prior to Coating Application; 2018.

D. ASTM D4260 - Standard Practice for Liquid and Gelled Acid Etching of Concrete; 2023.

E. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

F. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition.

G. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

H. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).

I. SSPC-SP 6/NACE No.3 - Commercial Blast Cleaning; 2006.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide complete list of all products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
   2. MPI product number (e.g. MPI #47).
   3. Cross-reference to specified coating system(s) product is to be used in; include description of each system.
   4. Manufacturer's installation instructions.
   5. If proposal of substitutions is allowed under submittal procedures, explanation of all substitutions proposed.

C. Samples: Submit two samples 8 by 8 inch in size illustrating colors available for selection.

D. Manufacturer's Certificate: Certify that high-performance coatings comply with VOC limits specified.

1.04 QUALITY ASSURANCE

A. Maintain one copy of each referenced document that applies to application on site.

B. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

C. Applicator Qualifications: Company specializing in performing the work of this section with minimum 7 years documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of coating, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and

instructions for mixing and reducing.

C. Coating Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.06 FIELD CONDITIONS

A. Do not install materials when temperature is below 55 degrees F or above 90 degrees F.

B. Maintain this temperature range, 24 hours before, during, and 72 hours after installation of coating.

C. Restrict traffic from area where coating is being applied or is curing.

1.07 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide high performance coating products from the same manufacturer to the greatest extent possible.

B. High-Performance Coatings:
   1. Substitutions: Section 016000 - Product Requirements.

2.02 HIGH-PERFORMANCE COATINGS

A. Provide coating systems that meet the following minimum performance criteria, unless more stringent criteria are specified:

2.03 TOP COAT MATERIALS

A. Coatings - General: Provide complete multi-coat systems formulated and recommended by manufacturer for the applications indicated, in the thicknesses indicated; number of coats specified does not include primer or filler coat.

B. Shellac: Pure, white type.

2.04 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of coated surfaces.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Do not begin application of coatings until substrates have been properly prepared.

C. Verify that substrate surfaces are ready to receive work as instructed by the coating manufacturer. Obtain and follow manufacturer's instructions for examination and testing of substrates.

D. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

3.02 PREPARATION

A. Clean surfaces of loose foreign matter.

B. Remove substances that would bleed through finished coatings. If unremovable, seal surface with shellac.

C. Remove finish hardware, fixture covers, and accessories and store.

D. Ferrous Metal:
   1. Solvent clean according to SSPC-SP 1.
   2. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
   3. Remove rust, loose mill scale, and other foreign substances using methods recommended in writing by paint manufacturer and blast cleaning in accordance with SSPC-SP 6/NACE

No.3, and protect from corrosion until coated.

3.03 PRIMING

A. Apply primer to all surfaces, unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.

3.04 COATING APPLICATION

A. Apply coatings in accordance with manufacturer's written instructions, to thicknesses specified and recommendations in MPI - Architectural Painting and Specification Manual.

B. Apply in uniform thickness coats, without runs, drips, pinholes, brush marks, or variations in color, texture, or finish. Finish edges, crevices, corners, and other changes in dimension with full coating thickness.

3.05 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements for general requirements for field inspection.

3.06 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

B. Clean surfaces immediately of overspray, splatter, and excess material.

C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

3.07 PROTECTION

A. Protect finished work from damage.

END OF SECTION 099600

SECTION 101400
SIGNAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Room and door signs.

B. Interior directional and informational signs.

C. Luminous egress path marking and other "glow-in-the-dark" signs.

1.02 RELATED REQUIREMENTS

A. Section 220553 - Identification for Plumbing Piping and Equipment.

B. Section 260553 - Identification for Electrical Systems.

C. Section 265100 - Interior Lighting: Exit signs required by code.

1.03 REFERENCE STANDARDS

A. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.

B. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

C. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

D. ASTM E2072 - Standard Specification for Photoluminescent (Phosphorescent) Safety Markings; 2014.

E. UL 1994 - Luminous Egress Path Marking Systems; Current Edition, Including All Revisions.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.

C. Signage Schedule: Provide information sufficient to completely define each sign for fabrication, including room number, room name, other text to be applied, sign and letter sizes, fonts, and colors.

1. When room numbers to appear on signs differ from those on drawings, include the drawing room number on schedule.
2. When content of signs is indicated to be determined later, request such information from Owner through Architect at least 2 months prior to start of fabrication; upon request, submit preliminary schedule.
3. Submit for approval by Owner through Architect prior to fabrication.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Package signs as required to prevent damage before installation.

B. Package room and door signs in sequential order of installation, labeled by floor or building.

C. Store tape adhesive at normal room temperature.

1.07 FIELD CONDITIONS

A. Do not install tape adhesive when ambient temperature is lower than recommended by manufacturer.

B. Maintain this minimum temperature during and after installation of signs.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Flat Signs:

1. Substitutions: See Section 016000 - Product Requirements.

B. Dimensional Letter Signs:

2.02 SIGNAGE APPLICATIONS

A. Accessibility Compliance: Signs are required to comply with ADA Standards and ICC A117.1 _____, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.

B. Room and Door Signs: Provide a sign for every doorway, whether it has a door or not, not including corridors, lobbies, and similar open areas.
   1. Sign Type: Flat signs with engraved panel media as specified.
   2. Provide "tactile" signage, with letters raised minimum 1/32 inch and Grade II braille.
   3. Character Height: 1 inch.
   4. Sign Height: 2 inches, unless otherwise indicated.
   5. Office Doors: Identify with room numbers to be determined later, not the numbers indicated on drawings; in addition, provide "window" section for replaceable occupant name.
   6. Conference and Meeting Rooms: Identify with room numbers to be determined later, not the numbers indicated on drawings; in addition, provide "window" section with sliding "In Use/Vacant" indicator.
   7. Service Rooms: Identify with room names and numbers to be determined later, not those indicated on drawings.
   8. Rest Rooms: Identify with pictograms, the names "MEN" and "WOMEN", room numbers to be determined later, and braille.

C. Interior Directional and Informational Signs:

D. Luminous Egress Path Marking and Other "Glow-in-the-Dark" Signs: Photoluminescent media.

2.03 SIGN TYPES

A. Flat Signs: Signage media without frame.
   1. Edges: Square.
   2. Corners: Square.
   3. Wall Mounting of One-Sided Signs: Tape adhesive.

B. Color and Font: Unless otherwise indicated:
   1. Character Font: Helvetica, Arial, or other sans serif font.
   2. Character Case: Upper case only.
   3. Background Color: Clear.
   4. Character Color: Contrasting color.

2.04 TACTILE SIGNAGE MEDIA

A. Engraved Panels: Laminated colored plastic; engraved through face to expose core as background color:
   1. Total Thickness: 1/16 inch.

2.05 ACCESSORIES

A. Concealed Screws: Stainless steel, galvanized steel, chrome plated, or other non-corroding metal.

B. Tape Adhesive: Double sided tape, permanent adhesive.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install neatly, with horizontal edges level.

C. Protect from damage until Substantial Completion; repair or replace damaged items.

END OF SECTION 101400

SECTION 102600
WALL AND DOOR PROTECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Corner guards.

B. Door and frame protection.

C. Door hardware protection.

1.02 RELATED REQUIREMENTS

A. Section 055000 - Metal Fabrications: Corner guards fabricated from rolled metal sections or bent plate.

B. Section 061000 - Rough Carpentry: Blocking for wall and corner guard anchors.

C. Section 087100 - Door Hardware: Standard protection plates and trim.

1.03 REFERENCE STANDARDS

A. ASTM D256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics; 2023, with Editorial Revision.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

C. ASTM F476 - Standard Test Methods for Security of Swinging Door Assemblies; 2023.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Indicate physical dimensions, features, wall mounting brackets with mounted measurements, anchorage details, and rough-in measurements.

C. Shop Drawings: Include plans, elevation, sections, and attachment details. Show design and spacing of supports for protective corridor handrails, required to withstand structural loads.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver wall and door protection items in original, undamaged protective packaging. Label items to designate installation locations.

B. Protect work from moisture damage.

C. Protect work from UV light damage.

D. Do not deliver products to project site until areas for storage and installation are fully enclosed, and interior temperature and humidity are in compliance with manufacturer's recommendations for each type of item.

E. Store products in either horizontal or vertical position, in compliance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 MANUFACTURERS

2.02 PERFORMANCE CRITERIA

A. Impact Strength: Unless otherwise noted, provide protection products and assemblies that have been successfully tested for compliance with applicable provisions of ASTM D256 and/or ASTM F476.

2.03 PRODUCT TYPES

A. Corner Guards - Surface Mounted:
   1. Corner guards fabricated from rolled section or bent plate are specified in Section 055000.
   2. Material: High impact vinyl with full height extruded aluminum retainer.
   3. Performance: Resist lateral impact force of 100 lbs at any point without damage or permanent set.

4. Surface Burning Characteristics: Provide assemblies with flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
5. Width of Wings: 2 inches.
6. Corner: Square.
7. Color: As selected from manufacturer's standard colors.
8. Length: One piece.
9. Preformed end caps.

B. Adhesives and Primers: As recommended by manufacturer.

C. Mounting Brackets and Attachment Hardware: Appropriate to component and substrate.

2.04 FABRICATION

A. Fabricate components with tight joints, corners and seams.

B. Pre-drill holes for attachment.

C. Form end trim closure by capping and finishing smooth.

2.05 SOURCE QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Provide wall and door protection systems of each type from a single source and manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that rough openings, concealed blocking, and anchors are correctly sized and located.

3.02 INSTALLATION

A. Install components in accordance with manufacturer's instructions, level and plumb, secured rigidly in position to supporting construction.

B. Position corner guard 4 inches above finished floor to _____inches high.

3.03 TOLERANCES

A. Maximum Variation From Required Height: 1/4 inch.

B. Maximum Variation From Level or Plane For Visible Length: 1/4 inch.

3.04 CLEANING

A. Clean wall and door protection items of excess adhesive, dust, dirt, and other contaminants.

END OF SECTION 102600

SECTION 123600
COUNTERTOPS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wall-hung counters and vanity tops.

B. Sinks molded into countertops.

1.02 RELATED REQUIREMENTS

A. Section 123100 - Manufactured Metal Casework.

1.03 REFERENCE STANDARDS

A. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2023.

B. ASTM B211/B211M - Standard Specification for Aluminum and Aluminum-Alloy Rolled or Cold Finished Bar, Rod, and Wire; 2019.

C. ASTM D635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position; 2022.

D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

E. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

F. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.

G. ISFA 2-01 - Classification and Standards for Solid Surfacing Material; 2013.

H. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Specimen warranty.

C. Shop Drawings: Complete details of materials and installation ; combine with shop drawings of cabinets and casework specified in other sections.

D. Selection Samples: For each finish product specified, color chips representing manufacturer's full range of available colors and patterns.

E. Test Reports: Chemical resistance testing, showing compliance with specified requirements.

F. Certificate: Submit labels and certificates required by quality assurance and quality control programs.

G. Maintenance Data: Manufacturer's instructions and recommendations for maintenance and repair of countertop surfaces.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience.

B. Quality Certification:
   1. Provide labels or certificates indicating that the installed work complies with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade or grades specified.
   2. Provide designated labels on shop drawings as required by certification program.
   3. Provide designated labels on installed products as required by certification program.
   4. Submit certifications upon completion of installation that verifies this work is in compliance with specified requirements.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.07 FIELD CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.01 COUNTERTOPS

A. Quality Standard: See Section 123100.

B. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

C. Solid Surfacing Countertops: Solid surfacing sheet or plastic resin casting over continuous substrate.
   1. Flat Sheet Thickness: 1/2 inch, minimum.
   2. Solid Surfacing Sheet and Plastic Resin Castings: Complying with ISFA 2-01 and NEMA LD 3; acrylic or polyester resin, mineral filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.
      a. Manufacturers:
         1) Avonite Surfaces; _____: www.avonitesurfaces.com/#sle.
         2) Dupont; _____: www.corian.com/#sle.
         3) Formica Corporation; _____: www.formica.com/#sle.
         4) Relang International, LLC; DURASEIN: www.duraseinusa.com/#sle.
         5) Wilsonart; _____: www.wilsonart.com/#sle.
         6) Substitutions: See Section 016000 - Product Requirements.
      b. NSF approved for food contact.
      c. Finish on Exposed Surfaces: Matte, gloss rating of 5 to 20.
   3. Other Components Thickness: 1/2 inch, minimum.
   4. Back and End Splashes: Same sheet material, square top; minimum 4 inches high.
   5. Fabricate in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 11 - Countertops, Premium Grade.
   6. Fabricate in accordance with manufacturer's standard requirements.

2.02 FABRICATION

A. Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
   1. Join lengths of tops using best method recommended by manufacturer.
   2. Fabricate to overhang fronts and ends of cabinets 1 inch except where top butts against cabinet or wall.
   3. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.

B. Provide back/end splash wherever counter edge abuts vertical surface unless otherwise indicated.
   1. Secure to countertop with concealed fasteners and with contact surfaces set in waterproof glue.
   2. Height: 4 inches, unless otherwise indicated.

C. Solid Surfacing: Fabricate tops and wall panels up to 144 inches long in one piece; join pieces with adhesive sealant in accordance with manufacturer's recommendations and instructions.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

C. Verify that wall surfaces have been finished and mechanical and electrical services and outlets are installed in proper locations.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

A. Securely attach countertops to cabinets using concealed fasteners. Make flat surfaces level; shim where required.

B. Seal joint between back/end splashes and vertical surfaces.

3.04 TOLERANCES

A. Variation From Horizontal: 1/8 inch in 10 feet, maximum.

B. Offset From Wall, Countertops: 1/8 inch maximum; 1/16 inch minimum.

C. Field Joints: 1/8 inch wide, maximum.

D. must meet more restrictive ADA tolerances where applicable

3.05 CLEANING

3.06 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION 123600

SECTION 224000
PLUMBING FIXTURES

PART 1 GENERAL

1.01 RELATED REQUIREMENTS

1.02 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. ASME A112.18.1 - Plumbing Supply Fittings; 2018, with Errata.

C. ASME A112.18.9 - Protectors/Insulators for Exposed Waste and Supplies on Accessible Fixtures; 2011 (Reaffirmed 2022).

D. ASME A112.19.2 - Ceramic Plumbing Fixtures; 2024.

E. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

F. IAPMO Z124 - Plastic Plumbing Fixtures; 2022, with Editorial Revision.

G. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

H. ISFA 2-01 - Classification and Standards for Solid Surfacing Material; 2013.

I. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

J. NSF 61 - Drinking Water System Components - Health Effects; 2023, with Errata.

K. NSF 372 - Drinking Water System Components - Lead Content; 2022.

L. UL (DIR) - Online Certifications Directory; Current Edition.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.

C. Manufacturer's Instructions: Indicate installation methods and procedures.

D. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

1.05 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Provide five year manufacturer warranty for electric water cooler.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Potable Water Systems: Provide plumbing fittings and faucets that comply with NSF 61 and NSF 372 for maximum lead content; label pipe and fittings.

B. Water Efficiency: EPA WaterSense label is required for all water closets, urinals, lavatory faucets, and showerheads.

2.02 REGULATORY REQUIREMENTS

A. Comply with applicable codes for installation of plumbing systems.

B. Comply with UL (DIR) requirements.

2.03 FLUSH VALVE WATER CLOSETS

A. Water Closets:
   1. Vitreous china, ASME A112.19.2, floor mounted, siphon jet flush action, china bolt caps.
   2. Flush Valve: Exposed (top spud).

3. Flush Operation: Sensor operated.
4. Handle Height: 44 inches or less.

B. Flush Valves:

2.04 WALL HUNG URINALS

A. Vitreous china, ASME A112.19.2, wall hung with side shields and concealed carrier.
1. Consumption Volume: 1.0 gal per flush, maximum.
2. Flush Valve: Exposed (top spud).
3. Flush Operation: Sensor operated.
4. Trapway Outlet: Integral.

B. Flush Valves:

2.05 LAVATORIES

2.06 SINKS

A. ----------

B. Use the following paragraph to specify basis of design products from selected manufacturers or use the paragraphs above to specify generic, nonproprietary descriptions.

C. ----------

2.07 UNDER-LAVATORY PIPE SUPPLY COVERS

A. General:
1. Insulate exposed drainage piping including hot, cold and tempered water supplies under lavatories or sinks per ADA Standards.
2. Construction: 1/8 inch PVC with antimicrobial, antifungal and UV resistant properties.
a. Comply with ASME A112.18.9 for covers on accessible lavatory piping.
b. Comply with ICC A117.1.

2.08 BATHTUBS AND SHOWERS

2.09 SHOWER RECEPTORS

A. Drain Trim: Removable chrome-plated strainer and tail piece.

B. ADA Solid Surfacing Shower Receptors: Solid plastic resin casting, self-supporting, for installation over conventional subfloor; complying with IAPMO Z124.
1. Material: Complying with ISFA 2-01 and NEMA LD 3; acrylic or polyester resin, renewable material filler, and pigments; homogenous, nonporous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.
2. Surface Burning Characteristics: Flame spread index of 25 or less, and smoke developed index of 450 or less, Class A, when tested in accordance with ASTM E84.
3. Finish on Exposed Surfaces: Provide satin or matte, gloss rating of 3 to 20.

2.10 SHOWERS

A. -- To specify shower trim, select appropriate paragraph listed below. --

A.
1. Comply with ASME A112.18.1.
2. Provide two handle in wall diverter valve body with integral thermostatic mixing valve to supply per plans gpm.

B. Mounted Shower Valve:
1. y with ASME A112.18.1.
2. -handle, in-wall diverter valve body with integral thermostatic mixing valve to supply 1.5 gpm.

C. Head:
1. chrome-plated vandal-proof institutional head with integral wall bracket, built-in 2.5 gpm flow control.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that walls and floor finishes are prepared and ready for installation of fixtures.

3.02 PREPARATION

A. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.03 INSTALLATION

A. Install components level and plumb.

3.04 INTERFACE WITH WORK OF OTHER SECTIONS

A. Review millwork shop drawings. Confirm location and size of fixtures and openings before rough-in and installation.

3.05 ADJUSTING

3.06 CLEANING

A. Clean plumbing fixtures and equipment.

3.07 PROTECTION

A. Protect installed products from damage due to subsequent construction operations.

B. Repair or replace damaged products before Date of Substantial Completion.

END OF SECTION 224000

SECTION 230130.51
HVAC AIR-DISTRIBUTION SYSTEM CLEANING

PART 2 PRODUCTS

1.01 TOOLS AND EQUIPMENT

A. Vacuum Devices and Other Tools: Exceptionally clean, in good working order, and sealed when brought into the facility.

B. Vacuum Devices That Exhaust Air Inside Building, Including Hand-Held and Wet Vacuums: Equipped with HEPA filtration with 99.97 percent collection efficiency for minimum 0.3-micron size particles and DOP test number.

C. Vacuum Devices That Exhaust Air Outside Building, Including Truck- and Trailer-Mounted Types: Equipped with particulate collection including adequate filtration to contain debris removed from the HVAC system; exhausted in manner that prevents contaminant re-entry to building; compliant with applicable regulations as to outdoor environmental contamination.

END OF SECTION 230130.51

SECTION 262726
WIRING DEVICES

PART 1 GENERAL

1.01 RELATED REQUIREMENTS

A. Section 260533.16 - Boxes for Electrical Systems.

1.02 REFERENCE STANDARDS

A. FS W-C-596 - Connector, Electrical, Power, General Specification for; 2014h (Validated 2022).

B. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2023.

C. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2016.

D. NEMA WD 1 - General Color Requirements for Wiring Devices; 1999 (Reaffirmed 2020).

E. NEMA WD 6 - Wiring Devices - Dimensional Specifications; 2021.

F. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

G. UL 498 - Attachment Plugs and Receptacles; Current Edition, Including All Revisions.

H. UL 514D - Cover Plates for Flush-Mounted Wiring Devices; Current Edition, Including All Revisions.

I. UL 943 - Ground-Fault Circuit-Interrupters; Current Edition, Including All Revisions.

J. UL 1917 - Solid-State Fan Speed Controls; Current Edition, Including All Revisions.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

1.04 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Products: Listed, classified, and labeled as suitable for the purpose intended.

PART 2 PRODUCTS

2.01 WIRING DEVICES - GENERAL REQUIREMENTS

A. Provide wiring devices suitable for intended use with ratings adequate for load served.

2.02 FAN SPEED CONTROLLERS

A. Description: 120 V AC, solid-state, full-range variable speed, slide control type with separate on/off switch, with integral radio frequency interference filtering, fan noise elimination circuitry, power failure preset memory, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 1917.
   1. Current Rating: 1.5 A unless otherwise indicated or required to control the load indicated on the drawings.

2.03 RECEPTACLES

A. Receptacles - General Requirements: Self-grounding, complying with NEMA WD 1 and NEMA WD 6, and listed as complying with UL 498, and where applicable, FS W-C-596; types as indicated on the drawings.
   1. Wiring Provisions: Terminal screws for side wiring or screw actuated binding clamp for back wiring with separate ground terminal screw.
   2. NEMA configurations specified are according to NEMA WD 6.

B. GFCI Receptacles:
   1. GFCI Receptacles - General Requirements: Self-testing, with feed-through protection and light to indicate ground fault tripped condition and loss of protection; listed as complying with UL 943, class A.
   2. Tamper Resistant GFCI Receptacles: Industrial specification grade, duplex, 20A, 125V, NEMA 5-20R, rectangular decorator style, listed and labeled as tamper resistant type.
   3. Tamper Resistant and Weather Resistant GFCI Receptacles: Industrial specification grade, duplex, 20A, 125V, NEMA 5-20R, rectangular decorator style, listed and labeled as tamper

resistant type and as weather resistant type complying with UL 498 Supplement SD suitable for installation in damp or wet locations.

2.04 WALL PLATES AND COVERS

A. Wall Plates: Comply with UL 514D.
   1. Configuration: One piece cover as required for quantity and types of corresponding wiring devices.
   2. Size: Standard; _____.
   3. Screws: Metal with slotted heads finished to match wall plate finish.

B. Weatherproof Receptacle Covers for Damp Locations: Gasketed, cast aluminum, with self-closing hinged cover and corrosion-resistant screws; listed as suitable for use in wet locations with cover closed.

C. Weatherproof Receptacle Covers for Wet Locations: Gasketed, cast aluminum, with hinged lockable cover and corrosion-resistant screws; listed as suitable for use in wet locations while in use with attachment plugs connected and identified as extra-duty type.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NFPA 70.

C. Verify that wall openings are neatly cut and will be completely covered by wall plates.

D. Verify that final surface finishes are complete, including painting.

E. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.

F. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

A. Provide extension rings to bring outlet boxes flush with finished surface.

B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.03 INSTALLATION

A. Perform work in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards unless otherwise indicated.

B. Coordinate locations of outlet boxes provided under Section 260533.16 as required for installation of wiring devices provided under this section.

C. Install wiring devices in accordance with manufacturer's instructions.

D. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.

E. Where required, connect wiring devices using pigtails not less than 6 inches long. Do not connect more than one conductor to wiring device terminals.

F. Connect wiring devices by wrapping conductor clockwise 3/4 turn around screw terminal and tightening to proper torque specified by the manufacturer. Where present, do not use push-in pressure terminals that do not rely on screw-actuated binding.

G. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.

H. Install wiring devices plumb and level with mounting yoke held rigidly in place.

I. Install wall switches with OFF position down.

J. Install vertically mounted receptacles with grounding pole on top and horizontally mounted receptacles with grounding pole on left.

K. Install wall plates to fit completely flush to wall with no gaps and rough opening completely covered without strain on wall plate. Repair or reinstall improperly installed outlet boxes or

improperly sized rough openings. Do not use oversized wall plates in lieu of meeting this requirement.

L. Install blank wall plates on junction boxes and on outlet boxes with no wiring devices installed or designated for future use.

3.04 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Inspect each wiring device for damage and defects.

C. Operate each wall switch, wall dimmer, and fan speed controller with circuit energized to verify proper operation.

D. Test each receptacle to verify operation and proper polarity.

E. Test each GFCI receptacle for proper tripping operation according to manufacturer's instructions.

F. Correct wiring deficiencies and replace damaged or defective wiring devices.

3.05 ADJUSTING

A. Adjust devices and wall plates to be flush and level.

3.06 CLEANING

A. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

END OF SECTION 262726

SECTION 265100
INTERIOR LIGHTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Interior luminaires.

B. Emergency lighting units.

C. Exit signs.

D. Ballasts and drivers.

E. Lamps.

1.02 RELATED REQUIREMENTS

A. Section 233600 - Air Terminal Units: Air distribution accessories for air handling luminaires.

B. Section 260529 - Hangers and Supports for Electrical Systems.

C. Section 260533.16 - Boxes for Electrical Systems.

1.03 REFERENCE STANDARDS

A. IES LM-79 - Approved Method: Optical and Electrical Measurements of Solid-State Lighting Products; 2019.

B. IES LM-80 - Approved Method: Measuring Maintenance of Light Output Characteristics of Solid-State Light Sources; 2021.

C. NECA/IESNA 500 - Standard for Installing Indoor Lighting Systems; 2006.

D. NECA/IESNA 502 - Standard for Installing Industrial Lighting Systems; 2006.

E. NEMA LE 4 - Recessed Luminaires, Ceiling Compatibility; 2023.

F. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

G. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

H. UL 844 - Luminaires for Use in Hazardous (Classified) Locations; Current Edition, Including All Revisions.

I. UL 924 - Emergency Lighting and Power Equipment; Current Edition, Including All Revisions.

J. UL 1598 - Luminaires; Current Edition, Including All Revisions.

K. UL 8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products; Current Edition, Including All Revisions.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings:
   1. Indicate dimensions and components for each luminaire that is not a standard product of the manufacturer.

C. Product Data: Provide manufacturer's standard catalog pages and data sheets including detailed information on luminaire construction, dimensions, ratings, finishes, mounting requirements, listings, service conditions, photometric performance, installed accessories, and ceiling compatibility; include model number nomenclature clearly marked with all proposed features.
   1. LED Luminaires:
      a. Include estimated useful life, calculated based on IES LM-80 test data.

D. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

E. Operation and Maintenance Data: Instructions for each product including information on replacement parts.

1.05 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

1.06 DELIVERY, STORAGE, AND PROTECTION

A. Receive, handle, and store products according to NECA/IESNA 500 (commercial lighting), NECA/IESNA 502 (industrial lighting), and manufacturer's written instructions.

B. Keep products in original manufacturer's packaging and protect from damage until ready for installation.

1.07 FIELD CONDITIONS

A. Maintain field conditions within manufacturer's required service conditions during and after installation.

1.08 WARRANTY

A. See Section 017800 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.01 LUMINAIRE TYPES

A. Furnish products as indicated in luminaire schedule included on the drawings.

2.02 LUMINAIRE TYPES

A. Furnish products as specified below.

2.03 LUMINAIRES

A. Manufacturers:
   1. per electrical plans.
   2. Substitutions: See Section 016000 - Product Requirements.

B. Provide products that comply with requirements of NFPA 70.

C. Provide products that are listed and labeled as complying with UL 1598, where applicable.

D. Provide products listed, classified, and labeled as suitable for the purpose intended.

E. Unless otherwise indicated, provide complete luminaires including lamp(s) and all sockets, ballasts, reflectors, lenses, housings and other components required to position, energize and protect the lamp and distribute the light.

F. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, hardware, supports, trims, accessories, etc. as necessary for a complete operating system.

G. Provide products suitable to withstand normal handling, installation, and service without any damage, distortion, corrosion, fading, discoloring, etc.

H. Recessed Luminaires:
   1. Ceiling Compatibility: Comply with NEMA LE 4.
   2. Luminaires Recessed in Insulated Ceilings: Listed and labeled as IC-rated, suitable for direct contact with insulation and combustible materials.
   3. Air-Handling Recessed Fluorescent Luminaires: Suitable for air supply/return, heat removal, or combination as indicated.

I. Hazardous (Classified) Location Luminaires: Listed and labeled as complying with UL 844 for the classification of the installed location.

J. LED Luminaires:
   1. Components: UL 8750 recognized or listed as applicable.
   2. Tested in accordance with IES LM-79 and IES LM-80.
   3. LED Estimated Useful Life: Minimum of 50,000 hours at 70 percent lumen maintenance, calculated based on IES LM-80 test data.

2.04 EMERGENCY LIGHTING UNITS

A. Manufacturers:
   1. Acuity Brands, Inc; _____: www.acuitybrands.com/#sle.

2. Cooper Lighting, a division of Cooper Industries; _____: www.cooperindustries.com/#sle.
3. Hubbell Lighting, Inc; _____: www.hubbelllighting.com/#sle.
4. Substitutions: See Section 016000 - Product Requirements.

B. Description: Emergency lighting units complying with NFPA 101 and all applicable state and local codes, and listed and labeled as complying with UL 924.

C. Operation: Upon interruption of normal power source or brownout condition exceeding 20 percent voltage drop from nominal, solid-state control automatically switches connected lamps to integral battery power for minimum of 90 minutes of rated emergency illumination, and automatically recharges battery upon restoration of normal power source.

D. Battery:
1. Size battery to supply all connected lamps, including emergency remote heads where indicated.

E. Diagnostics: Provide power status indicator light and accessible integral test switch to manually activate emergency operation.

F. Provide low-voltage disconnect to prevent battery damage from deep discharge.

2.05 EXIT SIGNS

A. Description: Exit signs complying with NFPA 101 and applicable state and local codes, and listed and labeled as complying with UL 924.
1. Number of Faces: Single- or double-face as indicated or as required for installed location.
2. Directional Arrows: As indicated or as required for installed location.

2.06 BALLASTS AND DRIVERS

A. Ballasts/Drivers - General Requirements:
1. Provide ballasts containing no polychlorinated biphenyls (PCBs).
2. Minimum Efficiency/Efficacy: Provide ballasts complying with all current applicable federal and state ballast efficiency/efficacy standards.

B. Dimmable LED Drivers:
1. Dimming Range: Continuous dimming from 100 percent to five percent relative light output unless dimming capability to lower level is indicated, without flicker.
2. Control Compatibility: Fully compatible with the dimming controls to be installed.

2.07 LAMPS

A. Lamps - General Requirements:
1. Unless explicitly excluded, provide new, compatible, operable lamps in each luminaire.
2. Verify compatibility of specified lamps with luminaires to be installed. Where lamps are not specified, provide lamps per luminaire manufacturer's recommendations.
3. Minimum Efficiency: Provide lamps complying with all current applicable federal and state lamp efficiency standards.
4. Color Temperature Consistency: Unless otherwise indicated, for each type of lamp furnish products which are consistent in perceived color temperature. Replace lamps that are determined by the Architect to be inconsistent in perceived color temperature.

2.08 ACCESSORIES

A. Stems for Suspended Luminaires: Steel tubing, minimum 1/2" size, factory finished to match luminaire or field-painted as directed.

B. Threaded Rods for Suspended Luminaires: Zinc-plated steel, minimum 1/4" size, field-painted as directed.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that outlet boxes are installed in proper locations and at proper mounting heights and are properly sized to accommodate conductors in accordance with NFPA 70.

C. Verify that suitable support frames are installed where required.

D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to luminaires.

E. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

A. Provide extension rings to bring outlet boxes flush with finished surface.

B. Clean dirt, debris, plaster, and other foreign materials from outlet boxes.

3.03 INSTALLATION

A. Coordinate locations of outlet boxes provided under Section 260533.16 as required for installation of luminaires provided under this section.

B. Install products in accordance with manufacturer's instructions.

C. Install luminaires securely, in a neat and workmanlike manner, as specified in NECA 500 (commercial lighting) and NECA 502 (industrial lighting).

D. Provide required support and attachment in accordance with Section 260529.

E. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.

F. Suspended Ceiling Mounted Luminaires:
   1. Do not use ceiling tiles to bear weight of luminaires.
   2. Do not use ceiling support system to bear weight of luminaires unless ceiling support system is certified as suitable to do so.
   3. Secure lay-in luminaires to ceiling support channels using listed safety clips at four corners.
   4. See appropriate Division 9 section where suspended grid ceiling is specified for additional requirements.

G. Install accessories furnished with each luminaire.

H. Bond products and metal accessories to branch circuit equipment grounding conductor.

I. Air Handling Luminaires: Interface with air handling accessories furnished and installed under Section 233600.

J. Emergency Lighting Units:

K. Exit Signs:
   1. Unless otherwise indicated, connect unit to unswitched power from same circuit feeding normal lighting in same room or area. Bypass local switches, contactors, or other lighting controls.

L. Install lamps in each luminaire.

3.04 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Inspect each product for damage and defects.

C. Operate each luminaire after installation and connection to verify proper operation.

D. Test self-powered exit signs, emergency lighting units, and fluorescent emergency power supply units to verify proper operation upon loss of normal power supply.

E. Correct wiring deficiencies and repair or replace damaged or defective products. Repair or replace excessively noisy ballasts as determined by Architect.

3.05 ADJUSTING

A. Aim and position adjustable luminaires to achieve desired illumination as indicated or as directed by Architect. Secure locking fittings in place.

B. Aim and position adjustable emergency lighting unit lamps to achieve optimum illumination of egress path as required or as directed by Architect or authority having jurisdiction.

C. Exit Signs with Field-Selectable Directional Arrows: Set as indicated or as required to properly designate egress path as directed by Architect or authority having jurisdiction.

3.06 CLEANING

A. Clean surfaces according to NECA 500 (commercial lighting), NECA 502 (industrial lighting), and manufacturer's instructions to remove dirt, fingerprints, paint, or other foreign material and restore finishes to match original factory finish.

3.07 CLOSEOUT ACTIVITIES

3.08 PROTECTION

A. Protect installed luminaires from subsequent construction operations.

END OF SECTION 265100

SECTION 312316
EXCAVATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Excavating for building volume below grade, footings, pile caps, slabs-on-grade, paving, site structures, and utilities within the building.

B. Trenching for utilities outside the building to utility main connections.

C. Temporary excavation support and protection systems.

1.02 RELATED REQUIREMENTS

A. Section 015713 - Temporary Erosion and Sediment Control: Slope protection and erosion control.

1.03 REFERENCE STANDARDS

A. 29 CFR 1926 - Safety and Health Regulations for Construction; Current Edition.

PART 2 PRODUCTS

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that survey bench mark and intended elevations for the work are as indicated.

3.02 PREPARATION

A. Identify required lines, levels, contours, and datum locations.

B. Locate, identify, and protect utilities that remain and protect from damage.

C. Grade top perimeter of excavation to prevent surface water from draining into excavation. Provide temporary means and methods, as required, to maintain surface water diversion until no longer needed, or as directed by Architect.

3.03 TEMPORARY EXCAVATION SUPPORT AND PROTECTION

A. Excavation Safety: Comply with OSHA's Excavation Standard, 29 CFR 1926, Subpart P.

3.04 EXCAVATING

A. Excavate to accommodate new structures and construction operations.

B. Notify Architect of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.

C. Do not interfere with 45 degree bearing splay of foundations.

D. Provide temporary means and methods, as required, to remove all water from excavations until directed by Architect. Remove and replace soils deemed suitable by classification and which are excessively moist due to lack of dewatering or surface water control.

3.05 SUBGRADE PREPARATION

3.06 FILLING AND BACKFILLING

A. Do not fill or backfill until all debris, water, unsatisfactory soil materials, obstructions, and deleterious materials have been removed from excavation.

3.07 REPAIR

3.08 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for general requirements for field inspection and testing.

B. Provide for visual inspection of load-bearing excavated surfaces by Architect before placement of foundations.

3.09 CLEANING

3.10 PROTECTION

A. Divert surface flow from rains or water discharges from the excavation.

B. Prevent displacement of banks and keep loose soil from falling into excavation; maintain soil stability.

C. Protect open excavations from rainfall, runoff, freezing groundwater, or excessive drying so as to maintain foundation subgrade in satisfactory, undisturbed condition.

D. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.

E. Keep excavations free of standing water and completely free of water during concrete placement.

END OF SECTION 312316

SECTION 312316.13
TRENCHING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Backfilling and compacting for utilities outside the building to utility main connections.

1.02 RELATED REQUIREMENTS

A. Section 312200 - Grading: Site grading.

B. Section 312316 - Excavation: Building and foundation excavating.

1.03 DEFINITIONS

A. Finish Grade Elevations: Indicated on drawings.

B. Subgrade Elevations: Indicated on drawings.

1.04 REFERENCE STANDARDS

A. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop; 2022, with Errata .

B. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)); 2012 (Reapproved 2021).

C. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)); 2012 (Reapproved 2021).

1.05 DELIVERY, STORAGE, AND HANDLING

A. When necessary, store materials on site in advance of need.

B. When fill materials need to be stored on site, locate stockpiles where indicated.
   1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
   2. Prevent contamination.
   3. Protect stockpiles from erosion and deterioration of materials.

PART 3 EXECUTION

2.01 EXAMINATION

A. Verify that survey bench marks and intended elevations for the work are as indicated.

2.02 PREPARATION

A. Identify required lines, levels, contours, and datum locations.

B. Grade top perimeter of trenching area to prevent surface water from draining into trench. Provide temporary means and methods, as required, to maintain surface water diversion until no longer needed, or as directed by the Architect.

2.03 TRENCHING

A. Notify Architect of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.

B. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.

C. Do not interfere with 45 degree bearing splay of foundations.

D. Cut trenches wide enough to allow inspection of installed utilities.

E. Hand trim excavations. Remove loose matter.

F. Remove excavated material that is unsuitable for re-use from site.

G. Remove excess excavated material from site.

H. Provide temporary means and methods, as required, to remove all water from trenching until directed by the Architect. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface water control.

I. Determine the prevailing groundwater level prior to trenching. If the proposed trench extends less than 1 foot into the prevailing groundwater, control groundwater intrusion with perimeter

drains routed to sump pumps, or as directed by the Architect.

2.04 PREPARATION FOR UTILITY PLACEMENT

A. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.

B. Compact subgrade to density equal to or greater than requirements for subsequent fill material.

C. Until ready to backfill, maintain excavations and prevent loose soil from falling into excavation.

2.05 BACKFILLING

A. Backfill to contours and elevations indicated using unfrozen materials.

B. Employ a placement method that does not disturb or damage other work.

C. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.

D. Maintain optimum moisture content of fill materials to attain required compaction density.

E. Slope grade away from building minimum 2 inches in 10 feet, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.

F. Correct areas that are over-excavated.

1. Other areas: Use general fill, flush to required elevation, compacted to minimum 97 percent of maximum dry density.

G. Compaction Density Unless Otherwise Specified or Indicated:

H. Reshape and re-compact fills subjected to vehicular traffic.

2.06 BEDDING AND FILL AT SPECIFIC LOCATIONS

2.07 TOLERANCES

A. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

2.08 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for general requirements for field inspection and testing.

B. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D1557 ("modified Proctor"), AASHTO T 180, or ASTM D698 ("standard Proctor").

C. If tests indicate work does not meet specified requirements, remove work, replace and retest.

D. Frequency of Tests: _____.

2.09 CLEANING

A. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

END OF SECTION 312316.13

SECTION 312323
FILL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Filling, backfilling, and compacting for building volume below grade, footings, slabs-on-grade, paving, and utilities within the building.

B. Backfilling and compacting for utilities outside the building to utility main connections.

C. Filling holes, pits, and excavations generated as a result of removal (demolition) operations.

1.02 RELATED REQUIREMENTS

A. Document preliminary soils investigations for this specific work: Geotechnical report; bore hole locations and findings of subsurface materials.

B. Section 015713 - Temporary Erosion and Sediment Control: Slope protection and erosion control.

C. Section 033000 - Cast-in-Place Concrete.

D. Section 134713 - Cathodic Protection.

E. Section 312316 - Excavation: Removal and handling of soil to be re-used.

F. Section 312316.13 - Trenching: Excavating for utility trenches outside the building to utility main connections.

1.03 DEFINITIONS

A. Finish Grade Elevations: Indicated on drawings.

B. Subgrade Elevations: Indicated on drawings.

1.04 REFERENCE STANDARDS

A. AASHTO M 147 - Standard Specification for Materials for Aggregate and Soil–Aggregate Subbase, Base, and Surface Courses; 2017 (Reapproved 2021).

B. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop; 2022, with Errata .

C. ASTM C136/C136M - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates; 2019.

D. ASTM C150/C150M - Standard Specification for Portland Cement; 2022.

E. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete; 2022.

F. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)); 2012 (Reapproved 2021).

G. ASTM D1556/D1556M - Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method; 2015, with Editorial Revision (2016).

H. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)); 2012 (Reapproved 2021).

I. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method; 2015.

J. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System); 2017, with Editorial Revision (2020).

K. ASTM D4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils; 2017, with Editorial Revision (2018).

L. ASTM D6938 - Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth); 2023.

M. ICC-ES AC239 - Acceptance Criteria for Termite-Resistant Foam Plastic; 2008, with Editorial Revision (2022).

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data for Manufactured Fill.

C. Shop Drawings for Manufactured Fill.
   1. Submit plan, section, and profile drawings. Indicate size, type, location, and orientation of each geofoam block.
   2. Submit location and type of connectors.
   3. Indicate proposed weighting or guying.

D. Soil Samples: 10 pounds sample of each type of fill; submit in air-tight containers to testing laboratory.

E. Materials Sources: Submit name of imported materials source.

F. Fill Composition Test Reports: Results of laboratory tests on proposed and actual materials used, including manufactured fill.

G. Compaction Density Test Reports.

H. Manufacturer's Instructions.

I. Designer's Qualification Statement.

J. Testing Agency Qualification Statement.

1.06 QUALITY ASSURANCE

A. Designer Qualifications: Perform design of structural fill under direct supervision of a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than ten years of documented experience.

C. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

D. Copies of Documents at Project Site: Maintain at the project site a copy of each referenced document that prescribes execution requirements.

1.07 DELIVERY, STORAGE, AND HANDLING

A. When necessary, store materials on site in advance of need.

B. When fill materials need to be stored on site, locate stockpiles where indicated.
   1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
   2. Prevent contamination.
   3. Protect stockpiles from erosion and deterioration of materials.

C. Manufactured Fill - Geofoam: Review manufacturer's care and handling instructions. Prevent damage to material during delivery, storage, and construction activity.
   1. Cover stored geofoam with opaque material when geofoam will exposed to sunlight for more than six months.
   2. Protect material from organic solvents, petroleum-based solvents, and open flame.
   3. Follow manufacturer's written procedures for handling and installation of geofoam material.
   4. Do not place heavy construction equipment or vehicles directly onto geofoam material.
   5. Replace geofoam material damaged when by construction equipment or activity, or repair according to manufacturer's written repair criteria and procedures.

PART 2 PRODUCTS

2.01 FILL MATERIALS

A. General Fill - Fill Type ENGINEERED FILL MEETING REQUIREMENTS OF SOILS REPORT: Complying with State of NOT APPLICABLE Highway Department standard.

2.02 SOURCE QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for general requirements for testing and analysis of soil material.

B. Where fill materials are specified by reference to a specific standard, test and analyze samples for compliance before delivery to site.

C. Where fill materials are specified by reference to a specific standard, testing of samples for compliance will be provided before delivery to site.

D. If tests indicate materials do not meet specified requirements, change material and retest.

E. Provide materials of each type from same source throughout the Work.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that survey bench marks and intended elevations for the Work are as indicated.

B. Identify required lines, levels, contours, and datum locations.

C. See Section 312200 for additional requirements.

D. Verify subdrainage, dampproofing, or waterproofing installation has been inspected.

E. Verify structural ability of unsupported walls to support imposed loads by the fill.

F. Verify underground tanks are anchored to their own foundations to avoid flotation after backfilling.

G. Verify areas to be filled are not compromised with surface or ground water.

3.02 PREPARATION

A. Scarify and proof roll subgrade surface to a depth of 6 inches to identify soft spots.

B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with general fill.

C. Compact subgrade to density equal to or greater than requirements for subsequent fill material.

D. Until ready to fill, maintain excavations and prevent loose soil from falling into excavation.

3.03 FILLING

A. Fill to contours and elevations indicated using unfrozen materials.

B. Fill up to subgrade elevations unless otherwise indicated.

C. Employ a placement method that does not disturb or damage other work.

D. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.

E. Maintain optimum moisture content of fill materials to attain required compaction density.

F. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.

G. Soil Fill: Place and compact material in equal continuous layers not exceeding 8 inches compacted depth.

H. Slope grade away from building minimum 2 inches in 10 feet, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.

I. Correct areas that are over-excavated.
   1. Load-bearing foundation surfaces: Fill with concrete.
   2. Load-bearing foundation surfaces: Use structural fill, flush to required elevation, compacted to 100 percent of maximum dry density.
   3. Other areas: Use general fill, flush to required elevation, compacted to minimum density per soils report/ updates percent of maximum dry density.

J. Compaction Density Unless Otherwise Specified or Indicated:
   1. Under paving, slabs-on-grade, and similar construction: per latest soils report/ updates percent of maximum dry density.

K. Reshape and re-compact fills subjected to vehicular traffic.

L. Maintain temporary means and methods, as required, to remove all water while fill is being placed as required, or until directed by the Architect. Remove and replace soils deemed unsuitable by classification and which are excessively moist due to lack of dewatering or surface

water control.

3.04 FILL AT SPECIFIC LOCATIONS

A. Use general fill unless otherwise specified or indicated.

3.05 TOLERANCES

A. Top Surface of General Filling: Plus or minus 1 inch from required elevations.

B. Top Surface of Filling Under Paved Areas: Plus or minus 1 inch from required elevations.

3.06 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for general requirements for field inspection and testing.

B. Soil Fill Materials:

1. Perform compaction density testing on compacted fill in accordance with ASTM D1556, ASTM D2167, or ASTM D6938.
2. Evaluate results in relation to compaction curve determined by testing uncompacted material in accordance with ASTM D698 ("standard Proctor"), ASTM D1557 ("modified Proctor"), or AASHTO T 180.
3. If tests indicate work does not meet specified requirements, remove work, replace and retest.
4. Frequency of Tests: per latest soils reports and updates.

3.07 CLEANING

A. See Section 017419 - Construction Waste Management and Disposal, for additional requirements.

B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.

END OF SECTION 312323

SECTION 331416
SITE WATER UTILITY DISTRIBUTION PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Water pipe for site conveyance lines.

B. Pipe valves.

C. Fire hydrants.

1.02 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Concrete for thrust restraints.

B. Section 099113 - Exterior Painting.

C. Section 211100 - Facility Fire-Suppression Water-Service Piping.

D. Section 312316.13 - Trenching: Excavating, bedding, and backfilling.

E. Section 330110.58 - Disinfection of Water Utility Piping Systems: Disinfection of site service utility water piping.

1.03 REFERENCE STANDARDS

A. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2022.

B. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2021.

C. ASTM B88 - Standard Specification for Seamless Copper Water Tube; 2022.

D. ASTM D1785 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120; 2021a.

E. ASTM D2466 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40; 2023.

F. ASTM D2467 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80; 2020.

G. ASTM D2855 - Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets; 2020.

H. ASTM D3035 - Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter; 2022.

I. ASTM D3139 - Standard Specification for Joints for Plastic Pressure Pipes using Flexible Elastomeric Seals; 2019.

J. ASTM F1807 - Standard Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring, or Alternate Stainless Steel Clamps, for SDR9 Cross-Linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing; 2023.

K. ASTM F1960 - Standard Specification for Cold Expansion Fittings with PEX Reinforcing Rings for Use with Cross-Linked Polyethylene (PEX) and Polyethylene of Raised Temperature (PE-RT) Tubing; 2023b.

L. ASTM F2080 - Standard Specification for Cold-Expansion Fittings with Metal Compression-Sleeves for Crosslinked Polyethylene (PEX) Pipe and SDR9 Polyethylene of Raised Temperature (PE-RT) Pipe; 2019.

M. AWWA C200 - Steel Water Pipe, 6 in. (150 mm) and Larger; 2023.

N. AWWA C208 - Dimensions for Fabricated Steel Water Pipe Fittings; 2022.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

1.05 QUALITY ASSURANCE

A. Perform Work in accordance with utility company requirements.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store valves in shipping containers with labeling in place.

B. Protect crosslinked polyethylene tubing from direct and indirect UV exposure.

1.07 WARRANTY

A. See Section 017800 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.01 WATER PIPE

A. Manufacturers:

B. Steel Pipe: Welded or Seamless complying with AWWA C200.
   1. Underground Pipe and Fittings: Cement-mortar lining and cement-mortar coating.
   2. Aboveground Pipe and Fittings: Cement-mortar lining.
   3. Fittings: AWWA C208.
   4. Pipe manufacturer to calculate and determine wall thickness and fittings in the following manner:

2.02 VALVES

2.03 BEDDING AND COVER MATERIALS

A. Bedding: As specified in Section 312316.13.

B. Cover: As specified in Section 312316.13.

2.04 ACCESSORIES

A. Concrete for Thrust Restraints: Concrete type specified in Section 033000.

PART 3 EXECUTION

3.01 EXAMINATION

3.02 PREPARATION

3.03 INSTALLATION - PIPE

A. Maintain separation of water main from sewer piping in accordance with CPC AND LOCAL code.

B. Group piping with other site piping work whenever practical.

C. Route pipe in straight line.

D. Install pipe to allow for expansion and contraction without stressing pipe or joints.

E. Slope water pipe and position drains at low points.

3.04 INSTALLATION - STEEL PIPE

3.05 INSTALLATION - VALVES, HYDRANTS, BACKFLOW PREVENTERS

A. Set valves on solid bearing.

B. Center and plumb valve box over valve. Set box cover flush with finished grade.

3.06 SERVICE CONNECTIONS

3.07 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements, for additional requirements.

B. Pressure test water piping to PER PLANS AND CODE pounds per square inch.

END OF SECTION 331416

SECTION 333113
SITE SANITARY SEWERAGE GRAVITY PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Sanitary sewerage drainage piping, fittings, and accessories.

B. Connection of building sanitary drainage system to municipal sewers.

1.02 RELATED REQUIREMENTS

A. Section 312316 - Excavation: Excavating of trenches.

B. Section 312316.13 - Trenching: Excavating, bedding, and backfilling.

C. Section 312323 - Fill: Bedding and backfilling.

1.03 DEFINITIONS

A. Bedding: Fill placed under, beside and directly over pipe, prior to subsequent backfill operations.

1.04 REFERENCE STANDARDS

A. ASTM A74 - Standard Specification for Cast Iron Soil Pipe and Fittings; 2021.

B. ASTM A746 - Standard Specification for Ductile Iron Gravity Sewer Pipe; 2018 (Reapproved 2022).

C. ASTM C12 - Standard Practice for Installing Vitrified Clay Pipe Lines; 2022a.

D. ASTM C14 - Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe; 2020.

E. ASTM C14M - Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe (Metric).; 2020.

F. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe; 2022a.

G. ASTM C76M - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe (Metric); 2022a.

H. ASTM C425 - Standard Specification for Compression Joints for Vitrified Clay Pipe and Fittings; 2022.

I. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets; 2021.

J. ASTM C443M - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets (Metric); 2021.

K. ASTM C564 - Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings; 2020a.

L. ASTM C700 - Standard Specification for Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated; 2018 (Reapproved 2022).

M. ASTM D1785 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120; 2021a.

N. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications; 2020.

O. ASTM D2680 - Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) and Poly(Vinyl Chloride) (PVC) Composite Sewer Piping; 2020.

P. ASTM D2729 - Standard Specification for Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings; 2021.

Q. ASTM D3034 - Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings; 2023.

R. ASTM D3350 - Standard Specification for Polyethylene Plastics Pipe and Fittings Materials; 2021.

S. AWWA C111/A21.11 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings; 2023.

PART 2 PRODUCTS

2.01 SEWER PIPE MATERIALS

A. Provide products that comply with applicable code(s) AND PER PLANS

B. Fittings: Same material as pipe molded or formed to suit pipe size and end design, in required tee, bends, elbows, cleanouts, reducers, traps and other configurations required.

2.02 PIPE ACCESSORIES

A. Trace Wire: Magnetic detectable conductor, clear plastic covering, imprinted with "Sewer Service" in large letters.

2.03 BEDDING AND COVER MATERIALS

A. Pipe Bedding Material: As specified in Section 312323.

B. Pipe Cover Material: As specified in Section 312323.

PART 3 EXECUTION

3.01 GENERAL

A. Perform work in accordance with applicable code(s).

3.02 TRENCHING

A. See Section 312316.13 for additional requirements.

B. Backfill around sides and to top of pipe with cover fill, tamp in place and compact, then complete backfilling.

3.03 INSTALLATION - PIPE

A. Verify that trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on layout drawings.

B. Lay pipe to slope gradients noted on layout drawings; with maximum variation from true slope of 1/8 inch in 10 feet.

C. Connect to building sanitary sewer outlet and municipal sewer system , through installed sleeves.

D. Install trace wire 6 inches above top of pipe; coordinate with Section 312316.13.

3.04 INSTALLATION - CLEANOUTS

A. Form bottom of excavation clean and smooth to correct elevation.

B. Form and place cast-in-place concrete base pad, with provision for sanitary sewer pipe end sections.

C. Establish elevations and pipe inverts for inlets and outlets as indicated.

D. Mount lid and frame level in grout, secured to top cone section to elevation indicated.

3.05 FIELD QUALITY CONTROL

A. Perform field inspection and testing in accordance with Section 014000.

B. If tests indicate Work does not meet specified requirements, remove Work, replace and retest at no cost to Owner.

3.06 PROTECTION

A. Protect pipe and bedding cover from damage or displacement until backfilling operation is in progress.

END OF SECTION 333113

CONTRACT DRAWINGS

LAMONT PUBLIC UTILITY DISTRICT

BOARDROOM TENANT IMPROVEMENT
REMODEL PROJECT

DECEMBER 2024